FORM ONE HOMESCIENCE (Saves as Homescience by Chege)

Definition of Home science
It is a field of knowledge concerned with enhancing family life and values.

Aims of H/science
Improving the quality of life and well being of the individual, family and community through individuals, family and community through application of principles of good health, hygiene and efficient use of resources e.g time, energy and money.

Area of Home science
(i) Home management
(ii) Foods and nutrition
(iii) Child care
(iv) Consumer education

Home management
Involves planning organizing and using available resources in the home and environment in a proper way.
Includes: (i) Personal care
(ii) Care of the home
(iii) Immediate environment

Foods and nutrition
Deals with choice of foods to meet nutritional needs of individual and family includes:
(i) selection
(ii) preparation
(iii) cooking
(iv) presentation of food

Textile and clothing
Involves: (i) origin and qualities of textile fibres
(ii) selection and making clothes
(iii) imparting skills for tailoring and
(iv) repairing and maintaining garments and other household articles

Childcare
Deals with
(i) pregnancy
(ii) care of expectant mothers and foetus
(iii) baby's preparation
(iv) hospital and home confinement
(v) post and antenatal care

Consumer education:
- Create public awareness about goods and services on the market.
- Cover selection and consumption of goods on the market.

Importance of Home science
1. Helps one to acquire skills and knowledge to:
(i) Adapt to the environmental social economic changes in life.
(ii) Develop artistic value and appreciation of dressing and interior decorations.

(iii) Be aware of sources of consumer information and ability to use information well.
(iv) Develop artistic values and skills in selecting, preparing, serving and preserving food.
(v) Practice principles of health with respect to oneself, others and environment.

2. Helps strengthen family bonding.
3. Helps families learn how to manage time, energy, money and other resources wisely.
4. Homescience skills acquired help make a healthy population by promoting health care and
5. They also help in generating employment.

Career opportunities and home science

- Teachers (Home economics, Home science and technology)
- Food technologists (Food technology)
- Institutional managers (Hotels and Institutional managers)
- Nutritionists (Food and nutritionists)
- Designers (Clothing, textiles and Design)
- Textile Engineering – Textile production engineers
- Family and consumer studies (Bachelor of Home Economics.
- Selling school lunches
- Managing coffee shops, canteens and restaurants.
- Design and dressmaking businesses.
- Operating boutiques and hair dressing salons.

PERSONAL HYGIENE

Grooming

Involves: (i) Taking care of oneself in order to look presentable and acceptable.
(ii) Care of the body, clothes and developing good habits.

NB: A well groomed person is
(i) appealing
(ii) has good personality
(iii) has confidence

Good grooming is a sign of good health that is brought about by;
(i) eating a well balanced diet
(ii) getting enough exercise and rest
(iii) clean bodily habits and posture
(iv) clean and appropriate clothing.

Care of the body:

The skin:

Functions

i) protection of body from germs and harmful agents e.g Ultra violet rays from the sun.
ii) a sensory organ for body through nerve endings which responds to stimuli e.g touch, cold, heat and pain.
iii) Regulation of body temperature
Keeps it cool when hot and warm when cold
iv) Excretory organ
Gets rid of waste matter through pores in the form of sweat.

The structure of the skin

Parts of the skin

(i) epidermis
(ii) dermis

The epidermis
Protective outer layer

Diagram: refer to page 5

The dermis
Has the following parts;
(a) Blood capillaries
(i) supply skin with food and oxygen
(ii) bring water and waster products to sweat glands for removal.

(b) Sweat glands
Consists of secretory cells that absorb fluids from surrounding cells and capillaries then pass urine to duct to be removed as sweat.

(c) Hair follicles
- Are dip pits of granular and malphigian layers.
- Have nerve endings which respond to movement of the hair.

(d) Sebaceous glands
They produce an oily substance sebum that
(i) keeps skin oily preventing it from crouching, drying and being scaly.
(ii) Makes skin water proof
(iii) Kills micro-organisms.

Care of the skin
Why it is necessary to take good care of the skin.
(i) After evaporation of sweat, salt, oils, dead cells and dust from dirt on skin, if not removed they clog block pores of skin preventing it from breathing.
(ii) The dirt can become greasy and smelly causing skin irritation.
(iii) It can produce unpleasant oduors and
(iv) Can be a breeding place of bacteria

Points on care of the skin
(i) Bathing regularly using warm water and good quality soap.
(ii) Pay attention to skin folds e.g armpit, neck groin, between toes etc.
(iii) Rinsing skin with cold water to refreshen.
(iv) Using towel to dry skin attention to skin folds.
(v) Applying deodorant to enhance freshness.
(vi) Not sharing personal items / if shared must be sterilized.
(vii) Underclothes never to be shared.
(viii) Doing enough exercise, airing clothes and exposing it to the sun.
(ix) Having a balanced diet rich in Vitamins and minerals.
(x) Drinking plenty of clean water
(xi) Avoiding sharing blades and shavers.

Types of skins:
(i) Dry
(ii) Oily
(iii) Normal skin

Common skin problems

(i) Dry skin

Use correct skin lotions, creams and oils

(ii) Oily skin

Eat less fat and oil.
Washing face frequently with warm water and good soap.
Drying well with a soft towel.

Blackheads & whiteheads

- washing face with medicated soap,
- application of an antiseptic cream,
- avoiding make-ups,
- eating a balanced diet and less fatty foods.

Pimples

- Pay special attention to hygiene and diet.
- Use medicated soap and avoid squeezing pimples.

Cleaning the body:-

The face

- Use toilet soap warm water and face towel to remove dirt and open pores,
- Rinse with cold water to close pores.
- Dry with a soft towel.
- Apply cosmetics before sleeping to refreshen the skin.

NB:

- Pay attention to eyes, ears and nose.
- Clean external parts of ear.
- Use soft cotton lids to remove excessive max
- Avoid inserting sharp objects in the ear.
- Use clean soft handkerchief to remove mucus from nose.
- Wash eyes paying attention to corners.
- For good eyesight and healthy mucus membrane eat a diet rich in Vitamin A.

The hand

Points on care of hands

(i) wash with soap and water before eating and after visiting toilet and dirty work.
(ii) use gloves (rubber ones) to clean toilets and contaminated areas.
(iii) keep nails short and clean.
(iv) smoothen with a nail file don't bite them.
(v) apply suitable creams.

The feet and toes:

Points on care of feet and toes.

(i) clean using soap, water and disinfect.
(ii) remove dead skin from heels using a pumice skin.
(iii) to avoid bad smell, foot not and athletes for dry between toes properly.
(iv) use correct size of shoes to prevent corns and bunions for comfort.
(v) frequent airing of feet to prevent bad smell.
(vi) putting on clean shoes and socks.
(vii) putting on shoes to avoid injury diseases etc.

(viii) not wearing high heeled shoes when pregnant and when in the kitchen
(ix) not sharing shoes and socks.
(x) toe nails to be kept short
(xi) using Talcom powder / deodorant with foot powder.

Hair
- keeping hair clean all times.
- washing frequently using shampoo or soap to prevent dandruffs and parasites.
- styling according to occasion and face (shape)
- men to keep hair short to look clean and tidy.
- Ladies hair can be natural, plaited/braided/could be permed.
- avoiding excessive heat when blow drying or hot combing hair.
- not plaiting hair tightly.

Cleaning hair
- wetting hair with warm water,
- applying shampoo, rubbing scalp gently to remove grease, massaging to stimulate blood flow.
- using warm water to rinse.
- if still dirty, shampoo twice and rinse drying with towel.
- permed hair to be put on rollers while wet and dried under a drier,
- oil and comb then style.
- if plaited plaits should remain neat for 1 to 3 weeks.
- it should be undone before washing,
- shampooing it should be done at least once a week of it by hair piece.

Problems of the scalp

a) Dandruffs

It is caused by bits of dead skins collecting in the hair. Makes hair dry and neglected. Scalp gets itchy and uncomfortable, passed from one person to another by sharing combs and brushes.

Prevention
(i) Avoid sharing combs and brushes,
(ii) Brushes and combs should be kept clean,
(iii) Hair should be washed frequently,
(iv) Drying and oiling the scalp thoroughly,
(v) Using medicated shampoo to remove fungi and protect more damage of the skin.

b) Parasites

e.g lice
- Passed from one person to another through sharing of combs, hair brushes, towels, wigs etc.
- cause irritation, rashes and discomfort.

Prevention
(i) dust hair with crushed mothballs, wash off shampoo and style.
(ii) hot combing
(iii) cutting off
(iv) consulting a dermatologists

Cleaning combs and hair brushes

(i) remove hair with a nail brush, soak in detergent water and brush well while in water/ tap bristles in water and comb to remove dirt of brush.
(ii) wash in warm soapy water having household ammonia that aids in removing oily dirt,
(iii) dip in warm soap water beat bristles until clean,
(iv) rinse in warm water thoroughly finally in cold shake off and dry on the side for water to drip. If wooden handle should be upper most, dry appropriately,
(v) store properly

Mirrors
For checking make-up, hair styles and dressing up.

Cleaning:-
(i) Dust with a clean non fluffy cloth,
(ii) Clean frame depending on type,
(iii) Clean mirror with a soft cloth wrung from soapy warm water.
(iv) Rinse it with a cloth wrung from warm water,
(v) Buff with newspaper/glass cloth to shine.

The teeth
Why keep teeth clean;
(i) to give one confident,
(ii) to keep teeth healthy,
(iii) to prevent interfering with eating
(iv) to prevent public embarrassment,

decayed teeth cause pain and bad health.

Diagram

i) **Enamel**
- hardest layer of the tooth,
- prevents wear during eating.

ii) **Dentine**
- visible to eye
- softer than enamel

iii) **Pulp cavity**
- sensitive part
- has soft tissues, nerve endings and blood vessels and blood vessels they link tooth to rest of the body.

iv) **Cement**
- covers the dentine and root portion, if tooth of damage tooth is sensitive to cold fold cold drink/hot ones

Dental hygiene:
- brushing twice a day
- removing all food particles by brushing up and down

- avoiding too many sweets and sugary foods.
- eating vegetables, fresh fruits, sugarcane, maize etc to exercise jaws,
- avoid using sharp, objects , pointed tooth picks to prevent damaging gum,
- dental check – ups twice a year,
- avoid sharing toothbrushes to prevent spreading infections.

Choice and care of toothbrushes
- should have firmly fixed bristles,
- should be rinsed properly,
- should be stored with bristles up in a holder/tumble,
- clean between bristles with a toothpick to dislodge/remove dirt and disinfect with salty solution.
- replacement should be done of worn out toothbrushes
- an improvised stick may be used if one has no modern one, if one has no toothpaste, use a mixture of bicarbonate of soda and salt.

Care of personal items:
Handkerchiefs:
Choice
- should be of absorbent material
- reasonable size
- should be clean
- presentable

care:
- soak in salty water for 5minutes
- rinse and wash in warm soapy water using friction
- rinse in warm water finally, cold water

Care of teeth
Care of teeth is called dental hygiene.
Teeth need to be taken care of because there are many bacteria that live in the human mouth. They cause tooth decay. They also combine in saliva and foods forming plague a sticky substance on teeth. When it builds up it can cause cum disease.

It can be removed by brushing if not remove it handers forming tartar that can only be removed by a doctor. Bacteria in mouth feed on food residues especially sugar producing an acid that attack enamel and dentine.
When pulp cavity is infected, it will cause pain (toothache). If infection spreads deep into teeth, it becomes rotten and has to be extracted.

Ways of enhancing personal appearance
Cosmetics:
- Are substances that enhance personal appearance.
- Are chemical preparations natural/artificial designed to make skin, hair, nails, eyes etc attractive and appealing.
- Are also used to hide skin chemicals that spoil beauty and perfection of the skin.

Examples - creams
- oils
- lotions
- conditioners

- deodorants
- nail polish
- lipsticks
- bleaching creams
- powders.

How to choose and use cosmetics

- should be ones that suit your skin type,
- to improve the natural looks,
- one should get advice from expert before use,
- avoid one with mercury which is harmful,
- read and understand instructions before use
- brand chosen should be one that is widely used and well tested,
- avoid using incase of skin irritation
- avoid applying on broken skin
- should be ones that are environmentally friendly and empty packets should be disposed safely.
- use them sparingly,
- wash the face before sleeping to allow skin to breath,
- remove nail polish when it starts flashing,
- checking expiry dates on packaging.

NB:

- Men to choose ones with lime/spicy scents because they are considered masculine.
- Shaving creams and after shaves should fit their skin type.

Advantages of using cosmetics

1) skin becomes smooth and radiant hence beautiful.
2) protect skin from sunburn and excessive cold,
3) some have vitamin 3 which is an anti-ageing agent because it reduces and decays occurrence of wrinkles and stretch muscles.
4) they enhance freshness and confidence
5) some with medicinal value cure skin ailments.

Disadvantages

1) are expensive
2) some have harmful chemicals
3) the clog/block skin pores if not used well, may spoil the skin and cause permanent marks.
4) they have strong scents that can be offensive.

Misuse of cosmetics

misuse lead to:-

1) skin bleaches – they allow Ultra-violet rays from the sun to damage the skin.
2) falling off hair, baldness, burns, blindness from hair chemicals.
3) spoil kidneys incase of high mercury in skin lightness
4) they make one feel inadequate if absent.

ADOLESCENCE

It is end of childhood and beginning of adulthood.

Symptoms:

Physical, psychological and emotional changes that leads to mood swings,

- the young feel misunderstood by their parents and society. Oversensitivity and easily influenced by peer
- they become vulnerable to problems like sex, that leads to pregnancy, premature fatherhood and STDS.
- eating disorders.
- drug abuse
- running away from authority e.g teachers and monk etc. searching for freedom.

Physical changes during adolescence

Boys

- hair around pubic area, armpits and chest,
- reproductive organs enlarge (boys) voice breaks and depends.
- broadening of shoulders,
- wet dreams,
- increase in height and weight
- may develop acne (a skin infection which blackheads and pimples develop on face and neck).

Girls

- growth of pubic hair,
- enlargement of breasts,
- distinct waist and increase of hip size,
- menstruation periods starts,
- increase in weight and height.

* Both have more sweating so shave hair in the armpits,
* Pimples on the face are common problem, but clears when one matures.

Personal hygiene in adolescence

- bathing ones/twice daily,
- shaving/trimming pubic hair,
- putting on clean clothes, underwears and socks,
- washing face regularly,
- using quality toilet soap and deodorants and other cosmetics skillfully and sparingly,
- bathing twice a day/regularly,
- shaving beards and moustaches,
- use deodorants if possible.

Hygiene during menstruation

- one should have enough pads, tampons or improvised pads,
- bathing twice a day ensuring genitals are clean,
- changing pads frequently depending on flow,
- change underwears also and soak stained ones in cold water,
- avoid throwing pads carelessly and don't flash them, they cause blockage,
- wrap them in newspaper and polythene papers and burn/throw in a dustbin,
- use tampons though they cause infection. Improvised cotton materials may be used but should be washed and disinfected after use.

Hygiene for boys

- bathing frequently,
- changing clothes, underwears and socks,
- using a suitable deodorant/cologne for men,

- cutting hair short and combing neatly.

FACTORS TO BEAR IN MIND WHEN CHOOSING CLOTHES

1) **Figure type –**
   One has to identify the best features and bad/less attractive ones. The clothes chosen should be ones that enhance the good part on the body and hide the less attractive ones.

2) **Occasion –**
   They should suit the occasion; e.g if occasion, weddings, funeral etc.

3) **Existing fashion –**
   Should be clothes that are on fashion

4) **Fabric design –**
   Large patterned designs make figure looks large, vertical ones makes it taller and slender while horizontal ones makes it plumber.

5) **Fabric texture –**
   Shiny ones makes a figure larger while heavy ones make it smaller.

6) **Weather –**
   - Lightened absorbent ones suit warm places while heavy ones suit cold places,
   - Dark coloured ones absorb heat should be used in cold places and bright ones reflect heat so give a cooling effect, therefore are for warm places,

7) **Size of the garments –**
   Garment should be one that fit the wearer. Not too tight or too loose.

8) **Care –**
   If they are for daily wear, should be easy to handle and maintain. Fabric should be one that is affordable when it comes to maintenance.

9) **Cost of clothing –**
   Should be affordable

CARE OF CLOTHES

Clothes need good care and maintenance and storage:

Why - to last long
- to look presentable

Points on care:

1) keep clean and free from creases,
2) each should be laundered according to fabric type,
3) avoid sitting/leaving against rough surfaces,
4) reading of the instructions on care label for good handling,
5) repairing frequently.
   Should not wash clothes that require dry cleaning, they fade, loose shape (loose body).
6) loose one to be laundered separately,
7) best clothes should not be worn for long,
8) brush clothes that are not washed frequently. Sponge them, air and store in polythene bags in wardrobes.
9) Store them completely dry.

10) use mothballs in wardrobes/drawers with clothes.

Shoes
Choice, use and care
Choice

a) Should fit well and comfortable why:
   (i) to prevent injury to feet
   (ii) for no interference with blood circulation
b) should be for the purpose intended.
c) should be durable i.e of good quality, attractive in colour and well made,

Care:

- use for one right purpose,
- should be stored on racks,
- stuffed to maintain shape
- avoid the sun, they loose shape,
- clean according to type of material for them to last long,
- repairing when torn,

Cleaning leather shoes:

1) protecting working surface with newspaper,
2) remove shoe laces,
3) removing loose dust and mud with blunt stick,
4) wipe with a cloth wrung out of warm soapy water from inside out repeatedly till clean,
5) rinse with cloth from clean water and dry a cloth,
6) dry under a shade because direct sun makes the leather crack, brittle and shrink,
7) polish when dry using circular movement. Allow it to soak in for a few minutes, shine with a dry brush/non-fluffy cloth,
8) stuff them to maintain shape,
9) store in a dry place,
10) stuff with clean cloth and fasten shoe lace.

Cleaning canvas shoes:-

- Remove shoe laces wash them repeatedly,
- Remove dust and mud,
- wash in warm soapy water, scrub with a scrubbing brush,
- clan inside and outside,
- avoid soaking since it loosens the gum,
- rinse using warm water, the in cold
- shake to remove excess water,
- tilt against the walls/stones under a shade if coloured and on sun if white to dry,
- if white, apply polish while damp and leave to dry,
- wipe off excess polish with a dry duster,
- store dry in a warm place, slightly tilted, fasten shoe laces and store.

Cleaning plastic shoes:-

- remove dust and mud,
- wash in warm soapy water with a soft cloth,
- rinse well,
- dry in a cool airy place,
- stuff to maintain shape and store.

Cleaning suede shoes:-
- remove dust and mud with a stiff brush,
- remove grease and stain,
- wipe the insides with a cloth wrung out of warm soapy water, rinse and air,
- apply suede polish when dry,
- bring out the rough finish using fine brush,
- stuff and store.

ACCESSORIES
Are items worn with clothing to highlight points of interest:
NB: - They should not be too many worn at the same time because they produce an desirable effect.
- Many should be able to accent, compliment, highlight/camouflage certain parts of the body.
- They should match/contrast the outfit worn.

Types of accessories;
- Handbags, purses and briefcases.
- is good to have a variety to rhyme with a variety of clothes, although black, white/grey are good because they rhyme with many garments.
- size, shape and colour.

Ties and scarves
- are worn to match, contrast/complement dressing,
- ties and scarves should be dry-cleaned.

Belts
Choice:
- should be durable,
- suitable,
- versatile

Hats
Choice:
- should blend with the dressing,
- should match with other accessories to accentuate/contrast outfit,
- should go/rhyme with shape of face,
- for formal occasions, they should be elaborate e.g weddings, graduations etc.
- hats and caps e.g berets should be for casual wear,

Care
- airing after use,
- storing appropriately to maintain shape.

Tights and stockings;
- worn to accentuate dressing,
- to keep one warm,
- to hide ugly marks e.g soars and stretch,

Care:
- launder them carefully because they are delicate and easily spoil,
- store in clean plastic bags.

Socks

Are for keeping feet warm,

Choice

- should be absorbent to absorb sweat and keep feet dry,
- should be ones that blend well,
- should be attractive,

Care

- change them daily to avoid bad odour,
- keep toe nails short and neat to avoid tears on socks,
- darn tears on socks as soon as they occur and should be before washing,
- store them one in another to avoid misplacement,
- wash according to fabric.

Gloves: (NB: from synthetic knitted fabric/leather)

Choice;

- should match shoes, handbags, hats etc,

Care:

- clean frequently and according to type,
- store one in another.

Headscarves and bandanas

1) for protection of hair from dust, rain and direct sun,
2) for warmth.

Choice

- should be from dainty fabrics,
- should be clean and well laundered.

Jewellery

E.g
- Rings
- Earrings
- Cuff links
- Tie clips
- Brooches
- Chains
- Bangles etc

Use

- avoid fancy jewellery when in uniform and during work hours – should be simple to prevent interfering with work.
- Choose glittering and jangling ones if for evening occasions and leisure time,
- Avoid overdressing them, they give an overdone effect,

Care:

- Should be cleaned depending on type,
- Should be stored in a jewellery box.

PERSONAL HABITS

Understanding others;

To understand others, one needs to understand her/himself,

Understanding your parents.

SAFETY IN THE HOME AND FIRST AID

Common accidents in the home:

- Burns and scalds,
- Cuts and bruises,
- Fractures and sprains,
- Suffocation and choking,
- Foreign bodies in the ear, eyes and nose,
- Shock,
- Fainting,
- Nose bleeding,
- Insect stings and bites,
- Snake bites,
- Poisoning.

First Aid

It is first help given to an injured person before taking him to the doctor. It includes attention given to small injuries for quick healing.

Objectives of first aid

- Saves life,
- Prevents injury from becoming worse,
- Help recovery,
- Is present the injured to doctor for treatment.

Dudes of first aid

- should be calm,
- should look at the overall solution first,
- then handle it the best to help,
- must take control/give help to another first aider in control,
- should keep crowds away,
- should prevent injury e.g not moving the injured person unless necessary,
- should always send word around for help e.g to ring for the ambulance/call the police,
- keep the victim warm e.g covering him or her with a blanket,
- cover wounds to prevent infection,
- speak calmly in order to reassure the victim, those around and yourself,
- should kind, firm and in control,
- should be able to get full information of what happened from those around or victim if he can talk,
- should go with the victim to hospital if possible.

First Aid kit

Is a box that contains materials that assist the victims in an occurrence of an accident.

NB:-

- can be a cupboard, empty tin, box, safe container,
- should be away from children,
- should be in all institutions, offices factories, homes, cars and any other place where accidents can easily occur,
- should be kept where it can be found easily incase of an emergence,
- should be clearly labelled,
- should be clean, tidy and updated.

Contents of a simple first aid kit
- cotton wool – clean wounds,
- bandages – dress wounds and makes slings for fractures,
- Adhesive dressings – cover minor cut and wounds,
- Gloves – for protection of wounds,
- Scissors and tweezers – cutting bandages,
- Petroleum jelly – for minor burns and stings,
- Oilment – for massaging swellings,
- Dissecting forceps – removing thorns / small pins of steelwool
- Blackstone – treating snake bites
- Clinical thermometer – taking temperature
- Surgical blades – cutting bandages and shaving
- Triangular sling – areas injured
- Surgical spirit/antiseptic liquids – cleaning wounds
- Pain killers – relieving pains

Use of medicine:
- Reading instructions to know the side effects,
- Using as prescribed by the doctor,
- Taking the dose as prescribed,
- Getting medicine from the doctor and not borrowing from each other,
- Taking drugs prescribed by the doctor not by yourself,
- Keeping medicines away from children.

What happens when one doesn't follow doctors instructions as follows:-
- Overdosing in order to relieve pain,
- Under dosing – it doesn't give complete treatment and may cause drunk existence,

CAUSES, PREVENTION AND MANAGEMENT OF ACCIDENTS IN THE HOME
- Untidiness
- Exhaustion,
- Absent-mindedness,
- Haste,
- Carelessness,
- Faulty equipment,
- Loose management and competence,
- Spills.

Cuts and bruises:
Prevention:
- store knives out of children's reach,
- hold knives by their handles,
- handles to be kept free from grease to avoid slippage,
- use a chopping board when cutting veges and tomatoes,
- avoid soaking them with dirty utensils, sharp and pointed utensils,
- keep cupboard clean of bones, sharp sticks and thorns.

First Aid/management
- small cuts should be cleaned with dilute antiseptic/salt to prevent infections,
- cover it after drying with a sterile cloth,
- use plasters to cover minor cuts,

- apply pressure on legs and hands – clean out all dirt with gloves,
- if it has foreign bodies remove,
- reassure the victim,
- take to the doctor for anti-tetanus injection.

Burns and scalds:
Burns are caused by dry heat while scalds are caused by moist heat e.g steam under pressure.

Prevention
- matches should be kept away from children,
- curtains should not hand near the cooker,
- steamers and lids should be removed carefully,
- electrical appliances should be good quality ones and bushes not being left unattended at night,
- be careful when deep frying,
- avoiding trailing table clothes because they catch fire easily,
- hot liquids to be kept away from children,
- attending to burning refuse, hot stoves/cookers,
- pan handles to be away from passage,
- thick oven clothes should be used when lifting hot dishes and pans,
- avoid leaving children/very old people in the kitchen/near unprotected fire,
- using a candle with stand/holder.

First Aid/management
- hold the part injured under slow running water/dip in cold water to prevent blisters forming, to relieve pain and prevent damage of skin,
- for minor burns, apply petroleum jelly/soothing ointment.
  for severe burns,
- treat for shock and take victim to hospital,
- cover with a loose sterile dressing to prevent germs and dirt,
- keep victim warm, calm and prevent victim from touching blisters,
- reassure casualty.

POISONING
Caused by chemicals e.g farm chemicals, drugs, paraffin, alcohol, contaminated food or poisonous plants.

Prevention
- keep all medicines away from children reach,
- label all materials and any poisonous agents,
- follow doctors prescriptions when taking medicines. Avoid overdoses,
- medicines packages and empty tins/bottles should be thrown away,

Firs Aid/management
- find out from casualty if conscious what she/he took,
- give a lot of water, milk/barley water to dilute the poison,
- take victim to the doctor.

FRACTURES AND SPRAINS:
A fracture is a crack/break in the bone while a sprain is the tearing on stretching of strong tissues which holds bones together.

Causes:

- slipper floor,
- potholes,
- cracks,
- an old floor,
- split water/oil etc.

Symptoms:
- swelling
- severe pain
- lack of movement
- change of shape

Kinds of fractures
- closed fracture (simple fracture)
- open fracture (c.p.d fracture)

  - Closed results in a swelling (change in shape of point of fracture and skin is not broken).
  - Open results in skin breaking near the fracture, some times bone ends pierce through the skin.

  NB: It is dangerous because the bone may be infected and become hard to heal.

Causes of fractures – Falls

First Aid/management
- don't move the victims
- support injured part / apply splints on it,
- rat for shock,
- take victim to the doctor.

Sprains:
Happens when one twists joint accidentally stepping on uneven ground:

Symptoms and signs
- painful,
- part becomes hot,
- limited movement,
- swelling.

First Aid:-
- apply a cold water park / soak the joint in very cold water for 20minutes to reduce pain and swelling. Do this for joint.
- apply a bandage firmly,
- raise the part till swelling reduces,
- take victim to hospital if serious for an X-ray and treatment.

CHOKING AND SUFFOCTION
As a result of obstruction of wind pipe that can be due to swallowing a sweet, marble, button/any object/food/too much liquid or gas being used at once making breathing difficult.

First aid/management
- let patient lean forward, slap back with flat of the hand between shoulder blades,

- if it fails remove it by hooking it out with the fore finger curled downwards to root of the tongue/ make person vomit by tickling back of throat with the fore finger.
- give milk/water to wash it down,
- if it is a child, hold upside down, pat between shoulder blades,
- bend child forward over the knee thumb firmly between shoulders.
- give artificial respiration if needed.

SHOCK

TYPES (i) Emotional shock
(ii) Surgical shock

Emotional is caused by serious upsetting news/events. It can cause;-

(i) fainting
(ii) hysteria
(iii) depression

- to help the person remain calm and sensible.
- reassure him/her till state is normal.

Surgical is as a result of;

(i) serious burns
(ii) serious injury

that may have been very painful.

Symptoms of shock:

- patient is pale and cold,
- fast/shallow breathing,
- rapid /slow pulse rate,
- mental confusion/general body weakness,
- vomiting/fainting

First aid:

- calm yourself and patient,
- call for a doctor immediately,
- lie down the person lower limbs raised above rest of the body,
- cover patient with a blanket,
- give a warm drink if conscious,
- put patient in a place well ventilated,
- reassure him/her,
- give pain relievers e.g paracetamol and placing victim in a comfortable position.

Electric shock

Caused by:

- touching a live electric wire,
- using faulty appliances with hands.

Prevention

- being careful not to be a victim,
- switching off current before the victim,
- ensuring victim are out contact,
- moving the victim with a bad conductor of heat e.g a dry plant of wood if current can't be turned off.

- don’t use wet material to handle victim because water is a good conductor of electricity,
- when victim is safe treat for shock.

FAINTING
Caused by temporary insufficient supply of blood to the brain due to:
(i) standing too long in the sun,
(ii) loss of blood (too much),
(iii) severe vomiting,
(iv) fear,
(v) lack of air,
(vi) bad news,
(vii) unpleasant/frightening sight,

NB: Persons feels dizzy and looses consciousness

First aid/management
- be calm,
- lie the victim on a bed/grass in a cool place,
- check on breathing,
- give artificial oxygen if possible,
- turn victim to safety position,
- treat to stop bleeding / reduce it,
- loosening tight clothing (neck and waist)
- raising legs for blood to flow to the head,
- reassuring the victim,
- call medical expert,
- if conscious, rest the person in a well ventilated room.

DROWNING:-
Liquids enter air passage.

Prevention
- swim accompanied by an instructor,
- cover water in container,
- empty bath tubs,
- don’t leave small children unattended to in the house,
- drain pools around houses.

First aid / management
- remove patient from water quickly,
- patient should be laid head lower than rest of the body and turned to the side,
- water is drained form respiratory tract by holding waist body slouched forward head downward for a while,
- if child, hold upside down by legs,
- use index finger to remove any foreign bodies from mouth,
- loosen clothes around waist, neck and chest,
- cover with a blanket and give artificial breathing if breath is absent,
- take patient to the doctor.

NOSE BLEEDING
Caused by:

(i) injury to nose
(ii) injury to forehead / fractured skull
(iii) fever/colds etc
(iv) blowing nose too hard, sneezing, air pressure changes, high blood pressure.

First aid / management
- sit the patient on a chair if present,
- bend the head slightly raised,
- hold the lower part of nose firm or let patient do it,
- breathing through mouth,
  place a dump cloth on forehead and neck back
- slowly release the pressure 3-5 times repetitions, sitting the patient still

NB:- Don't allow her/him to blow the nose

- apply cold compression on back of neck with a piece of cloth.
- take victim to doctor if:
  (i) injury is on the head,
  (ii) if bleeding continues

ENTRANCE OF FOREIGN BODIES

a) The Eye
(i) patient to sit on a chair in well lit place
(ii) tilt head back,
(iii) expose and examine inner surface of eye lids using the thumb/index finger.
- use a strand of cotton wool (wet) and corner of a clean handkerchief to remove it.
- drop liquid paraffin/castor oil/olive oil or milk in the eye to sooth it,
- blow into an open eye to remove it.

b) The Ear
- hold a beam of light in it if in a dark room for the insect to come out,
- tilt head, pour glycerine / liquid/paraffin till full and tilt head upside down to draw after a while,
- take victim to hospital after putting a pad over ear and bandaging lightly.

c) The Nose
- close the unaffected one and blow hard through the affected,
- patient shouldn't poke nose,
- take patient to the doctor if it doesn't come out.

INSECT STINGS AND BITES

Insects bites using stings found on the tails e.g spiders, mosquitoes, lice, bed bugs, ticks, bees, wasps, hornets and scorpions stings.
- remove sting
- clean affected part using soapy water and mild antiseptic,
- apply a solution of soda, vinegar or diluted ammonial water,
- apply calamine lotion/petroleum jelly to prevent itching,
- take victim to hospital incase of;
  (i) headache
  (ii) swelling
  (iii) shock
  (iv) pain

SNAKE AND ANIMAL BITES
- need agent attention because they are poisonous,
- tie above wound side near the heart if it is a limb,
- wash with antiseptic water,
- let patient lie down bitten part lowermost,
- reassure the victim because fear makes heart beat faster and blood to circulate faster,
- apply anti poison stone (black stone),
- tie firmly at the place of the bite,
- if possible identify the snake by asking from the people around,
- take victim to doctor immediately on a stretcher,

NB: walking increases blood circulation so fast spread of the poison.

Local treatment
- don't do further damage
- sterilize a razor blade and cut around the area of bite,
- squeeze out poison,
- take patient to hospital

HOUSING THE FAMILY
A house is a basic need along with food, clothing and security.

Reasons for housing the family/individual
1) for protection from rain, wind, sun, snow etc,
2) for security from criminals/wild animals
3) to give a sense of belonging, a sense of well being and emotional and social development,
4) for privacy,
5) for aesthetic value/static in society.

Factors to consider when proving family shelter:-
- money available (family income),
- size of family,
- family composition (gender and age),
- family interests (hobbies , entertainment),
- social amenities, e.g schools, hospitals etc,
- neighbourhood security.

Methods of providing family shelter
(a) building a house: factors to consider
i) money available
it determines type of house, size and materials to be used. Cost of house includes expenses like planning, legal fees etc.
ii) the size of house
(i) should be near amenities e.g hospitals, schools, shopping centres etc, services e.g electricity, telephone, water etc.
(ii) well drained soil,
(iii) space enough for expansion,
(iv) safe environment – safe from e.g natural calamities like landslides etc.
(v) direction and growth of town it is in town.
iii) Neighbourhood
(i) safe from - criminals

- noise from airports, bus-stops, markets etc,

(ii) clean environment – industrial waster, pollution, garbage dumping absent.
(iii) Morally reputable neighbourhood.

iv) Plans and orientation
(i) consider requirement of family e.g size and composition, age of family, activities of members, hobbies etc.
(ii) money available – plan should be in relation to this.
(iii) design – elaborate as is affordable
(iv) type of building materials can increase final cost / reduce it.
(v) choose building materials basing on weather, availability of materials, transport etc.
(vi) position of the room, should be in relation to direction of sun, wind, natural view e.g mountains, behind valleys

Advantages of building a house;-
(i) house is built according to ones taste and specification to suit his needs.
(ii) if built well it can last long and attract buyers if put up for sale,
(iii) owner develops a feeling of permanence and suitability
(iv) ownership of the house is a way of added security, independence and stability,
(v) alterations and renovation can be done at ones will.

Disadvantages;
(i) cost sometimes ends up going beyond estimates because of inflation, bad weather changes in labour costs etc.,
(ii) lack of building materials may delay construction and increase final cost,
(iii) one is forced to live where the house is.

(b) Buying a house
Reasons for buying a house;-
(i) provides stability and security to the family – no worry of being evicted,
(ii) gives social and emotional stability – no worry of where children will live if anything happens.
(iii) It is a means of saving e.g it can be sold when somebody has financial problems it can be sold,
(iv) It can become a source of income if rented out,
(v) It can be used for security in case one wants to pick a loan,

Advantages of buying a house;
- the house is available immediately. No delay as in constructing one,
- it can be paid for by instalments and it becomes the owners after completion of payment,
- the price can be less than cost of construction of a new house,
- it can be redesigned and remodeled if the owner is creative

Disadvantages;
- it may not be able to meet requirements of the buyer,
- it may need renovations and repairs in future,
- the house doesn't belong to the buyer if payment is in instalments until one competes paying for it.

(c) Renting a house;
Points to consider before renting a house:
- length of tenancy,
- should be a contract between tenant and owner for safety measure,
- amount to be paid and to whom,

- who will be responsible for maintenance (tenant/landlord)
- security,
- size of the house – depends on size of family and composition of members.
- public amenities (should be near).

Advantages of renting a house:
- one can be able to rent a house that suits her/his income,
- it is realistic if income is not…
- one is free from paying insurance premiums on the house,
- one isn't involved in keeping the house in good state and repair instead it is the owner who does that.
- one can leave the house on giving the required notice.

Disadvantages
- one has no security of ownership,
- the house may not be repaired on time and if done so may not be to ones taste,
- rent may be increased and may be more than what one can afford,
- if landlord is not satisfied with one he/she may remove her from the house,
- personal items/possessions may be damaged in case of moving to another house,
- ones children / animals may not be allowed to move to the other tenant place

(d) Living in an employer's house:

Advantages:
- convenient because in most cases it is normally near place of work,
- rate of expenditure reduced/cut,
- most are well maintained as a way of motivation,
- it creates a feeling of togetherness when one stays near the workmates.

Disadvantages:
- it may not be to ones expectations,
- conflicts may arise because of close interaction with workmates,
- one may have no notice to look for another house if sacked abruptly.

Types of houses:

A house is a shelter that provides:

(i) physical protection,
(ii) psychological protection,
(iii) emotional protection

NB:- A good house should be able to cater for all the family needs.

Types:

(i) Traditional houses.
(ii) Modern houses

The two differ in material used and designs:

NB:- Design and type of house depends on:

(i) Building materials available,
(ii) Money available.

(i) **Traditional houses**

Are in different shapes depending on the community, though most are circular e.g

(a) Kikuyu huts,

(b) Maasai huts,
(c) Makuti house,

Advantages of a traditional house:-
- building materials can be found locally are cheap and some are free. E,g mud, wood, cowdung, grass etc.
- are easy to build,
- extra houses can easily be provided,

Disadvantages
- not durable – affected by weather changes and wear out easily,
- they occupy a large area of land,
- don't provide enough privacy, space and security,
- materials for construction are cow becoming scarce.

Improved designs of a traditional house:
- most of them have improved shapes e.g rectangular, square / L-shape,
- they are improved to give more room and privacy,
- traditional materials may be used partly/entirely, but design is changed and improved.

(ii) **Modern houses:-**
- are an improvement of traditional houses,
- one building is normally divided into different rooms for different purposes,
- materials used include wood, tiles, marble, cement, glass, stones, building limestone, bricks etc.

Types of modern houses:
(a) Bungalow
A house with all rooms on the ground level, suitable for families with young children and elderly because it is less dangerous. If on slopping grounds, rooms can be on a split level.

Advantages:
- saves money because it can be extended,
- saves labour,
- easier to extend,
- more private.

Disadvantages:
- occupies a lot of space,
- not safe if in a lonely place.

(b) Flats/Apartments
- A house with all facilities provided on one floor and may have one more or more blocks above or below it.
- Common in towns because of limited space.

Advantages of a flat/apartment:
- gives sense of community living,
- safe from break-ins.

Disadvantages.
- fire and pests can easily spread from one house to another,
- has not privacy,
- neighbours could be noisy,
- staircase not safe for children and aged,

- not easy to keep compound neat because it is shared.

(d) Storeyed house/maisonette/town house

- A house with some rooms on the ground floor, others upstairs. E.g sitting room, kitchen, toilet on ground floor, bedrooms and bathrooms upstairs.
- Are attached to other houses in rows of several houses.

Advantages:

- save land space,
- safe from break-ins because many houses are together,
- save building materials because they share a common wall,
- provides privacy because each unit may have its own garden.

Disadvantages:

- sometimes are too close so no privacy,
- pests and fire can spread from one to another,
- not easy to extend,
- expensive because strong building materials are needed for supporting upper room,
- staircase is dangerous in children, sick and elderly,

Different rooms and their functions:-

Living (sitting) room,

- it's a meeting place for family members and largest in the house,
- for relaxation and for social activities like entertaining, listening to music, games and eating,
- furniture and furnishing should provide maximum comfort and atmosphere that gives complete relaxation.

NB:-

- it should be easily accessible from all rooms and
- should have a back door if possible for privacy of other rooms,
- if possible let it have activity areas where different activities can be done without interference.

The dinning room:-

- it is for eating,
- smaller than sitting room,
- have furniture and chairs for family members,
- may have a cupboard/sideboard,
- some times in absence of a dinning hall one end of a living room/area of kitchen is used,

NB:

(a) should be next to kitchen/directly joined to the kitchen,
(b) should have a window/hatch to allow easy serving of meals.

Bedrooms:-

- for sleeping/resting,

NB:-

(a) should be located in a way which offers comfort and relaxation,
(b) should be in a quiet part of house,
(c) adequately furnished e.g should have a bed bedside table, dressing table and wardrobe.

The kitchen

- for food preparation, preservation, cooking and storage,
- acts as a serving area,
- serves as a dinning room and can be for laundry.

NB:-

Should be located in a place naturally and artificially lit.
Should be near the dinning room and living rooms, near food store and back door.

Kitchen plan

The u-shaped plan:-

Corridor plan:-

L-shaped plan:-

The food store:
- for storage of non-perishable food though a house may have a fridge/cupboard for this.

NB: should be near kitchen

Sanitation
Has a bathroom and toilet, could be in one room/separate.

NB:-
- should be where there is water supply,
- should be near the bedroom for privacy.

Bath shelters and latrines:
- common in rural areas,
- outside the house to keep away flies.

NB: -
- should be kept clean,
- should be away from the water source,
- latrine pits should be covered to keep off flies and bad smells.

CARE OF THE HOME:
Reasons for cleaning the house
- promotes good health by keeping away germs and bacteria,
- it helps retain the original appearance of surfaces in the home,
- to help surfaces stay free from stains and remain attractive and in good condition,
- to cut down cost by cleaning regularly

CLASSIFICATION OF DIRT
Definition of dirt:
Any substance that makes appearance of a surface/object unattractive, it can also be a health hazard.

Classes:
(i) loose dirt,
(ii) fixed dirt.

(i) loose dirt
- are fine particles of both organic and inorganic matter.
- are normally carried by wind and deposited on a number of surfaces and objects,

Classes of loose dirt
(a) animal matter e.g dried skin, waster matter, hair etc.
(b) vegetable matter, e.g pollen grains fibres, moulds, bacteria, yeast etc.
(c) inorganic matter e.g powdered earth, soot, ashes, fine particles of rocks etc.

(ii) **fixed dirt**
- it is dust that sticks on surfaces,

- normally held together by grease or moisture,
- can't be blown by wind/wiped off by dusting but requires mechanical means,
- e.g tarnishes on metals.

NB:- Tarnish can be a health hazard if it occurs on cooking and serving dishes.

Methods of cleaning surfaces:
(i) Dusting
(ii) Brushing
(iii) Sanction
(iv) Scrubbing

Sweeping
It is removing dust from large surfaces smooth/rough.
Not all dust is removed some is blown into the air and settles back on surfaces.

General methods of sweeping
Order or work:
- Collect all required equipments and materials in order to (a) save time and energy, (b) to prevent unnecessary movement.
- Move light furniture to one side of room or centre for easy movement during sweeping,
- Close windows and doors to prevent dust being blown about,
- Start from furthest corner to fire place/door to keep dirt off cleaned parts.
- Use forward/side to side strokes overlapping parts so as feet are not covered with dust,
- Move furniture to sweep part that are not swept so as all parts of room are cleaned,
- Gather dust together and collect using a dustpan because it is easier and comfortable,
- Wrap in a newspaper in a polythene bag and dispose it in a dustbin since it is healthier and more hygienic,
- Rearrange room and open windows and door to make it neat and fresh.

NB: If earthen sprinkle with water to prevent dust being blown around.

Dusting
Done by gathering up the dust with a clothing on dusting mop.

NB:- Avoid fluffy materials because they shed bits on surface and make it difficult to clean.
A feather duster/mop is better if delicate articles.
Treat cotton dusting mop with a special liquid for them to be able to absorb dust effectively.
Use long handled mops when dusting floor e.g polished wood, linoleum etc.

General method of dusting
- Collecting all equipment and materials so as to save time and avoid unnecessary movement.
- Fold duster move round room and dust from top,

NB:-
(i) If folded, the pad will have no loose corners that can pull down ornaments,
(ii) It gives several clean surfaces,
- Starting from top ensures no dust settles on the cleaned surfaces,
- Use circular movement to puff and shine surfaces,
- Remove sticky/dirty marks with a damp cloth/chamois leather,

- Shake off dust into a dust bin/waste paper basket so as no dust falls on already dusted parts and for it to clean well,
- It is a room used by the sick, dampen duster with water having a disinfectant to avoid dust raising and to kill bacteria.
- Shake off inside a lined waste paper basket. Wash and dry then store for dust to be removed from the house and for duster to be used again.

Brushing
Refers to removing dust from rough surfaces using a brush, e.g from carpets, rugs, heavy curtains, mats etc. clothes can also be brushed to remove dust and fluff if not ones that are washed frequently.
- method is similar to sweeping.

Suction:-
- It is removal of dust using a vacuum cleaner,
- It is more efficient than sweeping/dusting since dust is sucked into a bag of cleaner and not scattered,
- Electric ones come in a variety of shapes, sizes and cost,
- Can be used for many jobs of fitted with many attachments for cleaning curtains/upholstered furniture, sweeping, dusting etc,

NB:- the cleaner should always be given enough time when moving over a dirty surface for the suction action to remove dirt. If it is quickly run over it doesn't work effectively.

Cleaning equipment:
When choosing they should be ones that simplify the task and also perform in an efficient manner.

Basic cleaning equipment:
- Brooms
- Brushes
- Dustpans
- Mops
- Basins
- Buckets

Brooms and brushes:
Types of brushes and broom
- Cupboard brooms – have tough bristles,
- Short handled brooms – for sweeping small areas/collecting dust,
- Shoes brushes normally made of nylon and coconut husks,
- Cloth brushes – smooth and have short tuff made from animal hair/synthetic materials,
- Bottle brushes – twisted on wire,
- Soft brooms – for removing loose dirt,
- Cobweb brushes – have long handles,
- Toilet brushes – are for cleaning toilet bowls
  - made from nylon/coconut husks.
- Wire brushes - for cleaning terrazzo floor, not suitable for wooden floors,
- Scrubbing brushes – from palm tree fibre and nylon. For scrubbing wood, cement, clean canvas, shoes etc.

Choice and care of broom and brushes
- Should be quality ones, durable and efficient at performing tasks,
- Consider workmanship i.e

(i) bristles should be firmly fixed,
(ii) handle should be durable,
(iii) should be of comfortable length

- Should be easy to clean and store. *Refer to K.I.E*

Care:
- Shake off dust after use,
- Clean in warm soapy water combing bristles,
- Rinse well,
- Hang bristles down to dry,
- Clean toilet ones in water having a disinfectant,
- Store them in an open container kept besides the toilet.

A mop is for removing loose dirt. Clean just like a floor cloth.
Types
- Dry mops : made of twisted cotton threads with long handle,
- Damp mops :
- Wet mops : - similar to dry mops.
  - for cleaning floors with water in the basin.
- Mop buckets can be used and are made of plastic/galvanized iron,
- Polishing mops – for polishing by hand,
- A long handled foam mop – made of sponge and steel handle.
- A dusting mop – made of feathers.

CLEANING MATERIALS
- water
- detergent
- toilet cleaners,
- stain removers
- polishes
- soap
- abrasives
- window cleaners
- bleaches

Cleaning different rooms:
SITTING ROOM (Daily cleaning of sitting (living) room)
- close windows,
- shake floor mats and cushions outside house,
- remove waste baskets,
- sweep floor and brush carpet/use carpet cleaner,
- dust furniture and collect dust in dustpan,
- tidy and arrange room then open windows,
- arrange mats and cushions,
- arrange flowers if present.

Weekly cleaning of sitting room
- open windows to air the room,
- collect equipment and materials,
- move furniture to the centre/out if weather is good,
- collect ornaments on a tray,
- close windows to prevent dust blowing back to clean parts,

- dust ceiling and walls using ceiling brush attention to corners,
- clean fire place,
- sweep floor methodically and dispose dust,
- dust all surfaces and polish the ones that need polishing,
- open windows and clean them according to type,
- clean wooden surfaces and polish,
- clean floor according to type and remove stains

Occasional cleaning of sitting room
- put out cushions, rugs and mats to air,
- sweep down ceilings and walls – remove cobwebs with a long handled broom,
- sweep room and clean floor according to type,
- clean skirting board,
- dust furniture according to its type,
- clean carpet, rugs and mats thoroughly using a carpet sweeper,
- wash floor and polish when dry,
- replace everything to its right place,
- change chair covers, cushion covers and curtain if need be.

Cleaning dining room
Refer to sitting room
Pay attention to Dining table, table cloth and floor around the table.

BEDROOM
Cleaning of the bedroom (Daily cleaning of bedroom)
- open all windows to ventilate,
- strip bed, place beddings on a stool to air the bed,
- put mats and floor rugs outside, shake them,
- sweep floor attention to the area under the bed,
- remove all objects from dressing table and other surfaces,
- dust furniture, ornament and skirting board,
- make the bed:
  (i) cover mattress – use a thin cloth/thin under blanket,
  (ii) place bedsheet W.S down tuck in firmly all round,
  (iii) place top W.S up and tuck it,
  (iv) place top blanket tuck it,
  (v) fold blanket and top sheet to back,
  (vi) shake pillows well place on top of bed, open slides away from the door,
  (vii) place bedcover don't tuck and let it not touch the ground,
  (viii) open window.

Weekly cleaning of bedroom
- open window to air the room,
- change sheets once a week,
- strip bed take beddings out,
- clean bed with a cloth dipped in warm soapy water,
- rinse with a cloth wrung from warm water twice finally from cold,
- attend to ceiling and walls,
- make the bed with clean beddings,
- clean the room as for daily cleaning

Occasional cleaning of the bedroom
- bed room should be completely turned out and cleaned occasionally.

Procedure
(i) strip the bed
(ii) put pillows on the sun to air,
(iii) brush mattress, put out on sun to air
(iv) wash mosquito net if necessary and also curtains,
(v) clean beds frame with a damp cloth wrung out of warm soapy water and rinse well,
(vi) clean wardrobes, chest of drawers and cupboards,
(vii) change pillowcases and sheets,
(viii) clean like for daily cleaning.

NB:-
(i) Give bedrooms for guests and sick special care so that they are comfortable,
(ii) Use warm soapy water having a disinfectant to clean the bad floor and water.
(iii) Use warm soapy water having a disinfectant to clean the bad floor and walls.

KITCHEN
Daily cleaning of the kitchen
- Ventilate in the morning,
- Sweep the floor while windows are closed so that dust doesn't rise,
- Clean the sink,
- Empty the bin and wash it,
- Clean cooker with a damp cloth wrung out of warm soapy water,
- Clean work tables,
- Clean floor with warm soapy water attend to stains,
- Wipe floor with cloth wrung from soapy warm water,
- Change kitchen clothes.

Weekly cleaning of kitchen
- Pay much attention to kitchen surfaces,
- Clean cooker both top and sides using warm water, clean inside too and rinse well then dry,
- Defrost and clean fridge, remove all unwanted foods,
- Clean sink and dustbin,
- Ventilate room,
- Empty and clean waste bin with disinfectant,
- Clean windows and sink,
- Clean all cupboards and drawers and line them,
- Sweep floor, open windows to bring in fresh air,
- Clean floor with warm soapy water,
- Remove all stains, rinse and dry well

Special cleaning of kitchen
- Ventilate room,
- Empty cupboards and drawers, remove all unwanted items,
- Clean storage containers,
- Wash curtains,
- Dust ceilings and walls,
- Close windows so that dust doesn't rise and sweep,
- Clean wall with warm soapy water and damp cloth, remove all stains,

- Rinse using a cloth wrung from warm water finally cold,
- Clean windows and floor thoroughly depending on type and rinse well and dry with a dry cloth.

BATHROOM

Daily cleaning of the bathroom:

- Ventilate the room,
- Pour away all used water,
- Wipe shower curtains to remove traces of soap,
- Clean mirror use a plain duster,
- Clean floor with warm soapy water and rug,
- Rinse well using warm water and clean rug,
- Dry using dry duster.

Weekly cleaning of bathroom:

- Open windows,
- Remove dirty water, bath towels and face towels and clean,
- Clean bathtubs, hand basin use a good cleaning agent,
- Clean walls with soapy warm water having a disinfectant,
- Rinse and dry,
- Clean mirrors and windows,
- Clean shower curtains so as to remove splashes of water,
- Clean taps and towel rail,
- Scrub floor and clean rest of bathroom thoroughly,
- Rinse well and dry.

Occasional cleaning of the bathroom

- Open windows,
- Clean and polish bath tub/basin if they have brass taps, chrome, aluminium etc,
- Clean walls depending on type,
- Clean bathroom as for daily cleaning,
- Replace mats with clean ones,
- Put out clean towels.

TOILET

Daily cleaning of toilet

- Cleaned together with bathroom if on the same room,
- Ventilate toilet,
- Flush and clean bowl using a toilet,
- Brush and an appropriate cleaning agent,
- Rinse brush in warm soapy water having a disinfectant,
- Rinse the bowl and flush again,
- Wipe seat, cover bowl with a damp cloth wrung in soapy water having a disinfectant. Wipe also flush handle.
- Clean floor depending on type wash with warm soapy water having disinfectant if ceramic/plastic tiles,
- Change towel,
- Rinse and wipe dry use a dry duster,
- Clean cloths and dry them,
- Put toilet paper if needed,
- Use air fresher

LATRINE

- Normally far from the house,
- Clean and disinfect everyday,
- Give great care around opening,
- Sprinkle water on couther floor that is disinfectant and sweep,
- Cemented ones should be scrubbed with soapy warm water that has a disinfectant and rinsed well,
- Opening should be sprinkled with soil/ashes.

Occasional cleaning of the latrine
Refer to daily cleaning

NB:- Smoke latrine occasionally by burning twigs to fumigate
Pouring ashes around latrine

Bathshelter
Daily cleaning
- Keep step clean and dry

CLOTHING AND TEXTILE
Textile fibres
Are used for making clothing materials and fabrics that are used for.
(i) covering and protecting body from extreme weather conditions to maintain body temperature.
(ii) keep us dry when wet e.g towels.
(iii) to look attractive
- Fabrics are made from yarn.
- Yarn is from fibres twisted together woven/spun to make threads,

NB:- Source of fibres
(i) natural
(ii) man made
(iii) artificial

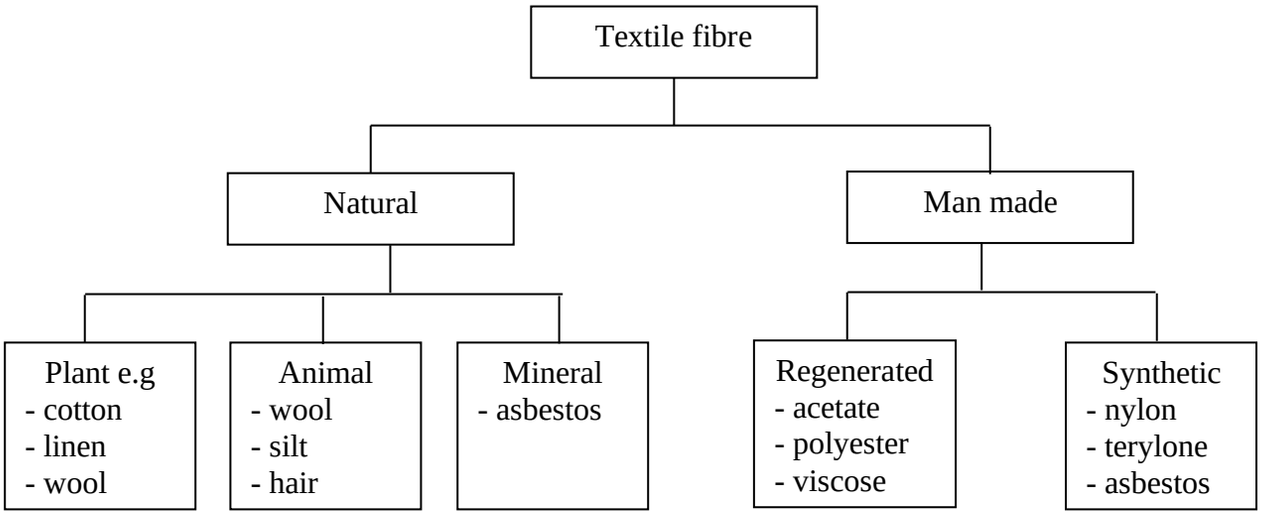
Classification of fibres
Def:- hair like unit of raw materials from which cloths are made, e.g – cloth
- wool
- silk
- polyester

(i) Natural fibres
(ii) Man made fibres
(i) Natural fibre
From parts of plants e.f
- cotton
- flax
- animals e.g sheep and silkworm

Go through many processes then are spun or twisted together making yarn that makes fabric e.g cotton, linen, wool.

(ii) Man made fibres
- Produced through chemical treatment of raw materials e.g petroleum extracts and by products of coal.
- They are treated chemically to form fine filament/threads, are twisted together and stretched giving them strength and elasticity.

Classification using a diagram



Properties of common textile fibres

Natural fibres

1) Cotton

e.g gingham, lawn, calinq and flannelette, jinju, poplic, khaki, toweling and corduroy

- it is easy to handle,
- inexpensive,
- strong and hard wearing so widely used

Uses:

- for warm wear it is a good conductor of heat,
- for making beddings,
- underwear, it doesn't generate static electricity,
- towels and sportsmen it absorbs sweat
- curtains,
- hospital bed sheets stands high temperature,
- upholstery clothing of all kinds,
- used for making sewing embroidery threads,
- uniforms because it stands frequent washing and stain removal.

Desirable properties

It is absorbent so used for making clothes worn next to the body e.g

(i) underwears,
(ii) nightdresses,
(iii) sportswear

- doesn't generate static electricity,
- absorbed moisture evaporates fast so makes the fabric dry faster. Therefore it is suitable for hot climate because it is cool,
- withstands mild alkalis, detergents and stain removing agents,
- some are warm because they are treated to make them fluffy in order to trap air,
- a good conductor of heat,
- it is strong a strong when wet so can't be scrubbed,
- it is mothproof,
- can be mixed with other fibres to lower the cost and improve wearing quality because it is strong hard weaving and expensive.

- it stands high temperature so suitable for use in hospitals,
- it takes dyes readily.

Undesirable properties
- develops mildew when left damp for long,
- gets dirty easily,
- it creases though when blended with rest it becomes more crease resistant,
- destroyed by storing aids,
- shrinks if not treated,
- lacks luster
- burns readily when exposed to a flame,
- weakened by long exposure to sun.

Physical identification
- when burnt flares up yellow flame produced leaves grey ash and smells like paper.

NB:- Behaves differently when mixed with others.

2) Linen

From inside stalk of flax plan: Examples: Damack, toweling, a dress fabric, canvas. It is stronger

Uses:
- for table linen table mats, tray clothes,
- for handkerchiefs and church linen,
- for button and embroidery thread since it is strong and durable,
- quality classes, face towels, scarves.

Desirable properties of linen
- strong than cotton
- highly absorbent,
- it is cool to wear because moisture evaporate faster so suits summer dresses and bed sheets.
- it is smooth that makes if shiny and attractive,
- it is a good conductor of heat so suits warm weather,
- it is resistant to sunlight than cotton so suits making curtains,

Undesirable properties
- creases easily though can be treated to become crease resistant,
- grays more readily,
- develops mildew stains if left damp for long,
- weakened by acids and alkalis.

Physical identification of linen
- flares up,
- burns with yellow flame,
- leaves grey ash.

3) Wool

From fleece of merino sheep. Can also be from goats, camels and rabbits.

Uses:
- for making warm clothing e.g sweaters, suits, jackets, shawls and blankets, overalls.

NB:- Needs special care e.g

(i) washing with warm soapy water and maintaining temperature even for making.
(ii) using a mild detergent,
(iii) drying flat to prevent stretching,
(iv) attacked by moths so keep away by using mothballs.

Desirable properties of wool

- has good elasticity – stretches well and goes to original shape and size,
- is absorbent – absorb water to 50% without feeling wet,
- it is warm because of the overlapping scales around fibres,
- it is wrinkle resistant,
- is soft, non-inflammable and dyes well.

Undesirable properties of wool

- damaged by alkalis so should be washed by mild soap,
- damaged by rubbing and high temperature,
- shrinks easily and felts,
- it shouldn't be soaked during laundering because it is weak,
- can pull out of shape,
- gets mildew stains if stored while damp,
- attacked by moth and silver fish.

Physical identification of wool

- smoulders and turns into black bead,
- gives smell of burnt hair/feathers.

4) Silk

e.g taffeta, chiffer, georgette, orguza, velvet

- from silkworm,
- it is soft, warm and strong,
- has long threads and fine,
- it is expensive.

Uses:

- dress fabrics, furnishings, shirts, blouses and neckties

Desirable properties of silk

- it is soft and drapes well,
- Has a lovely sheen and pleasant to handle therefore suits luxurious underwear,
- A good insulator, warm in winter and cool in summer,
- very strong and fine,
- elastic so wears well and therefore suitable for sewing thread,
- sheds creases easily so suitable for travel,
- dyes easily, absorbent.

Undesirable properties of silk

- sensitive to alkalis, therefore suits mild detergents during laundry,
- it is weak when wet so shouldn't be carelessly when washing,
- it is very strong, its elastic, grease resistant and drapes well,
- damaged by alkali and acids,

- non-inflammable,
- resistant to mildew, fungi and moth,
- affected by strong sunlight,
- not easy to remove sweat stains and therefore garments have to be prevented from perspiration.

Physical identification
- smoulders and runs into a black bead,
- the bead is crushable,
- smells like burning hair.

MAN-MADE FIBRES (ARTIFICIAL FIBRES)
Viscose rayon
- it is used for various kinds of fabrics,
- mixed with other fibres e.g wool, cotton to improve qualities, to make outer wear, underwear, linings, table linen and household furnishings,
- used for a variety of clothes, furnishing carpets and other household items.

Desirable properties of viscose rayon
- highly absorbent, bends to retain moisture so takes long to dry,
- a good conductor of heat so cool to wear,
- weaker when wet,
- flammable,
- soft and drapes well,
- mothproof,
- mildew proof though develops when wet,
- strong (very),
- takes dyes,
- mellows and rots when exposed to light,
- weakened b acids but not alkalis,
- weak when wet and damaged by long exposure to the sun,
- creases badly and doesn't shed crease.

Physical identification of viscose rayon
- burns,
- leaves grey ash,

SYNTHETIC FIBRES (Are made from petroleum products and natural gases)
Nylon
- from chemicals, air, waste and coal,
- used in form of continous filament and shape of fibre,
- staple fibre used alone/blended with others e.g wool/cotton.

Desirable properties of nylon
- not affected by alkalis/weak acids,
- thermoplastic can be permanently pleated,
- doesn't shrinks/stretch,
- needs little/no ironing,
- doesn't conduct heat,
- dyes easily,
- acting in those made of spun nylon,
- crease – resistant so mixed with others to increase resistance,

- smooth,
- resists abrasion and when blended with rest it increases their resistance,
- it is very finer, extremely strong, elastic and light weight,
- affected by household bleaches,
- very strong when dry and wet,
- it is veviatide can be produced in a variety of texture, thickness and finishes,
- not absorbent,
- hangs to the body,
- resistant to moth and mildew,

NB;- stockings, dress fabric, furnishings, lingeries and outwear. e.g of nylon, jersey and satin.

Physical identification
- if burnt it runs away from flame,
- melts into a hard bead,
- under microscope it looks like glass rods stretched with parallel wavy lines.

5) Polyester

Desirable qualities of polyester
- very strong with slightly less strength when wet,
- easy to launder and dries quickly,
- needs no ironing/little,
- crease resistant but can be permanently pleated,
- smooth, soft and drapes well,
- not damaged by dry cleaning agents, alkalis and acids of not too much,
- not damaged by light and sunlight so suits curtains,
- mothproof and resistant to mildew,
- flame resistant,
- has a high affinity of dyes.

Undesirable properties of polyester
- high temperature damage it and therefore use low ironing temperature,
- bright / dull depending on desired effect,
- produces static electricity,
- resistant to abrasion, heat and sunlight and allusive acids,
- frays easily,
- can be blended with other fabrics,
- only absorbent if blended with other fibres,
- stain and dirt are easily removed.

Uses: to make dress fabrics, suiting materials and household furnishings e.g jersey, terylene suiting, polyester

Physical identification
- when burnt it is forced into a hard bead,
- difficult to light but eventually burns with a yellow flame,
- give an aromatic smell

6) Asbestos e.g drinsotile

From natural rock;

(i) non inflammable,

(ii) resistant to chemicals, insect and micro-organisms.

Uses:

- make theatre curtains,
- protective clothing e.g overalls for fire officers,
- insulator in manufacture of electric appliance

7) Acrylics

Desirable properties

- drapes well,
- easy to sew
- warm and soft,
- shrink resistant,
- doesn't stretch,
- soft and luxurious,
- has a low ability to absorb moisture and therefore dries faster,
- resistant and sheds off creases easily,
- not harmed by bleaches,
- not affected by sun so suits curtains,
- can be permanently pleaded and so can be blended with rest to make them easy to be pleaded,
- light in weight,
- not affected by mildew, moths and makes other fibres mothproof if blended with them,
- resistant to soiling,
- easy to dye,
- can be blended with other fabrics to add desirable qualities.

Undesirable properties

- clings to the body because it produces static electricity,

Uses:

- making warm clothes, sweater, blankets and coats and household furnishings e.g carpets and rugs,

Physical identification

- burns leaving a tar like black bead and shrivels away from the flame,
- dissolves in concentrated nitric acid.

SEWING TOOLS AND EQUIPMENT

Classification of sewing tools and equipment

- sewing tools i.e scissors, thimble, tailors chalk, tape measure, measuring card, dress makers carbon, stiletto, seam ripper needles and tracing wheel,
- pressing equipment, irons, ironing board and table etc,
- haberdashery i.e threads, bindings, elastic zips, buttons, interfacings etc.
- sewing machine – electric, treadle, hand.

Choice, use and care of sewing tools

Cutting out scissors/shears

- used for cutting fabric only,
- should be of rust free materials,
- should be 15cm long,
- one blade narrower and often heavier for it to slip under fabric and heavier to weigh down fabric,
- ones with a smaller round hole for the thumb larger oval one for the three fingers,

- should be sharp and firmly hinged,

NB:-
- avoid using cutting out shears/scissors for cutting hair,
- wipe after use and store away from moisture,
- avoid dropping,
- oil regularly on hinges,
- store safely after use,
- hold correctly,

Pinking shears
Qualities refer to cutting out shears - but
- they should have serrated blades for cutting and neatening/finishing edges to avoid fraying,
- used for neatening edges of an open seam.

Paper scissors
- should be a cheap one, should have a zig zagged edge;

NB:-
- don't expose to moisture to prevent rusting,
- for neatening seams/cutting page patterns.

Embroidery scissors
- should have sharp pointed blades,
- easily adjustable screw,

NB:-
- used for embroidery work and for cutting threads,
- used for snipping,
- cutting button holes

Bodgin
- eye must be large,
- point should be blunt for it not to pierce through work,

Use:
- for threading elastic card ribbons and tapes,

care:
- store in a needlework box
- don't use for cutting hair/finger nails or paper.

Thimble
It is worn on middle finger to protect it from harm during sewing by hand. Can be metallic/hard plastic.

Choice;
- should be a correct size to fit finger,
- N/B: metal ones are more long lasting,
- should stored in the needlework box,
- wear on correct finger.

Tailors chalk
- are in a variety of colours,
- choose basing on colour of fabric,
- used marking patterns and transferring patterns,

N/B:
- use lightly,
- avoid dropping/exposing to pressure,
- i.e handle carefully,
- store in needlework box.

Tape measure
- used for taking measurement

Qualities
- should be plastic coated to avoid fraying and stretching,
- should have metal ends,
  (i) to keep flat when measuring,
  (ii) to prevent fraying
- clearly marked (inches and cm) upto 60" and 150cm,
- strong and hard weaving,

NB:- If not being used roll and store in needle work box.

Measuring card
It is stiff card made of hard plastic/card board. Used for measuring seam allowances and hem depths/measuring widths.

NB:-
- a manilla paper can be used,
- store in an envelope and put in an needlework box,
- it should have clearly marked lengths,
- notches should be at right angles to make marking of measurements easier,
- should have several measurements.

Dress makers carbon
- are in a variety of colours,
- it should be colour that shows clear markings on fabric.

NB:- fold and store after use.

Stiletto
Used for making eyelets on embroidery work,
- should be sharp pointed,
- should be of correct thickness to make desired sizes of holes,

NB:-
- should be smooth not to spoil fabric,
- avoid dropping it can be blunt

Metrestick
- should be clearly marked on both sides,
- should be smooth, wood metal/plastic,

Use
- to measure long straightness, used as shirt length.
- store against the wall

Seam ripper/marker
- used for removing unwanted stitches,
- should have a shart point,
- should have a cover for protecting sharp edge,
- used for cutting buttonholes,
- avoid dropping, use carefully not to cut work,
- store in a needlework box.

Training wheel
NB:- use carbon colour closest to flat colour of fabric,
- used with tailors carbon paper to transfer pattern markings to fabric,
- should have firmly fixed handle and wheel,
- wooden handle is more durable than plastic for transferring pattern marking with carbon.

Dress makers pins
- should be sharp and fine in order not to leave marks on garments,
- stainless steel,
- assorted length,
- should have big heads,

NB:-
- keeps dry and free from rust,
- should be stored in pin cushion/small box,
- avoid scattering,
- remove from work when cutting.

Needles
- keep in sewing kit,
- needles for fine work, use correctly, fine crewels for embroidery,
- knitted ones, keep dry and free from rust.

(i) Sharps
- are of medium size and length,
- have round eyes,
- used on most fabrics.

(ii) Betweens
- round eyed,
- shorter than sharps,
- used for quilting,
- can be used instead of sharps if fabric is heavier.

Crewels
- of same length with sharps,
- used for embroidery work,
- eye oval and larger in order to take embroidery thread.

Choice is needles
- should be straight and firm,
- smooth and large enough eyes to be threaded easily,
- rust free/stampless,
- size should correspond with weight of fabric not to leave marks,

- sharp, easy to thread assorted sizes, the larger the size the finer the needles.

CHOICE AND CARE OF PRESSING EQUIPMENT

(i) Irons

Used for pressing and ironing work in process

Types

(a) Charcoal,
(b) Electric
(c) Steam
Gas
Flat irons.

Commonly used ones are

(a) electric
(b) charcoal

(a) Electric

Choices, use and care of electric irons

- should have a clearly labelled control knob according to type of fabric,
- should have a long enough flex to reach ironing surface,
- shouldn't be too light/too heavy.

Use and care

- avoid touching with cold hands,
- avoid chopping this may damage the heating element and plastic part,
- don't use a knife to remove stains,
- replace worn out flex before it gets exposed,
- cool and store in a dry place after ironing.

(b) **Charcoal irons**

- should be heavy enough to exert pressure on the garment,
- should have a comfortable handle,
- screws firmly fixed
- sole should be cleaned before using,
- the iron to be closed well before using,
- after use, it should be emptied, cooled on a stand and stored in a dry place,
- clean with warm water soapy, rinse, dry and oil joints.

Ironing board/table

Choice

- of adjustable height to prevent fatigue and poor posture when ironing,
- well padded and should have a removable cover to be washed,
- should have a sleeve board for ironing sleeves and children garments,
- should have a heat proof mat for placing iron, (A square asbestos)
- should be firm if it is an ironing table,
- should be large enough, comfortable height,
- should be smooth and flat,
- shouldn't be polished.

NB:- table is for pressing flat articles

Haberdashery
Are sewing notions:
Types
- tacking thread
- sewing thread
- button hole twins
- shear elastic
- embroidery skeins
- embroidery balls

(i) **Sewing thread**
Choice
- colour should match colour of fabric
- strong, smooth and right thickness not to cut easily,
- texture should match fabrics e.g cotton for cotton fabrics, silk for silks and synthetics etc.
- colour fast, smooth and right thickness,
- it should be mercerized cotton thread for machine stitching.

(ii) **Bins bindings**
- match texture with that of fabric,
- colour should match/contrast fabric if for decorative purpose.
- it should be colour fast.

(iii)**Elastics**
Choice
- according to width and point of application
- should be strong.

Care
- avoid ironing because it makes them soft and loose

(iv)**Fastenings**
e.g press studs, hook and eyes, zipps & buttons
- size and colour of buttons should match the style and colour of garments.

STORAGE FACILITIES
E.g
- Needlework box
- Drawers
- Cupboards
- Wardrobes
- Dressing mirrors
- Dressing table
- Hangers

Used for storing needlework tools and garment

NB:-
- Hangers should be adequate,
- The facilities should be clean,
- Rust free
- Smooth surface.

The sewing machine
Categories
(i) Hand machines
(ii) Treadle machines
(iii)Electric machines - some may be
Straight stitch machine
Swing needle

Straight stitch machines are easier for beginners but swing needle are more advantageous because they have many attachments and built in devices that provide several functions e.f making buttonholes, darning, edge finishing, embroidery works, piping blind hemming etc.

Parts of a sewing machine:-
- take up lever,
- stitch regulator,
- presser foots,
- slide plate,
- bobbin and bobbin case,
- balance wheels,
- stop motion screw,
- bobbin winder,
- bobbin dish
- bobbin & bobbin case

Choice of a sewing machine
Cost
- buy the best you can afford,
- spare parts should be locally available,
- seller should give customer care and after sale service,
- consider amount of sewing (whether domestic/commercial use),
- should be versatile and not complicated,
- always get a manual on how to operate,
- all parts should be working before buying

using a sewing machine
- follow the manual,
- there should be enough light to be able to see what is being stitched,
- the bobbin to be wound and machine threaded correctly,
- the needle should be correctly chosen appropriate on coarceness/finess of fabric,
- stitch length to be adjusted depending on fabric weight,
- balancing tensor of needle thread and bobbin thread,
- testing the machine on double fabric that should be same as fabric to be sewn,
- lift presser foot using a pressor foot lever,
- put work, lower needle onto the exact point ant lower presser foot,
- stitch while guiding work with both hands,
- at corners, lift presser foot leave the needle in work turn work lower, presser foot continue stitching,
- stop machine by the wheel if through lift presser foot and needle, pull work to the back of machine and put thread,
- leave approximately 10cm thread in needle.

Winding the bobbin
- stop needles motion by loosen stop motion screw,
- wind a little thread on bobbin from spool pin pass through bobbin winding thread guide,
- place bobbin on the winder run machine and wind thread evenly,
- when full stop, tighten the stop motion screw,
- remove bobbin, cut thread and thread the machine.

Threading the sewing machine
- thread moves from spool pin through guide to tension discs,
- move tension disc to take up lever,
- pull through guides to needle,
- it is then threaded from direction of last thread depending on machine instructions.

Threading the bobbin
- put bobbin in the case,
- pull thread through the slits and under tension spring leaf,
- thread should make bobbin run clockwise if it is pulled,
- place bobbin case in the shuttle hook facing up press till the click sound is heard.

Bringing the bobbin thread up
- hold needle thread with left hand facing user,
- turn handle wheel gently with right hand for needle to lower and pick bobbin thread,
- tuning lightly so that both threads are on the surface,
- place the 2 at back of the machine before starting to machine,

NB:-
A good machine stitch is same and even on both sides.

Faults of machinery
- thread breaking,
- needle breaking,
- material puckering,
- stitches skipping,
- fabric not moving well,
- threads looping.

Thread breaking
Causes by
- too tight top tension
- thread wound on spoil pin,
- incorrect threading,
- machining backwards,
- eye of needle faulty
- needle wrongly inserted
- blunt needle
- bent needle
- machine not oiled

Breaking needle
Caused by:-
- needle too fine for fabric/too heavy fabric for needle,
- machining on pins,
- needle bent,
- needle loosely screwed,
- too tight tension (top),

- pulling work from front while removing,
- loose presser foot,
- machining close to zip teeth,
- straight stitch for zigzag,

Puckering for materials
- blunt needle,
- too tight tension,
- adjusting feed dog.

Skipped stitches
- incorrect threading,
- incorrect inserting of needle,
- too thick fabrics,
- needle and bobbin threads of difference thickness,
- putting work while machining,
- needle bent, needle too fine, needle blunt, machine not oiled.

Fabric not moving well/machine feeding fabric wrongly
Causes
- setting feed dogs for embroidery work,
- stitches not well regulated e.g short length,
- lack of enough pressure of fabric,
- too thick fabric so pressure on fabric a lot,
- machine being in reverse, fabric held too tightly.

Hoping of thread
Causes
- incorrect threading,
- not balancing upper and lower tensions.

Care of the sewing machine
1) covering to protect from dust,
2) oiling moveable parts depending on work,
3) servicing regularly and replacing worn out parts,
4) learners should use it with supervisions,
5) placing a piece of cloth between presser foot and feed dogs when it is not in use to absorb extra oil.

NEEDLEWORK STITCHES
Characteristics of a good stitch
1) should be of good tension (not too loose not too tight),
2) of good density,
3) good length,
4) should have a neat beginning and ending,
5) should have a neat joining,

NB:- **Points to note when stitching**
i) never start a stitch with a knot when making permanent stitches, why?
   - it tends to become loose and comes out.
ii) start with a backstitch/double backstitch if making permanent stitches.
iii) make two firm stitches between last one, pass thread between two layers if materials is cut off,

iv) joining in a new thread by making 2 firm backstitches ahead of last stitch,
- stitches should be of correct tension.
v) colour of thread chosen should match /contrast that of fabric,
vi) a suitable needle should be used,
vii) should be correct stitch for intended purpose,
viii) use a thimble to protect middle finger from being sored,
ix) work stitches correctly, firmly and neatly.

Classification of stitches

i) Temporary
They hold together before working.

ii) Permanent ones
They are normally removed immediately permanent ones are put.

NB: some stitches can have more than one use.

Examples

(1) Tackling stitches

They hold darts, hems, pleats and seams together before working permanent stitches.

Types

a) even tacking,
b) long and short tacking

a) Even tacking
- When working, the main parts of fabric should hang down from hand.
- Worked from left to right,
- It is began by a backstitch and ended with the same,
- It should be 10mm long on L.S & N.S

b) Long and short tacking
- Hold soft and slippery fabrics together,
- Begin with a backstitch and a 5mm stitch is made followed by a 10mm one.

Basting stitches (diagonal tacking)

Used to hold layers of fabric together temporarily e.g collars, pleats, bands, yoke, lining etc.
- worked from any direction left-right /right-left.
- work has to be left flat,
- began with a backstitch and a 1cm long stitch is made and another 2cm above and below.

Tailors tacks
- for making pattern markings and double fabrics.
- it ensures all sides are marked accurately at the same time,
- worked with a double thread,
- began with a backstitch and tacking of approximately 1cm is made leaving a loop ½cm long between end stitch then end with a backstitch,
- the 2 layers of fabric are pulled apart and strands in the middle cut,

Tufts are left marking the line on one side and stitches on the other.
-

(2) Permanent stitches
- worked permanently let on garment as long as its in use,

NB:-

(i) Functional stitches,
(ii) Decorative

(i) Functional stitches
i.e those used for neatening raw edges. E.g

1. Loop stitch

- for neatening raw edges of seams;
  (i) Decorating
  (ii) Finishing edges of small articles
- From left to right, edge held towards the worker.
- If for decoration, stitches should be spaced and if for neatening should be close,
- The stitch is started by inserting needle into R.S of material required width.
- Insert needle same depth and space properly.

Buttonhole stitch

For neatening raw edges of buttonholes because it has a knotted edge that makes it strong.

- from left to right,
- pass double thread under the needle left-right,
- stitch is drawn upwards and single thread is held in right hand and pulled gently till the knot just rests on edge,
- stitches should be close to each other.

Overcastting

- it is used for neatening raw edges,
- from left to right,
- needle is brought out a few threads below edge,
- its put back to front a little further right, to make a starting stitch,
- several slanting stitches are made over the edge,
- NB:
- Should be loose stitches
- Should be close to each other
- Should be even.

2. Stitches for joining

- E.g oversewing used for
- to join 2 folded edges,
- from right to left,
- two edges are placed together and straight stitches are worked back to front,
- the stitches should be shallow,
- they should be close to one another,
- they should be lightly made.

Backstitches:

it is a strong stitch that can be used in one of machine,

- the stitches look like machine stitches,
- like stems stitch on W.S,
- can be used to make a strong beginning and finishing for the stitches,
- from right to left and first stitch is made,
- the needle is brought back to first stitch and is brought forward again space being even,
- stitches are repeated and angle of every stitch must be same for stitches on W.S to overlap in same direction

Running stitches
Uses:
- making gathers,
- joining pieces of fabric together,
- joining seams of garments that don't undergo a lot of strain,

NB:-
- should be equal in length,
- should have equal spacing,
- from right to let

Faggoting stitches
- they are embroidery stitches,
- for joining two edges decoratively,
- NB: edges to be joined, must be tacked to a paper strip before working them,
- Edges should be parallel to each other

3. Stitches for holding hems
Can be functional e.g hemming, slip hemming, machining and decorative stitches e.g hem stitch, herring bone, whooping etc.

Hemming stitches
For holding bindings and catching folded edges e.g hems and facings. From right to left on W.S. Edges to be stitched are held towards the worker.

NB:
- Stitches should be close together,
- Evenly spaced,
- Begin and end with a backstitch,
- Should be invisible on R.S of fabric

Making
- needle is passed through fold,
- left to right and brought out on fold,
- end of thread is tacked under fold,
- a few threads from fabric below fold are picked and brought in a few threads above fold, and needle is started a triangle,
- it is continued till end of work and a few stitches made backwards to strengthen

Slip hemming
- not so strong a method,
- it is almost invisible on both sides,
- can be used on outer garments
- needle is brought through fold and one/two threads picked from single fabric,
- needle is returned to first position in fold and slipped through the fold from right and left,
- stitch is repeated till end of work. A few stitches are worked backwards and needle passed through fold and cut off,
- gap between stitches should be 0.5cm.

machine stitch:
- strong and firm stitch,
- it is done by machine,
- can be straight / zigzag depending on effect,
- two turnings are made and held by tacking,
- the machine is set to straight stitch/zig zag

DECORATIVE STITCHES
(i) used to hold hems.
e.g hemming bone stitch
- a very strong stitch,
- used to hold hems of fabric that don't fray,
- mostly used on (i) babies clothes,
  (ii) when attaching patches
- its began with a backstitch slightly above raw edges,
- from left to right,

To make:-
(i) start with a running stitch on single material just below raw edges out under the end of backstitch,
(ii) next running stitch is made in double material a little to right,
(iii) needle is brought out above end of first running stitch,
(iv) it is repeated severally.

Whipping
- for making edges fine,
- from right to left,
- made by rolling edge of material to wip,
- needle is inserted slanting from back and brought out under roll,
- the roll should enclose raw edges,
- its began with a double stitch and stitched backwards over last three stitches to strengthen.

Running stitches:-
- can be used to decorate edge of fray clothe and small articles.

How?
- one / two rows of running stitches are made,
- a contrasting colour of thread is used,
- every stitch is threaded through/whipped to decorate,
- stitch slants on R.S.

(ii) embroidery stitches
For decorative purposes
- may be simple/elaborate,
- to make beautiful ones one should use different stitches and different threads,

Examples: (i) cross stitch
(ii) chain stitch
(iii)satin
(iv) hazy daisy stitch

(i) Cross stitch
- worked on two lines,
- threaded needle is inserted into material vertically facing worker on lower line,
- it is brought out on upper line taking vertical stitch through fabrics W.S.
- it is repeated severally to end outer half of stitch with completed.

(ii) Chain stitch
Used for (i) holding hems,
(ii) marking initials

- from right to left,
- made by a series of loops on surface of fabric,
- the needle is brought out through fabric,
- its worked towards the worker thread is held firmly under thumb,
- needle is put back into same hole bringing out short distance ahead and above loop of thread,
- pull needle loop tight, put needle back into same hole and repeat stitch severally,
- avoid pulling thread too tightly because it spoils shape of stitch.

(iii)Lazy daisy stitch
- it is detached chain stitch stemming from centre point forming a flower petal,
- needle is passed through of fabric and at the centre of the fabric,
- needle is inserted as close as point of needle emerges at furthest end. Thread is placed under needle and pulled through fabric to form a loop,
- a short stitch is used to hold end of loop in place,
- needle is brought to centre and next petal is started.

(iv)Satin stitch
- used for filling shaped spaces e.g leaves flowers,
- the thread is fastened with a backstitch and stitch worked in horizontal sloping manner, stitches should be even and closer,
- worked from left to right.

(v) Stem stitch
- simplest of decorative stitches,
- its beauty depends on regularity of working,
- from left to right,

- used for cutting straight / curved linen,

KITCHEN EQUIPMENT

Importance of a well equipped kitchen, it helps save energy, time and money.

Classes of kitchen equipment

- Large
- Small

- Large kitchen equipment

Examples:

- deep freezer,
- refridgerators,
- cookers,
- microwave ovens
- food processors and other appliances.

Cookers and cooking facilities

Examples

- Electric cookers,
- Gas cookers,
- Charcoal jikos,
- Oil stoves and traditional three stones.
- **Electric cooker**

Choice

- Should have any mechanical defects,
- Should be bought from reliable dealers and installed by qualified persons
- Clean,
- Easy to operate

Disadvantages

- can't be used in absence of electricity,
- expensive,
- risky if not carefully used.

Gas cooker

Choice

- colour should rhyme with colour scheme,
- should have an attractive and durable finish that is smooth and easy to clean,
- easy to control mobs,
- should enable one to use different methods of cooking e.g baking, grilling and surface cooking,

Use and care of gas/electric cookers

- wiping cooker using a cloth wrung out of warm soapy water (use a mild abrasive e.g vim for stubborn stains),
- avoid pouring cold water on coils/elements while they are hot because a sudden drop in temperature can crack them,
- to avoid fuel wastage, flat pans that fit to be used.

Advantages of a gas cooker

- can be used anywhere,

- it is quick to use,
- clean in use,
- it is locally and readily available.

Disadvantages
- needs a lot of attention,
- can be a source of fire if not used carefully,
- has no gas gauge,
- embarrassing when one has no extra cylinder if gas is finished when cooking.

Charcoal jiko
- use charcoal, plant and animal waste e.g coffee husks, saw dust, cowdung etc.

Use and care of charcoal jiko
- avoid too much charcoal because it prevents combustion,
- wiping and oiling frequently if it is a material that rusts,
- avoid using it in a non ventilated room because it releases CO_2 that is poisonous.
- putting charcoal off if not easy,
- emptying ashes,
- screen off cooking place with a large house for safefy.

Advantages of charcoal jiko
- used anywhere,
- it is a bit cheap,
- can be used in doors/outdoors.

Disadvantages of charcoal jikos
- messy if not well used,
- a lot of attention needed,
- if not a ventilated room so produced can cause suffocation / death.

Three stoned cooking faulty
Advantages
- readily available in rural areas,
- can be indoors/outdoors,
- when dry it burns very fast without producing smoke and so food cooks quickly,
- helps warn the room,
- it is cheap and effective,

Disadvantages
- leads to desertification because of cutting down trees,
- needs a lot of attention,
- slower than gas and electric cookers,
- needs a lot of storage space because it is bulky,
- produces a lot of smoke of wet,
- messy and sooty,
- food can be smoky in taste and smell.

Oil / paraffin stoves
Types
- one burner,
- two burner,

- four burner
- pressure stove.

Advantages
- they need little paraffin

Disadvantages
- can be very dangerous.
- are noisy

Advantages of paraffin stove
- it is locally and readily available,
- it is cheap and easy to carry,
- are clean if well used

Disadvantages
- paraffin catches fire easily,
- paraffin is smelly (and can get into food) because of unburnt oil,
- smoky if dirty wicks are used so should be cleaned frequently.

Care of paraffin stoves
- clean wicks frequently,
- trimming tops,
- cleaning the stove with a cloth wrung out of warm soapy water,
- cleaning chimney, holder and burner with old newspaper, tissue paper and soft paper,
- ensuring all holes have wicks,
- cleaning framework,
- drying of stove properly,
- ensuring the stove has oil otherwise it can rust.

Refrigerators
Choice
- suit the space available,
- should suit the family size,
- internal storage arrangement,
- size of frozen food compartment,
- repair expert and spare parts should be available,
- should be durable,
- consider fuel available, if its gas buy one operated by gas if electricity but one generated by electricity,
- consider the cost.

Small electric kitchen equipment
Examples
- toasters,
- food mixers,
- blenders
- sandwich – makers
- coffee maker,
- microwave ovens

Kitchen factory/food processor
- it is an appliance that makes food preparation easy, faster, and enjoyable.

- Can have a number of attachments fitted e.g potato peeler, blender, juicer, mixer, slicer
- can be for mixing flour mixtures, whisk cream,
- mince, make juices etc,

Choice, use and care of kitchen factory
- electricity should be available,
- size should suit the work,
- should be one that is affordable,
- workmanship should be good

Care and cleaning of food processor
- put off after use,
- don't run it when it has no food,
- avoid overloading blender, slicer and mixer,
- wipe off spills immediately,
- follow manufacture's instructors,
- clean according to material,
- avoid wetting motor and wiring,
- serving frequently.

Automatic rice cooler
- its like a sauce pan built in hot plate,
- 2nd bowl fits inside and it fitted with tight fitting lid,
- outer part made of enamel inner part alumiunium,

choice, use and care of an automatic rice
Cooler
- size should be suitable,
- should to clean,

Using:-
- measure rice (pick and wash),
- put rice and water in the pan,
- put the pan in the outer container, put the lid, plug the cable into socket,
- switch on by firming cooler,
- it switches itself off when rice is ready.

NB:- (i) hot button should be kept on,
(ii) lid to be carefully removed for condensed water.

Sandwich maker
- it is sealing sandwich for cracks,
- uses electricity,
- has a cover and bottom part.
- Sandwich are toasted and cut automatic
- Sandwich take $^{2}/_{3}$ minutes

Cleaning and care of sandwich makers.
- Cleaning inside after use with a clean cloth when warm.
- Avoid washing it.
- Wipe with damp cloth wrung out of soapy water and rinse well if very dirty.
- Outside to be cleaned depending on the material.

Electric toaster
- vertical type is common,
- toasts one/two slices,
- when ready slices pop up and toaster switches off.

NB:-
Toasted bread is better because starch is converted to textrim that is easier to digest. It has a temperature indicator low, medium and high for different browning.
- Avoid sharp instruments when it on because they may spoil it/cause shock.

Electric kettle
- have an automatic cut out that makes kettle not dry,
- made of aluminium, stainless steel or chrome plate,
- base has electric element that heat water.

choice and care:-
- buy what is affordable,
- avoiding putting on when it is dry,
- not placing on a hot plate,
- cleaning the inside frequently with a cloth wrung out,
- cleaning outside according to material,
- not dipping it in water.

Waffle maker
- for making pancakes,
- takes 2-3 minutes,
- inside has reflon finish, outside one is stainless steel,

SMALL KITCHEN EQUIPMENT
Examples
- knives,
- potatoes peelers,
- whisks and potatoe mashers,
- surface cooking utensils e.g saucepans, sufuria, oven cooking dishes like casseroles and baking pans,
- small electrical appliances e.g sandwich makers, coffee makers, toasters, food mixers, and blenders.

Types of small kitchen equipment
- cutlery e.g knives, forks and spoons

Choice
- should be suitable size and shape

care
care needed:
- washing in warm soapy water,
- rinsing well,
- drying with non fluffy cloth,

NB:- Avoid living water on cutlery to keep off silver water marks

Knives
- choose according to function.
- Should be ones with high carbon stainless steel material for blades,
- firmly fixed handle,
- handle made of wood, plastic, hard rubber or metal,
- should be ones that don't rust,
- should be desirable.

Uses:
- for general cutting, chopping, and peeling.

Care of knives:-
- should be cleared separately in warm soapy water,
- rinsing well,
- drying well,
- storing properly,
- avoid exposing blades to too much heat,
  why: they loose shape
  cutting affected areas.
  sharpening if necessary.

Glass

Choice
- should be attractive,
- well moulded and smooth,
- should stand some degree of temperature,
- durable.

Use
- for kitchen items, e.g drinking glasses, water jugs, measuring jugs, plates and bowls, cups and saucers, casserole, mixing casserole, mixing bowls, ornamental, e.g flower vessel.

Care
- avoid dropping/banging/subjecting to any pressure,
- not exposing to too much heat,
- not sticking them together,
- washing them separately in warm water,
- rinsing well,
- drying on a racks that's cleared,
- don't use abrasive to avoid scratching glass.

Earthenware (China)
- should have a smooth and attractive finish,
- should be appropriate in weight and size,
- to be plain and simple in design
- easy to clean.

Enamel
- avoid already scratched equipment and one with attractive colours and designs.

Uses
- spraying on metals and baking them at high temperature,

- used for interior and exterior finishes of plates, serving bowls, freezers etc

care
- avoid banging and knocking because they chip and rust,
- wash in warm soapy water,
- rinse and dry well,
- mild abrasives to remove stains.

Plastics
Choice
- durable,
- should be ones that can withstand heat e.g sunlight.
- should be smooth, firm and able to retain shape,
- odourless,
- should be ones that peel and become discoloured with use.

uses
- for basins, buckets, plates, cups, jugs, mixing bowls, cutlery etc.

care
- use warm soapy water to wash,
- should be rinsed and dried well under a shade,
- avoid abrasives to be avoided when cleaning,
- avoid exposing to dry heat, they will be spoilt,
- discolorations should be removed by a good bleach.

Cooking pots and pans:-
- are from metals e.g aluminum, stainless steel with copper allys and iron coated with enamel,
- pots made of clay/cast iron,
- are in a variety of sizes and shapes,

choice
- should be ones that can balance well on the cooker,
- a thick base and walls for even distribution of heat,
- should have a well fitting lid,
- should have a smooth finish,
- to be well moulded and no cracks.

Use of pans and pots,
- surface cooking,

care
- to be washed according to type e.g aluminum ones in hot camp,
- a mild abrasive to be used,
- use steelwool for stubborn stains,
- sieve improvised cleaning materials in order to prevent surface scratchings.
- rinsing should be done well,
- drying and storing appropriately.

NB:-
Enamel
- clean in warm soapy water,

- avoid harsh abrasives,
- drying to be done well and same to storms.

Clay pot
- plain hot water to be used not soapy because it leaves an unpleasant smell as a result of the porosity of the material.
- to be rinsed properly and dried before storage.

Baking tins and trays

Choice
- aluminium most preferred why? They don't rust.
- Choose on different sizes and shape,
- Durable,
- should have dark finishes and strong because they absorb heat,

use
- for baking

care
- Scrap off foods while hot,
- Soaking in hot soapy water,
- Rinsing well, drying well and storing,
- Rub with oil to prevent rusting.

Wooden utensils

Choice
- to suit intended use,
- those from plain wood are the best,
- shouldn't have any unpleasant smell

Use
- chopping board,
- spoons,
- rolling pans.

Care
- food to be scrapped off with a knife back,
- scrabble along the grain,
- use warm soapy water,
- rinsing and drying with a cloth wrung from cold water,
- drying in an airy place,
- don't soak because it can crack,
- avoid burning or charming kitchen equipment.
- avoid tenting,
- avoid soaking and store in dry place.

Safety precautions when handling kitchen equipment
1) avoid buying family equipment because cane cause accidents e.g shock,
2) the dealer should demonstrate on the use of buying appliance if possible,
3) equipment to be used for the right purpose and manufacturers instructions to be followed,
4) serving of the equipment especially electrical ones,
5) clean, dry and store them depending on type, use and material,
6) check on leaking gas because it can cause poisoning and fires,

7) avoid handling them with wet hands,
8) all equipments that aren't in use to be stored away in order to avoid overcrowding the kitchen,
9) gas taps to be switched off when not in use,
10) children not to be left in the kitchen alone,
11) clean and sharp knifes to be used because dirty and blunt they can cause cuts,
12) pressure cookers to be handled with great care, they can cause scalding.

IMPROVISED KITCHEN EQUIPMENT

- perforated tins as graters but avoid ones which had contained poisons,
- Plates/grease proof paper – use banana leaves that can be planted stitched/tied together,
- Charcoal cookers used if there is not fridge,
- Sufuria with tight fitting lid where there are no steamers,
- kitchen floor mops/dusters from old sheets blankets/khanga pieces,
- wires for fork/skewers,
- plastic containers for mugs salt/pepper shakers/floor dredgers,
- a stand constructed for draining utensils,
- large sufuria with sand inside and as …. with charcoal fire,
- a debe for an oven that uses firewood/charcoal.
- smooth glass bottle for a rolling pin,
- hard stone for a knife sharperner.

FOOD HYGIENE

Ways in which food comes into contact with disease causing micro-organisms.

(i) during storage,
(ii) during preparation,
(iii) serving,
(iv) where it is bought/grown,

- hygiene must be learnt and practiced at all these stages,
- food handlers should be clean and free from infectious diseases,
- equipment used should also be kept clean always.

Rules of food hygiene

- wash hands with (i) before preparing food,
  (ii) after visiting the toilet
  (iii) after blowing your nose
  (iv) after doing dirty jobs
- don't lick fingers and utensils and put them back to food bacteria in the mouth may be placed to food.
- avoid handling food when sick,
- all cuts to be covered with clean cloth,
- nails should be short and clean,
- left over food to be cooled and stored under low temperatures,
- food to be prepared on clean surfaces,
- cooked and covered in clean equipment,
- food storage areas to be clean and well ventilated free from insects e.g refridgerators.
- use clean water for cooking,
- cleaning foods eaten raw thoroughly with boiled cold water and salt,
- washing (beans, maize), dried, grains thoroughly before cooking,
- perishable foods to be stored in the refrigerator,
- thawing frozen food properly to enable heat to penetrate food well,
- keeping the kitchen very clean especially work surfaces,
- garbage bin present in kitchen well fitted with lid and washed frequently,

- cooking pots and serving dishes should be thoroughly washed,
- dish clothes to be kept clean and sterilized frequently.

FOOD SPOILAGE AND FOOD POISONING

Examples of agents that spoil food are
- enzymes
- moulds,
- bacteria
- yeast

some occur naturally enzymes, others through handling, exposure and storage.

effects of food spoilage on food
- food spoilage alters the nutritive value
- texture
- colour
- flavour of food

agents of food spoilage:

Enzymes - Are chemical substances found in living organisms
- They help in ripening fruits and after it continues till food goes bad,
- The process should be slowed/stopped in food e.g by intense heat (boiling)

Module - Fungus that grow on food kept in warm and moist conditions destroy taste and colour of food.

Yeast - Fungus for baking bead. Excess gives colour and taste that body spores can be carried in the air.

Bacteria - They multiply faster in moisture warmth air and food,
- Gets into body through dirty food habit e.g not covering food, touching with dirty hands and using contaminated utensils.

Rules that prevent food bacteria poisoning.
- Food should be cooked properly,
- fruits and salads should be properly washed,
- canned foods not to be preserved in rusted or dented tins,
- not eating canned foods not having a bad smell,
- washing hands before food preparation,
- washing hand during food preparation.

Chemicals:-
- Examples: : pesticide
  : insecticides
  : herbicides
- Keep away from food,
- not storing paraffin near food,
- not eating badly stored grains/foods.

Food poisoning

Characteristics by stomach cramps and vomits.

Symptoms
- severe vomiting caused by spoilt meat, milk and creams,
- diarhoea,
- severe abdominal pain,
- fever and headache.

Food storage:- It is important because it prevents spoilage of food. Spoilage occurs as a result of:
changes within food
Entry of germs and bacteria

Why foods should be stored properly:-
(i) to keep for long
(ii) to avoid micro organisms and chemicals contaminating it,
(iii) to keep away from destructive pests e.g weevils.

NB:- - Foods should be in good condition before storage
- Should be checked to remove spoilt one before storage.

Storage of day foods (non perishable:
Are foods that don't go bad quickly;
Examples - cereals,
- flour
- sugar
- tea
- coffee
- powdered nuts etc.

Points to note when storing non perishable
- dry food stuffs to be stored in containers e.g jars, bottles, plastic containers/sachets
- container should be well labelled,
- they should be stored in a room that is cool, dry and well ventilated,
- should be protected from flies and weevils.

The food store (larcher)
Qualities of a good food store:
- next to the kitchen,
- well ventilated to allow air circulation; why
  (i) to keep off pests,
  (ii) to allow in fresh air,
- should be one that can bring in natural light that is enough,
- should have shelves that are easy to clean and should be of a convenient height (shoulder length)
- should have a lockable door for safety.

Care
- keep food store clean,
- wipe off any food spilt immediately
- empty and thorough clean once a week.

Cupboards and shelves (qualities)
- of convenient height,
- easy to see and get items out easily,

- neatly arranged and not overcrowded,
- frequently used item to be where they can be reached easily,
- spraying with insecticides and changing lining frequently,
- strong flavoured foods should be wrapped tightly and stored away from fluids that cane absorb the smells e.g milk and water,
- wrapping root vegetables in polythene bags that are pierced to allow in fresh air,
- not making old stocks with new.

Storage of perishable foods:-

Def:- Those that get spoilt easily of course are not taken in storage.

Examples:

(i) milk
(ii) meat
(iii) eggs
(iv) chicken
(v) butter, fish and green veges

NB:- Perishables can keep fresh if stored at low temperature e.g in a refrigeration.

The Refrigerator

Def:- A food storage unit that uses a refrigerant to keep food at very low temperature.

Definition of refrigerant:- A volatile liquid that can be changed into gas and gas to liquid form.

When heated it vaporizes and also absorbs heat from chambers giving it off outside storage chamber and turns backs to liquid. E.g Freon and Ammonia

Fuel used (i) gas
(ii) paraffin
(iii) electricity

Importance of low temperatures in the fridge:

(i) Inhibits/prevents growth of bacteria
(ii) Prevents/inactivated enzyme action within food

Factors to consider when choosing a refrigerator

(1) should have a freezer a small area which freezes food to solid,
e.g for (i) meats
(ii) poultry
(iii) fish
(2) availability of fuel,
if gas in one available buy one operated by gas if electricity/paraffin, buy one run by the two,
(3) should have enough space depending on
(i) family size
(ii) amount of food to be stored
(4) should have a door which closes properly without letting in warm air why?
(5) dungs of shelves should be well spaced for:
(i) free air circulation
(ii) to allow food containers be arranged neatly
(6) should be from a dealer the gives;
(i) warrantly,
(ii) has enough spare parts,
(iii) give after sales service
(7) buy a well known model, tested over time and proven best.

Use of a refrigerator:-

- put where there is free air circulation for proper working,
- temperature should be regulated so that it suits all a variety of foods,
- foods should be wrapped/put in closed containers to prevent them from dying,
- avoid storing hot foods in the fridge because they interfere with cooling effect.
- avoid overcrowding it to allow free air circulation and to prevent affection efficiently.
- milks should be on shelf below fridge on door racks,
- spilt foods have to be wiped off immediately and diffracting should be frequently done,
- strong smelling foods should not be stored in the refrigeration because they interfere with flavour of other foods e.g milk,
- avoid storing bananas (ripe) in them fridge they become dark/black since the require special temperature,
- vegetables to be wrapped and stored in the sniper at bottom,
- the ones to be frozen must be blanched why? To kill enzymes.
- Eggs are to be stored on door racks for 10 day maximum.

Advantages of using a refridgerator

- There is no wastage because foods can be kept for another day also perishables don't get spoilt,
- There is no making of many trips to the market because food can be stocked in bulk,
- Meals can be planned in advance,
- Food remains safe to eat,
- Keeps cold dishes and beverages cold so most refreshing in hot weather,
- Uses either electricity /gas.

Storage of perishables in the absence of refridgerator

Vegetables and fruits

- Can be put in wire basket/wire rack,
- where there is free air circulation,
- stanching leafy ones green in jug of water,
- sprinkling them with water same to fruit,
- removing those showing signs of withering and spoilage.

Meat, fish and poultry

- using a ladder protected from flies,
- cooking and salting,
- smoking,
- drying and keeping in a dry cool place.

Milk

- boil
- pour in a clean jug (aluminium),
- stand it in a basin/sufuria of cold water,
- cover with nylon cloth/cotton cloth ends in water (cold),
- the water absorbed by the cloth evaporate and keeps milk cold.

WATER TREATMENT AT HOME

Water has to be treated because it is never clean. As it rains, it always absorbs gases in the atmosphere. It also absorbs chemicals as it penetrates through soil and rocks. It collects dirt as it moves.

Reasons for treating water

- to prevent water borne diseases e.g cholera and typhoid.

Methods of treating water at home
Steps are 3

i) Sedimentation

Water left in a container for a white solid particles settle down clear layer paved off.

NB:- process quickened on addition of salt/aluminium especially when it has clay. Clay sinks to the bottom,

ii) **Filtration**

Done after sedimentation.
Water is passed through a filter bed. The bed consists of grades of sand and gravel.
Tiny particles are trapped in the layers, leaving clean water.

iii) **Boiling**

Safest method, takes minutes

METHODS OF COOKING

Reasons for cooking food

- To soften it so that it is easy to digest,
- To improve flavour and appearance,
- To kill germs,
- To make it keep for long,
- To make some nutrients digestable,
- To reduce enzyme action.

Methods of cooking

The cooking method chosen depends on:

- type of food,
- time available,
- type of fuel,
- personal taste and preference,
- money available,
- number of people to be served,
- cooking equipment available.

Moisture cooking methods

(1) Boiling

Refers to cooking food in water at boiling point. The water should always cover the food suitable foods.

- Vegetables
- Eggs
- Tough cuts of meat
- Maize
- Beans
- Sweat potatoes
- Green maize
- Arrow roots
- Pulses

Advantages of boiling

(i) requires little attention,

(ii) many foods can be cooked using this method,
(iii) remaining liquid can be used for making soups, sauces stock and gravy,

Disadvantages
(i) it is time and fuel consuming because it is slow,
(ii) over-boiling can break down foods making them loose their flavour,
- proteins harden and become indigestible in case of over-boiling,
- nutrients are lost if water left is poured away.
-

(2) Steaming
Moist method of cooking food using steam from water.
NB:- point to note when steaming
- When using the method no water should left in the food.
-
-
In the absence of a steamer, food is put in a tightly covered basin ½ filled with water. Another pan of boiling water is put on top so that water is used for replenishing as it boils.

NB:- Not the best for meat cooking because:
(i) The temperature is too high
(ii) There is no liquid to soften the connective tissue.

Advantages
- vegetables retain most nutrients because they are not cooked in any liquid,
- colour is also retained,
- foods are easy to digest so suitable for invalids and convalescent foods for elderly ones,
- saves time and fuel if steamed over a pot of boiling water in which some food is cooked,
- steamed food is more tender and has better flavour e.g fish

Disadvantages
- vitamin C easily destroyed by high temperatures,
- time consuming because it is a slow method,
- water soluble vitamin lost through steam,
- steaming equipment expensive.

Important points to note when steaming food/Rules
- steamer should have a tight fitting lid for steam not to escape,
- water should remain boiling throughout the cooking process and replenishing has to be with boiling water,
- hygiene proof paper/banana leaves have to be used to cover the food to prevent it from hardening,
- the type of food should be the one to determine cooking time.

(3) Braising
Refers to cooking meat, poultry/fish on a bed of fried vegetable (misepoix).
Def. of a mirepoix – a lid f fried vegetable on which meat poultry/fish is cooked) and wite stick/water enough to cover the misepoix. It is a combination

Advantages
- Nutritious because dish is served with the liquid.
- flavour well maintained,

- vegetables may accompany the dish/ used for vegetable pure soup,
- makes tough cuts of meat tender.

Disadvantages
- vegetables can be slight over loose nutrients,
- become discoloured as a result,
- slow so time and fuel consuming,

NB:- suits cakes mixtures, puddings, fish, tomato spinach, potatoes,

(4) Stewing
Is a moist method of cooking food in a measured amount of water/liquid and allowed to simmer over low heat and liquid is always served with food.

Advantages
- makes tough foods e.g tough meat soft so easy to digest,
- requires little attention,
- nutrients not lost

Disadvantages
- if it is done in an oven it is slow so time consuming and fuel wasting.
- recipy : of beef stew.

(5) Frying
A dry method of cooking food in hot fat in a pan.

Types:
Shallow frying
Deep frying
Dry frying

Shallow frying is a dry method of cooking food where it is cooked in enough fat that can prevent sticking on the pan.

Points to consider when shallow frying
1) food shouldn't be more straw and thick,
2) should be turned frequently to cook evenly on both sides,
3) it should be coated apart from starch ones; why?
    (i) to give a crispy coating,
    (ii) to prevent food from drying (no moisture escapes)
4) it too hot only the outside cook while inside remains raw,
5) food to be lowered in fat gently to avoid accidents,
6) avoid overcrowding the pan to allow turning,
7) put one piece at a time and allow fat to reheat after each addition,
8) drain foods in absorbent paper apart from meat and serve while hot.

NB:- for shallow frying fat should grease the pan halfway the food.
Deep frying
It is a method of frying food fat ⅔ of the pan.

Factors to consider
- fat shouldn't be more than ⅔ of pan to avoid accidents and burns,

- the oil should completely cover the food,
- foods should be coated with egg and bee combs/flour/batter apart from the starch foods to prevent them from absorbing oil,

NB:- A batter is a mixture of flour and liquid/water/milk.

Rules for frying

(i) use a heavy pan because it gives good results since;
    a) there is no tipping,
    b) there is even distribution of heat
(ii) the pan should be dry (no moisture)
(iii) food should also be dried to prevent splattering,
(iv) oil should be hot enough to prevent food from absorbing/getting foggy,
(v) avoid overcrowding the pan because it lowers the temperature.

Testing readiness of fat;

(i) dropping a piece of white bread in fat and removing immediately-
    crisy and light golden brown means correct temperature.
(ii) faint blue haze,
    rising of smoke means fat is too hot.
(iii) use of a kitchen thermometer,
    most accurate,
    fat smokes at $360^0 – 420^0$

Reasons for unsuccessful frying

- too hot fat:- food browns before inside is cooked,
- food having a bitter taste and dark brown in colour means used fat was impure/tainted with seasonings from previous uses of fat that had darkened.
- greasy food –
  means fried food was not drained.

NB:- Always filter used oil and boil it; put in a whole peeled carrot.
Reason: helps improve colour and flavour
    remove it, cool and store

Advantages of frying

- quick and retains nutritive value of food and saves time,
- seals surface of food because of great heat of fat and food doesn't loose flavour through absorption of fat,
- adds flavour to food.

Disadvantages

- oil splatters if food is not well drained,
- constant attention needed,
- expensive requires a lot of fat and consumes a lot of fuel,
- deep fried chicken refer to pg 96
- chapattis refer to pg 97

NB:- don't throw chicken stock, can be froze and used for spicy soups, cacceroles, boiled rice spiced etc.

(6) Poaching

It is cooking below simmering point. Water half way covering food in a shallow pan.

NB:- simmering food is basted (pouring hot liquid time to time) with hot fat to prevent drying of the food.

Dry heat cooking methods

Roasting

- A method of cooking food near a strong source of heat,
- Can be both in oven/oven charcoal fire.

Foods suitable

(i) goat meat,
(ii) tender cuts of beef,
(iii) green maize
(iv) sweat potatoes etc

NB:- When using an oven, wrap food in foil paper to:

(i) preserve moisture,
(ii) to avoid drying.

Advantages of roasting

- produces appetizing dishes,
- oven can cook more than one type of food at same time,
- little attention required,
- surface albumen in meat coagulates and seals juices so tenderizes tissues.

Disadvantages

- food shrinks and looses weight,
- expensive, a lot of fuel used in heating up oven,
- only suits tender cuts of meat,
- method refer to pg 98 & 99.

Grilling

Cooking food using radiant heat can be in a grid/open fire (charcoal grilled).

NB:-

- food should be sliced to right thickness i.e not more than 25cm for fast cooking.

Advantages

- quick method,
- produces appetizing food
- can be used to brown foods like shepherds pie.

Disadvantages

- close and careful attention needed,
- expensive because only suits tender cuts of meat and good quality food,
- not possible to grill using a cooker with no grill.

Method, refer pg 100.

Baking

Refers to cooking of food in an oven using hot dry air

- Air is heated causing convection current that cooks the food,
- Hot air rises making the top shelf hottest while middle one is cooler,

- To get good results, temperature timing has to be observed.

NB:- steam given off makes food not to dry.

Suitable foods;-
- Flour mixtures,
- Potatoes,
- Chicken etc.

NB:- An improvised oven can be used e.g sufuria with sand.

Rules of baking
- oven should be cleaned and shelves arranged,
- oven should be preheated to right temperature before putting in food,
- note baking time in order to prevent over-baking/under-baking,
- lower temperature when the crust turns slightly brown to enable the inside to cook,
- avoid opening oven frequently since it makes hot air to escape and oven will take time to reheat, making;
  (a) cake to sink if not set,
  (b) reheating also consumes more energy,
  (c) it also prolongs baking time.

Advantages
- foods have a pleasant flavour and colour,
- are appetizing,
- are easy to digest,
- several dishes can be baked at same time.

Disadvantages
- some foods take long e.g Christmas puddings baked gammon,
- expensive in terms of ingredient e.g eggs, quality meat, chicken,
- consumes a lot of fuel,
- method of banana bread pg 101 and cyrup biscuits pg 102.

INTRODUCTION OF HOMESCIENCE (Saves as Homescience KLB)

Definition of Homescience

It is the study of household management that imparts knowledge skills and attitudes for improvement on quality of life for an individual, family, community and nation.

It is an applied and integrated science. Various daily homescience activities apply scientific principle e.g use of heat during cookery apply physics.

- stain removal during laundry has application of chemistry,
- food preservation involves microbiology,
- understanding human body and prevention of diseases is application of health science and biology,
- loosing the family is application of geography,
- knowledge of climatic conditions is important when choosing a site for a house,
- production of textile fibres involves application of chemistry,
- measuring ingredients in cookery involves maths.

Importance of homescience

(i) equips an individual with knowledge skills and attitudes that improve quality of life,
(ii) helps an individual adapt to changing living conditions of the home, community and nation,
(iii) prepares an individual to take care of their personal hygiene, feeding, clothing, resources and health,
(iv) lays a foundation for career development in industries e.g catering accommodation hotel management, interior decoration, hair dressing, beauty related careers, health care and nutrition.

Importance of homescience to the family

- one with homescience skills and knowledge can apply them to benefit the family in the following ways:-

(i) Planning, preparing and serving nutritious meals to meet the needs of individual family members.
(ii) Practicing safety precautions in the home – one can administer first aid and take care of sick,
(iii) Choosing making and repairing family clothes and household articles,
(iv) Assisting family in keeping home clean,
(v) Engaging in income generating activities e.g making and selling foodstuffs soft furnishing and household articles – money earned can improve quality of life.

Importance of homescience to the nation

- The individual acts as a role model in his/her chosen career,
- Individual renders to services to the nation that help raise the living standards of the people.

PERSONAL HYGIENE

- Hygiene is a science that deals with preservation of health.
- It is the practice of cleanliness/principles of cleanliness.
- One practices it by keeping ones living and working areas clean.
- It prevents spread of germs,

Personal hygiene is on how an individual takes care of oneself

GOOD GROOMING

A well groomed person has the following characteristics:

(i) takes good care of his/her body,
(ii) dresses well through proper choice,
(iii) keeps physically fit through taking proper diet exercising and having adequate sleep and rest,
(iv) practices proper etiquette e.g good table manners and good posture,
(v) has interpersonal skills, has the ability to create good relationship between oneself and other people.

A well groomed person is a health person.

Care of the body

The structure of the skin;

(i) epidermis
(ii) the dermis

(i) The epidermis

- It is the outer layer of the skin.
- Has a horny layer and the living layer.
- The horny layer has dead cells that are continually lost,
- New cells form inner layer them replace them,
- Melanin pigment present in epidermis gives the skin its colour,
- It protect the body from UV rays from the sun.

The epidermis prevents disease causing germs from entering the body.

(ii) The dermis

- it is the inner part of the skin,
- it gives strength and elasticity to skin parts of dermis,

(i) Blood capillaries
  - supply nutrients and oxygen to various parts of the skin,
  - transport excess water and waste products to sweat glands for excretion.

(ii) Sweat glands
  - have blood capillaries
  - cells of glands absorb water, salts and contain nitrogenous substances,
  - they pass them along the duct to skin surface,
  - pores are seen as tiny openings on surface of skin,
  - when hot, sweat is produced, it cools the body when it evaporates.

Sebaceous glands

- secretes substances called sebum.

Functions of sebum

(i) keeps hair and epidermal cells supplies,
(ii) prevent skin from drying and cracking,
(iii) makes skin waterproof,
(iv) contains disease causing micro-organisms.

Diagram

Nerve endings

- detect harm and temperature changes from environment,
- they regulate body temperature,

NB:- A balanced and wholesome diet provide the nutrients necessary for a healthy skin.
Skin must be clean to pass sweat and sebum from sweat glands and sebaceous glands.
Odours and sweat should be removed from skin to keep body healthy for individual social acceptability.

Washing the body
- use toilet soap and warm water to remove dirt and body odour,
- use a face towel a flannel/sponge/suitable material to rub the skin,
- pay attention to skin folds e.g armpits and groins because sweat and dirt accumulate in these areas,
- rinse using clean warm water twice to remove soap and dirt,

NB:- deodorants may be used to control unpleasant odours
- occasionally shave armpits and pubic hair to reduce perspiration.

Identifying your skin type
Take tissue and press it firmly against your face.
(i) presence of oily patches on tissue means oily skin,
(ii) absence means dry skin,
(iii)faint traces on tissue means normal skin

Proper care of skin prevents
(i) dundruffs
they are flakes/loose dry scales that peel off from scalp.

(ii) ringworms
is a fungal infection that grows in form of a ring, it produces patches on the skin.
patches of hair may fall off if scalp is affected.

(iii) athletes foot
affects skin between toes

Precautions that should be taken in order to prevent skin diseases
(i) avoid sharing personal items e.g clothes, brushes, combs and towels,
(ii) sterilize combs, brushes, towels and cutting tools e.g nail cutters, tweezers and razor blades,
(iii) don't wear damp shoes and socks,
(iv) eat nutritious foods.

Care of different parts of the body
Care of the face
- wash with a towel clean water and toile soap every morning,
- rinse properly with warm water twice finally with cold to remove soap and dirt,
- dry with soft clean towel,
- apply make up skillfully because too much will give an artificial look and prevent skin from breathing freely,

NB:- face should be cleaned before going to bed.

Care of eyes
- cleaning paying attention to areas around eyes,

- eating a diet rich in Vitamin A and C,
- working in well lid areas to avoid eye strain,
- consulting an optician (ophthalmologist) if suspecting poor eyesight / eye problem,
- if necessary, use make up to improve personal appearance.

Care of hands and nails
- should be properly taken care of to enhance personal appearance,
- wash thoroughly in warm soapy water,
- rinse well to remove soap and dirt in warm water twice finally in cold,
- to prevent dryness and roughness rub some oil,
- wash nails with a nailbrush to remove any dirt underneath. Cut and file fingernails to keep short and well shaped,
- don't bite them it makes them rugged and ugly and it is unhealthy.

Care of feet
- wash thoroughly in warm soapy water,
- rinse well in warm water twice and finally in cold to remove soap and dirt,
- dry well especially between toes because dampness between them can cause athletes foot that is a fungal infection,
- to prevent it talcum powder can be applied between toes, a disinfectant in washing water can also be used against it,
- toe nails should be cut regularly because they hide dirt and also damage socks and stockings,
- shoes should be well fitting because fitting ones press the feet and distort shape, they also cause growth of corns that form where tight shoes push against skin,
- they also cause bunion's painful and ugly swellings that form on toe joints especially on big toe,
- socks worn should be absorbent to keep feet dry and breathing,
- shoes to have moderate and comfortable heels,
- feet to be aired regularly,
- use a pumice stone occasionally to remove dead skin and stubborn stain from sole,
- changing socks and stockings to prevent unpleasant odour.

Care of hair
Well kept hair give a good impression of a person.
- it should be kept clean because the skin emits oil and sweat all over scalp if not removed it dies and closes pores,
- if it is deprived of its oil, the scalp will dry and form dandruffs,
- dirty hair also habours lice:

Care;
(i) wet it thoroughly using warm water,
(ii) apply shampoo/soap sparingly,
(iii) massage hair and scalp thoroughly to remove natural and applied oils and stimulate blood supply to scalp,
NB:- repeat till hair is clean
(iv) rinse thoroughly with warm water twice and finally with cold to remove shampoo/soap,
(v) dry well with clean towel, do not expose to sunlight it dries the natural oils,
(vi) comb and set, if dry apply hair oil.

Common hair problems
- too dry/or too greasy,
- too coarse/too thin hair,
- dandruff,

- hair infested by lice.

Care of teeth
- clean teeth improve people's appearance,
- they help in digestion,
- they aid in speech and add to facial appearance and expression.

Structure of the tooth
Enamel
- Hardest part of tooth
- It covers crown and acts as a protective covering for the tooth.

Dentine
- Forms largest part of tooth

Pulp cavity
- It is the central part of tooth,
- Forms soft connective tissue and contains blood vessels and nerves,
- It is the living part of the tooth.

Cement
- It is hard substance covering dentine as well as root portion of tooth.

Root
- It is attached to jaw,
- Consists of cement, dentine and pulp cavity.

Care of teeth
Care of teeth is called dental hygiene.
- teeth should be taken care of because there are many bacteria that live in the human mouth that cause tooth decay,
- they combine with saliva to form a sticky substance called plaque, if built up it can cause gum diseases.
- it can be easily removed by brushing, if not removed it form a hardened substance called tartar that can only be removed by a doctor,
- bacteria in mouth feed on food residue e.g sugar and produce an acid that attacks the enamel then dentine. If pulp cavity is infected it causes pain (toothache),
- if infection steady deep into forth it rots and has to be extracted.

Care
- brush at least 2 times daily morning after breakfast and before going to bed,
- use a suitable toothbrush and toothpaste to clean teeth and freshen breath,

NB:- a toothbrush can be improvised using a chewed stick,
toothpaste can also be improvised e.g bicarbonate of soda mixed with salt in equal units or use plain salt.
- floss teeth once in a while i.e to clean between individual teeth using dental floss i.e a thread that is used to remove food and plaque between teeth,
- rinse mouth well after brushing,
- visit a dentist at least twice a year for dental check ups,
- to exercise jaw and strengthen teeth eat hard food occasionally e.g raw carrots/sugarcane,
- eat a diet rich in calcium phosphorous and fluorine and Vitamin A, D and C.

ENHANCING PERSONAL APPEARANCE

It can be enhanced by:-

(i) proper care of the body,
(ii) wearing clean and right clothes,
(iii) keeping hair neat and well groomed,
(iv) using cosmetics body creams and deodorants properly,
(v) using jewellery and accessories well.

Care of personal items

e.g Handkerchiefs, combs, hair brushes, towels, flannels, toothbrushes, underwear and clothes – should not be shared because:-

- skin diseases e.g ringworm are spend through sharing towels and underwears face towels and clothes,
- colds and flu are spread through sharing toothbrushes and handkerchief.
- dandruffs and lice are spread through combs and hair brushes.

Care of handkerchiefs

- soak in cold salty water, 2 teaspoon for a cup of water for ½ an hour to sterilize and quicken removal of mucus and blood stains,
- white ones to be soaked differently,
- rinse off salty water,
- wash in hot soapy water by friction method,
- rinse in hot water to remove soap and dirt twice,
- finally in cold to refreshen,
- dry in the sun and coloured ones under shade,
- iron while slightly damp,
- air and store appropriately,

care of combs and hairbrushes

- remove fluffs and loose dirt, dispose the dirt correctly,
- soak in warm detergent water, brush well using a hair brush, immerse in water or tap bristles in warm soapy water to remove dirt,
- comb brush to remove dirt,
- change detergent water till clean,
- rinse in warm water twice and remove all soap and dirt,
- finally in cold having a disinfectant flick to remove a lot of water,
- dry in a warm airy place,
- allow water to drip off,
- store appropriately.

Care of towels

- face towels to be washed immediately after use,
- bath towels to be washed regularly and aired after every use,

procedure of laundering:

- soak in cold water to loosen dirt,
- wash in hot soapy water, use friction method to remove dirt,
- rinse in hot water twice to remove soap and dirt,
- boil to disinfect, rinse thoroughly in hot water finally in cold to refreshen,
- dry thoroughly in hot sun,
- fold and store.

Care of underwear

Are worn next to skin/ also called undergarment

e.g panties
braziers
petticoats
slips
corsets
briefs

(i) they should be changed daily to prevent bad odour,
(ii) to be washed appropriately depending on fabric,
(iii)to be dried properly before storing

Caring of toothbrushes

- rinse in cold water after use to remove food particles and toothpaste,
- place in a container/holder with bristles fairly up to air them and to dry,
- replace once bristles begin to bend,
- disinfect occasionally by placing in warm water having a disinfectant.

Choice and use of clothes and accessories

Choice depends on:

(i) personal taste,
(ii) physical characteristics,
(iii) lifestyle
(iv) resources available

Dressing neatly correctly, decently to suit occasion improves ones personal appearance.

Factors to consider

(i) your features
clothes should be ones that bring out your best features

(ii) your complexion
should be right colours for your complexion

(iii) your figure type
waves and patterns should suit figure type,

(iv) occasion
should rhyme with occasion

(v) accessories
should match with clothes worn

Figure types

Full figure

- should be of one colour from shoulder to hem. They give an unbroken line,
- should avoid large patterned, they add size,
- avoid bright colours,
- never wear tight fitting clothes, they can show bulges and extra waves,
- avoid belts, they break the long line of the design, it should be narrow and of same colour as garment,
- avoid those made of fluffy and bulky fabrics,
- limit on jewellery e.g necklaces worn close to neck, they exaggerate shortness and thickness of neck,

- bangles attract attention to the fat arms,
- vertical lines are suitable they give a slim look – vertices can be used to create vertical lines.

Slim figure
- light colours are better they have an enlarging effect,
- any patterned dress will suit,
- top should be a colour different from a skirt, same to pattern it helps break the thin line,
- clothes should be of horizontal lines, they have an enlarging effect,
- should be fluffy and bulky not smooth ones,
- should not be tight,
- jewellery shouldn't be too big nor too small, they emphasize thinness if medium it tends to conceal a wrist that is too thin.

Care of clothes
- keep clean and free from creases,
- dry clean those that don't require washing to prevent fading, shrinking or lose of body and shape,
- store them when completely dry, to prevent growth of mould and mildew,
- put mothballs in wardrobe/drawer to discourage infestation by moth, maggots that destroy clothes,
- avoid sitting/leaning against rough surfaces and sharp objects, they can pull out yarn and tear clothes,
- keep clothes in,
- repairing them when torn/worn out,

Choice and use of shoes
Leather shoes are durable though need great care. Plastic and canvas are not though easy to maintain.

Reasons why they are worn;
- to protect against germs,
- to protect against parasites,
- to protect against dirt,
- to protect against rough surfaces and bad,
- they also enhance ones appearance

Qualities to look for;
- should be well made,
- well fitting for comfort,
- attractive in colour,
- affordable,
- choose according to purpose e.g low needed for walking/sports and bathroom slippers that don't skid.

Care of shoes
leather shoes
- always stuff with papers/scrap fabric to keep shape,
- if wet, they should be stuffed,
- it wet should be placed in warm airy place not on sun to dry before polishing, to prevent loss of shape and cracking,
- to also prevent formation of bunions and corns.

Cleaning
(i) protect work surface,
(ii) remove shoe laces clean by brushing off dust of muddy wash,

(iii) remove mud using a blunt stick or mud scrapper paying attendance to fold where leather joins to sole,
(iv) wipe inside with damp piece of cloth, let them dry while stuffed,
(v) remove stuffing apply right colour of shoe polish/cream. Use shoe brush/a rag. Apply polish sparingly, evenly leave for a while for polish/cream.
(vi) brush firmly/rub with a rag of cream has been used,
(vii) use a clean fluff cloth to buff and bring out the gloss,,
(viii) fasten shoelaces,
(ix) stuff before storing.

Care of canvas shoes
- brush off dust if dusty,
- scrape off mud if muddy, rinse sole with cold water,
- remove shoelaces wash in warm soapy water, rinse and dry on a clothes line,
- scrub the inside and outside and sole use warm soapy water,
- change cleaning water, rinse in warm water twice finally in cold to refreshen,
- hold toe ends and flick off shoes to remove excess water,
- use a sponge to apply whitener if white to improve whiteness,
- dry in a warm place inclined a little toe ends higher than heels, turn to ensure all parts are dry,
- fasten shoelaces and store appropriately when dry.

Cosmetics
Are substances used to enhance a persons appearance especially face, hands and feet. E.g nailpolish, lipstick, eye shadow, eyeliner,

Choice and use of cosmetics
Factors to consider when using and choosing;
- one should consider her skin type and complexion when buying,
- should be used sparingly to improve ones beauty,
- should be used skillfully not exaggerating,
- they should bring out ones beauty,

NB:- too much clogs skin pore hence preventing skin from breathing.
- should be washed off before sleeping to allow skin breath,
- should not be harsh ones with chemicals that bleach the skin,

NB:- those with hydroquines and mercury are bad, they get into body and affect the kidney.

Misuse of cosmetics
Ways of misusing:
(i) borrowing from frieds and siblings. They have a bad effect on skin,
(ii) applying on a dirty face/old make,
(iii) applying too much, it gives an artificial look,
(iv) bleaching the skin with make ups.

ADOLESCENCE
It is a period between childhood and adulthood. At this stage certain physical, emotional and social changes take place in the bodies of teens.

It is a stage of maturing into an adult (puberty/adolescence).

Changes in adolescence
Physical changes in boys
(i) hair on face, armpits, chest and groin (beard and pubic grow)

(ii) growing rapidly,
(iii) voice breaking,
(iv) develop acne (blackheads and pimples develop on face and neck),

Physical changes in girls
(i) develop breasts
(ii) hair on armpits (groin),
(iii)enlarged hips,
(iv)menstruation periods starts,
(v) may develop acne,

At puberty adolescents are active, if possible, they should use deodorants for the face to be washed regularly and dried.
- avoid pricking pimples and black heads to avoid further infection.

NB:- Adolescents should observe personal hygiene in order to remain healthy for ones comfort and those around them. A good diet helps teenager cope with the changes.
They should shave/trim armpits and pubic areas because hair in these areas holds a lot of sweat and dirt.
They should take bath daily attention being given to areas that are hairy.

Girls should be extra clean during menstruation i.e the monthly shedding of temporary inner lining of uterus. Happens when reproductive organs of a girl begin maturing. Begins at 13 – 14 years. It occurs when there is no fertilization of egg in ovary. Inner lining of uterus is shed off with extra blood. It lasts 3-7 days.

NB:- sanitary towels should be used. Home made pads can be used e.g wrapping cotton wool in gauze or cotton materials or from pieces of sterile clean absorbent cotton cloth.
Used pads should be disposed off properly e.g wrapping in plastic paper or putting in disposal bags then throwing in dustbin/pit latrine. Can also be burtn.

- one should change towels regularly because bad smell develop if kept on for long,
- one should bath more than once,
- one should also seek doctors advice if she has severe abdominal cramps.

NB:- while bathing, girls should pay attention to the hairy parts of the their bodies and beneath breasts.

Emotional and social changes during adolescence
- because of hormonal changes, they experience mood swings that make them irritable or cheerful,
- they become argumentative and hostile to parents and any authority,
- may enjoy reckless activities,
- may lead to neglect of the body and personal items that can lead to poor health,
- may become social misfits and unacceptable to the society,
- some become shy and self conscious,
- boys may tend to talk less to hide broken voice while a girl may overdress to hide her growing breasts,
- may assume stooping posture to appear shorter if they are taller than age mates. So distort their posture,
- easily influenced by peer groups in terms of behaviour life goals and mode of dressing.

SAFETY IN THE HOME AND FIRST AID
Causes, prevention and management of common accidents in the home

Burns
Causes
Dry heat e.g hot charcoal, hot metal/flames and fire outbreaks, kerosene lamps, candles, cigarettes, matches, open fires, leaking gas cylinders and faulty electrical wiring can cause fire outbreaks, petrol stored in the house, home dry cleaning agents, coils close to beddings and mosquito nets can also cause severe burns and damage of property.

Prevention
- not leaving children locked alone in the house,
- keeping hot stoves out of children away,
- not smocking in bed,
- using candles while on stand/holder and not leaving them burning unattended,
- storing matches out of children reach,
- not leaving buffes to burn unattended can spread to other houses,
- not burning rubbish unattended to fire may spread to the house

Scalds
Are caused by hot liquids:

Prevention
- hot liquids not to be kept in the pathway/where children can reach,
- not allowing children near boiling pots/hot water,
- keeping boiling pots stable and their handles turned away from human traffic,
- directing steam away from handlers when opening lids during cooking.

Management of burns and scalds

- dip injured part in cold water or place under tap of running cold water to relieve pain and to reduce damage of skin,
- Avoid breaking blisters; (i) they protect injured part
  (ii) it is painful breaking them
- avoid removing the adheherent clothing,
- if persons clothing is on fire, wrap patient in blanket put out flames,
- avoid using artificial fabric e.g nylon,
- apply petroleum jelly if small burns,
- don't expose to air, it causes more pain,
- bandage loosely,
- severe burns to be attended to by doctor.

Cuts

Causes:

Sharp objects cause cuts, scrapes, grazes and abrasion e.g knives, broken glass, sharp edges. Cuts causes bleeding and amount of bleeding depends on wounds depth. Deep cuts can damage nervous system.

Prevention

(i) knives should be stored safely out of children reach,
(ii) should be washed separately not putting together with other utensils,
(iii) use chopping board when cutting meat and vegetables,
(iv) dispose empty tins, broken bottles and pots, burry/throw into a pit latrine,
(v) keep compound clear of bones, sharp sticks, thorns and splinters.

Management of cuts

- clean around with clean water/weak antiseptic solutions,
- cover with a gauze/pad of clean cotton wool and bandage,
- cover minor cuts with a plaster.

If deep and bleeding is severe;

- press onto wound with clean hands or pad of cotton wool and bandage. Clean out all dirt, gloves should be clean to avoid infecting wounds,
- wounded part to be raised if numb,
- tie injured part/limb if bleeding continues with folded cloth/wide belt just above wound,
  avoid using a string/rope,
  loosen after a few minutes to avoid cutting off blood supply to injured part,
- take patient to doctor quickly to be given an anti-tetanus injection.

Bruises

Are swellings caused by bleeding inside skin/muscle,

Causes

- one being hit by a blunt object e.g hitting your head against wall,
- open doors, lockers, cabinets and drawers,

Prevention

(i) ensuring all doors and drawers are well closed,
(ii) placing a wedge to prevent doors from banging/slamming,

Management of bruises

- cooling bruised part with cold water on dubbing it with a cloth soaked in cold water,
- keeping injured part slightly raised to cut down amount of blood flowing into to reduce swelling,
- alternate hot and cold water massage after 24 hours,
- use hot water on it for 3 minutes then very cold for ½ a minute, repeat 4 times to speed up healing.

Fractures

Causes

Refers to broken bones.

Caused by a fall, a road accident or heavy blow.

- Can be caused by slippery floors, potholes and cracks on old floor, spilt water/oil on the floor, peelings of vegetables and fruits and badly placed equipment that may make one stumble and fall.
- Loose tiles, littered clothes/books, torn edges of carpets, chipped edges on stairs can also cause falls,
- A house not well lit can also cause falls,

Kinds of fractures

(i) Simple fractures

(ii) Compound fractures

In simple one is broken and cracks can be seen on X-ray. Has pain and swelling.

In compound bone is broken into many pieces (splintered and pieces of borne may pierce through skin. Are very painful and may lead to deformation of limb.

Prevention

- Floors being well maintained,
- Ensuring tidiness in the room,
- Repairing floor coverings immediately,
- Wiping spills immediately,
- Ensuring house is well lit

Management of fractures

- never push back a broken bone,
- don't massage broken limb,
- avoid moving injured person,
- put splint on broken part using straight stick tie fractured part, securely to immobilize limb.
- use stretcher to move patient,
- seek medical attention.

Sprains

It is a tearing/stretching of ligaments in joint especially wrist of ankle.

Cause

Happens when joint is twisted accidentally e.g stepping on uneven ground.

Symptoms

- painful joint,
- hotness,
- swelling

Prevention

- walking carefully if floor is uneven,

- wearing shoes of comfortable height

Management of sprains
- dipping part in very cold water immediately. It reduces pain and swelling or crushing ice cubes in a plastic bag, wrapping it in a towel and dabbing the injury, should continue for first 12 hours,
- keep limb raised for next 24 hours to show down blood flow into joint to reduce bleeding into it,
- curving some pain reliever,
- dip the part in hot water severally after 24 hours,
- avoid massaging the part,
- serious sprains to be attended to by a qualified doctor,
- give joint some light exercise if area is free from pain,

sprain treatment is called RICE
R - Rest
I - Ice
C - Compress
E - Elevate

- It means there should be no movement,
- Ice should be used to compress and injured part to be elevated,
- to know whether it is sprain/fracture an X-ray should be taken.

Suffocation
One will suffocate when fresh air supply is limited,

Causes
(i) breathing in poisonous gas e.g CO_2 from a charcoal stove in a poorly ventilated room,
(ii) leaking gas and petrol fumes in a poorly ventilated room,
(iii) objects e.g polythene bags put over head cuts off fresh air supply.

Prevention
- turn of gas tap after use,
- check tubes, pipes and burners for leaders,
- exercise caution when lighting burners for gas not to flow before lighting,
- dispose plastic bags appropriately to avoid accidents,
- use a charcoal stove in a well ventilated room,
- put off fumes if not in use

Caution (when using gas)
Incase of leakage:
(i) check source fix it,
(ii) put off open fires,
(iii) disconnect and take cylinder out if leakage continues,
(iv) seek advice,
(v) ventilate room for few minutes before lighting a fire to income any gas leaked escapes,

Management of suffocation
(i) take person to an airy places if due to lack of air,
(ii) if due to polythene paper remove it,
(iii) seek medical attention if person in unconscious,
(iv) if due to leakage switch off gas cylinder if from charcoal fumes, ventilate room, keep one window open,

Choking
Causes
Objects e.g food getting stuck in throat/air passage making breathing difficult,
Beads, seeds, small toys, coins, marbles can also cause this if swallowed by children.

Prevention
Teaching children not to swallow foreign objects.

Management
- stand behind patient if an adult hold patient by waist fist against abdomen just above navel below ribs,
- press belly with several strong jerks to compress lungs and force air up throat, to force the stuck object pop out,

NB:- person can also be hit by palm of hand between shoulder blades till objects pops out.

Foreign body in eye
Causes
- eyelash/piece of grit,
- chemical

NB:-
- these irritate eye,
- may cause swelling up,
- may cause burning sensation and itching,

Management of foreign body in eye
- avoid rubbing affected eye,
- lift upper/lower eyelid to expose eyeball,
- ask person to move eyeball to left, right, up and down and look for object,
- try to remove if it is seen by;
  (i) flooding eye with clean water,
  (ii) allow person blink eye while under water,
  (iii) press eyelid with matchstick to expose object,
- remove object with moistened piece of gauze/corner of clean handkerchief,
- cover affected eye seek medical assistance,
- never remove it if its firmly stuck on pupils/iris,
- seek medical advice,

Management of chemicals in the eye
- it chemical flood eye with clean water to neutralize if possible force eye open to facilitate entry of water,
- flush it for approximately 10 minutes, dry face lightly, cover eye,
- seek medical assistance,

Foreign body in ear
Cause
Child may push a small object into ear/insect may crawl into ear,
NB:
- may cause temporary deafness,
- crawling/brizzing insect may sound frighteningly loud,
- if pushed far may perforate ear drum causing pain and discharge,

- may result to deafness.

Prevention
- teaching children not to push foreign objects in ear,
- storing seeds and grains out of reach of children,

Management of foreign body in ear
- never use a finger to removed object it may move further inside,
- hold head in a way that the ear is bend towards ground if it is an insect for it to crawl out,
- flush gently with warm water/vegetable oil,
- seek medical assistance if it doesn't come out,

Foreign body in nose
Cause
Children pushing foreign objects e.g seeds and beads into nose,
NB:- this can cause discomfort,
pain,
nose-bleeding,
then discharge

Prevention
- children being taught not to put foreign objects in the nose,
- storing small objects appropriately,
- keeping seeds and grains out of children reach,

Management of foreign body in the nose
- press unaffected nostril with finger and blow nose to remove,

NB:- never attempt to remove it, seek medical assistance,
assist children to blow the nose,
- seek medical assistance immediately for small children.

Shock
It is a condition of weak rapid pulse, quick shallow irregular breaths, cold, heavy sweating, confusion or loss of consciousness.

Symptoms
- air becomes dull, clammy and cold,
- person feels giddy and faint,

Causes
(i) Electricity
It causes severe burns, shock and electrocution.

(ii) Receiving unexpected bad/good news
Severe pains, loss of blood, severe diarhhoea,
Vomiting
Allergy

Prevention
- Electric wires to be well insulated,
- replacing damaged wires,
- teaching children not to push objects into sockets,

- not touching switches with wet hands,
- turning off switches when not in use of power,
- replacing/repairing defective appliances.

Management
- making person comfortable,
- treating cause of shock,
- reassuring person,
- giving hot drink if conscious,
- seeking medical assistance,

Fainting
Occurs because of temporary inadequate supply of blood to brain,
Persons feels dizzy and looses consciousness,

Causes:
- loss of blood,
- illness e.g anaemia,
- fear,
- receiving bad news,
- seeing injured person/blood,
- being physically weak/having stood on sun for long,

Management
(i) loosen tight clothing while reassuring victim,
(ii) place him/her in a cool airy place e.g under shade/well ventilated room,
(iii) lay him with head lower than rest of body,
(iv) avoid overcrowding around casualty,
(v) seek medical attention,

Nose bleeding
Causes
- blowing nose too hard,
- sneezing,
- injuring it with a fingernail while pricking it,
- air pressure changes,
- high blood pressure,
- fractured skull,

Management of nose bleeding
- person should sit with head slightly raised to prevent blood flowing down throat,
- pinch/plug nose for 15 minutes make person breath through mouth,
- cool face with wet cold towel,
- repeat for 15 minutes if bleeding doesn't stop,
- let person spit out any blood flowing into mouth,
- seek medical advice if it persists.

Drowning
Cause
- water left in basins, karais, bathtubs, and buckets,
- swimming pools, dams and water pools,

A drowning person struggles to breath but water enters airways. One who is drowning will assume a vertical position, make erratic strokes and jerky movements that gradually decrease and stop if he/she fails to get help

Prevention
- children should not be left unattended,
- water stored in buckets and other container to be covered tightly,
- pools around house to be drained,
- taps to be turned off,
- bathtub should be unplugged,
- bathroom to stay locked,
- cautioning school going children against playing near dams, rivers, pools of water unattended,
- covering any manholes near house.

Management
- save the person/call for help,
- if victim is not breathing act immediately,
- give mouth to mouth resuscitation (breathing)
- wipe away foreign matter in mouth use fingers wrapped in a piece of cloth,
- there should be no foreign matter in mouth,

NB:- if a young victim mouth-mouth should be done gently to avoid too much air in lungs.
- Victim should lie down with head lower than feet to get water out of chest,
- Belly to be pressed with strong jerks and mouth the mouth treatment continued,
- Back pressure – arm lift method on chest pressure – arm lift method or artificial respiration can be given to facilitate breathing as well as water ejection from stomach. Repeat whichever method 12 times per minute. Check stomach contents in mouth and keep wiping it.
- Keep victim warm
- Treat for shock, seek medical advice.

Bites and Stings
Causes
- can be by insects stings with their tails, others bite by mouth, e.g bees, wasps, hornets and scorpions stings,
- spiders, mosquitoes, lice, bedbugs and ticks bite

Prevention
- maintaining high standards of cleanliness to avoid infestation by insects and other pests,
- house to be well lit,
- changing beddings regularly and airing properly

Management of insect stings and bites
- insects inject poison in the body when they sting and the poison should be neutralized to stop from spreading to body organs,
- bees live their sting in the body,
- others sting (bite more than once because they never lose their stings)
  - (i) remove sting using fingernails or pair of tweezers of bee stings,
  - (ii) cover part with a paste of baking powder mixed with cold cream or milk,
    or dub with a cloth that has been impregnated with alcohol/surgical spirit,
    place ice on sting
    very cold water can be used to clean injured part.

(iii) Seek doctors assistance immediately if its;
(a) scorpion/spider bite
(b) victim allergic to insect stings/bites
(c) victim who has been stung by many bees;
Apply paraffin if they are many bee stings to remove them but still consult doctor.

Snake bites

Not all snakes are poisonous but it is always important to handle all as poisonous. Poisonous snakes normally inject poison into the bitten part when giving first aim at stopping poison from spreading to whole body.

Management:

- study bite marks, a poisonous snake will leave two distinct marks make by fangs. sometimes other little marks made by teeth will be seen.
- non poisonous snakes don't leave any fang marks.

NB:- avoid moving part bitten to prevent rapid spread of poison if bitten on foot, victim shouldn't walk, instead should be carried on stretcher, to reduce spread of blood movement and slow down poison spreading,

- cloth should be tied around limb above bite but shouldn't be tight, loosen after every half an hour to allow blood circulation,
- bitten part should be wiped with a cloth to remove poison that may be on skin,
- cut injured part using a clean sharp razor blade/tip of a sharp knife four times working parallel to length of limb,
- gently but firmly press sides of injured wound to bleed so that poisoned blood can be removed,
- untie and retie area above injury at intervals of 15 minutes for oxygen to reach area beyond injury,
- treat for shock,
- seek doctors advice,

Poisoning

Causes

- taking an overdose,
- swallowing/inhaling insecticides, pesticides, medicines, kerosene and household cleaning agent,
- using cosmetics, creams that have hydroquinone/mercury,
- eating/touching wild plants/fruits e.g datura stramonium
- storing grains in damp conditions have aflatoxin that can cause food poisoning,
- eating poisonous parts of some food e.g pith and skin of cassavas,

Prevention

- labeling medicines, insecticides, pesticides and other poisonous substances and storing out of children reach,
- washing hands thoroughly with soapy warm water after handling pesticides and insecticides and not storing chemicals near foods,
- not storing paraffin and other clear liquid chemicals in soda juice or water bottles. Children mistake them for drinks/water.

Management

(i) look for clues that may help identify the substance taken e.g container/label/stains on lips/colour of vomit,
NB:- take container to doctor for present/if no clue taken vomit to doctor for analysis.
(ii) Check if lips are dry; NB:- avoid inducing vomiting if victim complains of burning sensation in throat and pain in stomach because substance may be corrosive which when vomited can cause

further damage to throat instead give plenty of water to dilute the poison and facilitate removal through kidneys.

(iii) If acidic poison taken neutralize it by giving victim an alkaline drink e.g milk of magnesia, 1 teaspoon for every cup of water or give milk, egg white or soap solution; NB:- avoid synthetic detergents.

(iv) For alkaline poisons give a fruit juice to neutralize and seek medical assistance quickly.

(v) If a clear substance is one taken and is not corrosive induce vomiting by pushing 2 fingers down the throat or by giving raw eggs.

NB:- patient should vomit while bending forward to ensure vomit doesn't get into lungs
give plenty of milk/warm water having baking soda for every half a litre,
this is to dilute poison in the stomach,
inducing vomiting can be repeated

(vi) Take patient to doctor.

FIRST AID

It is the immediate help given to a person who has had an accident/sudden illness before taking him/her to the doctor. Include attention given to small injuries for quick healing

FIRST AID KIT

- it is essential in every school and home,
- it is a must in public vehicles e.g matatus and buses,

NB:-

- should be kept in a safe place
- easy to reach
- children should be taught how to use it.

Items of a First Aid kit

- Bandage,
- Clinical thermometer,
- Cotton wool,
- Safety pins,
- A pair of tweezers,
- Pain relievers/painkillers,
- Clean drinking water,
- Small pair of scissors,
- Plasters,
- Triangular sling,
- Antiseptic,
- Petroleum jelly,
- Sterile gauze.

Medicines

It is any substance taken to relieve pain/cure illness.

Basic instructions on using medicines

Dosage:- is the recommended amount of medicine to be taken at any time. It depends on age of patient.

Frequency:- is the intervals at which medicine is to be taken, i.e how often the medicine should be taken e.g once, twice/thrice a day. May or may not specify time in relation to meals.

Duration:- is how long medicine should be taken before being discontinued.

Storage:-
Gives instructions on how medicine is to be stored e.g keeping in a cool dry place in a fridge, away from children or direct sun.

Instructions for use;
e.g shaking well before use and keeping container tightly before storage.

Caution
Advising patient not to drive, drink alcohol or operate a machine after taking the medicine.

Difference between misuse and abuse of medicines
- Misuse – deviating from basic instructions regarding use of a type of medicine.
  - Giving someone else medicine in belief that your illness are similar
- Abuse;
  (i) taking someone else's medicine in belief that your illness are similar,
  (ii) continuing to take a type of medicine which has been prescribed by doctor till you become addicted.
  (iii) using the medicine for other reasons e.g to get intoxicated, procure am abortion, sleep, commit suicide (homicide etc),

HOUSING THE FAMILY
A house is a physical structure that provides shelter for family members and possessions. It protects family from unfovourable conditions, wild animals and enemies.

Types of houses
Houses differ in design, structure and materials used,
Resources available determine type of house to built.

Traditional houses/huts
- Are circular in most cases apart from maasai ones,
- Are built of wooden poles and sticks,
- Are thatched with grass, palms and reeds,
- Walls are smeared with mud and cow dung,
- Are divided into specific areas depending on family needs.

Modern houses
- Are an improvement of traditional houses,

e.g roofs, improving from grass thatched to corrugated iron roofs/tiles, walls from mud smeared ones to cemented, mud walls and use of wood to bricks, stones and concrete, floors from earthen to cemented, wooden (parquet) terrazzo and tiled floors. Windows made of metallic/wooden and glass panes same to doors.

Bungalows:
Are houses with all rooms on one floor. Found in rural and urban areas.
Advantages
- Are convenient for families with young children, old and physically impaired since all rooms are on same floor,
- Are cheaper to build and easier to extend than maissonatte,
- More private than maisonettes and flats.

Disadvantages

- Occupy a lot of space all rooms are on same floor,
- Don't offer adequate security.

Maisonnettes
- Are houses with some rooms on ground floor and others on upper floor,
- They may be attached, semi-detached/detached,
- Semi-detached ones share one common wall detached don't share any wall,
- Attached share common walls.

Advantages
- Saves land space, some rooms are above others,
- Family safe from break and several units are together,
- Saves building materials because units share common walls,
- Semi detached are private.

Disadvantages
- Sometimes rooms are too close to provide enough privacy,
- Not easy to demolish/extend a house at ones will,
- Pests can crawl from one house to another,
- Fire can easily spread from one house to another.

Flats/Apartments
- Are complete houses on several floors,
- Common in urban areas.

Advantages
- Saves on land because several housing units can be on same plot,
- Saves building materials because they share walls.

Disadvantages
- Noise can distract of walls are not sound proof,
- Climbing, staircase is tiring for those living upper floors especially elderly and physically disabled.
- Pests can crawl from one side to another,
- Children and elderly, physically, disabled can fall downstairs,
- Difficult to compound clean.

Essential areas and their placement in the house
- The living room (sitting room/entertainment area),
- The kitchen/cooking area,
- The dining room/or eating area,
- The storeroom/or the storage area,
- The bedrooms or sleeping area,
- The toilet and bathroom/sanitation area.

NB:- when planning a house position of rooms in relation to each other and purpose to consider areas with related activities to be near each other, e.g eating area near cooking area; toilet should be near kitchen; sleeping area to be away from entertainment area to allow for relaxation and privacy.

The living room
- Should be accessible from main door and front,

- Adequate space should be provided.

The dining room
- Space should be enough,
- May be part of living room/ a separate room,
- Should be close to kitchen and living room.

The bedroom
- Should provide space,
- Should provide maximum comfort,
- Should provide privacy and relaxation,
- Should be away from noisy areas, idle living room and kitchen.

Sanitation area
Includes bathroom/bathshelter and toilet or latrine,
- Should be easily accessible from living and bedroom,
- Should be away from kitchen.

The kitchen
- There should be direct access to the dining room and food store,
- It should be accessible from main door and bedrooms without passing through sitting room,
- Work centres should be arranged in a way that energy and time are saved,
- Kitchen window should be large enough to allow in plenty of air and light.

PLANNING AND EQUIPPING THE KITCHEN
(a) The one wall plan kitchen type;
   - work centres are arranged in a row
     e.g cooker, sink, fridge and food store are all in one row,
     NB:- there should be enough space between 2 opposite walls to allow doors and cabinets open freely.

(b) The L plan kitchen type
   Work centres are on two adjoining walls.

(c) The U plan kitchen type
   Equipment arranged along three walls forming a U shape,
   Advantages: it produces enough floor space between 2 opposite walls to allow doors of equipment and cabinets open freely.

METHODS OF PROVIDING FAMILY SHELTER
(i) building a house,
(ii) renting a house
(iii)buying an already built house

(i) Building a house
Factors to consider when building a house;
(a) Site
   Should be close to social amenities e.g roads, water, electricity, sewerage system, a hospital, a shopping centre and schools.

(b) Type of soil
   Should be one that is not difficult and costly to manage.

(c) Drainage

Soil should be well drained not to flood during wet season, to prevent damage to property and leads to dampness that is a health hazard and to support foundation of the house.

(d) Neighbourhood
The environment should be safe, it should not be near factories, airports and sewage plants for health reasons.

(e) Cost
Includes cost of land, architect fee, legal fees and cost of materials and labour used when building house. It should be affordable.

(f) Size of family
A family with many children of both sexes may require more rooms and family that entertains many visitors requires a larger sitting room.

Types of materials
Geographical area
Materials used should be ones that allow house to remain cool e.g makuti at the coast while in cold regions, materials used should allow house to remain warm.

Availability
Some materials are easily available in certain areas e.g brick are common in certain areas of eastern.

Durability
It determines how long the house will be used.

Orientation
Refers to positioning of house in relation to sun, direction of wind and nearness to main road.

Size of land available
It determines type of house to be built whether a bungalow, maisonette of flat.

Buying a house
Factors to consider when buying a house;

(i) Cost
Price and other changes by legal and valuation fees should be within financial mean of buyer.

(ii) Value of house
Seek professional advice on value of house to determine whether it is worth price

(iii) Location of house
It should be in relation to distance from place of work, schools, means of transport and other social amenities.

(iv) Construction
Should be well built and should have surfaces and fixtures that are durable and attractive.

(v) Orientation
Should take best advantage of natural view.

(vi) Family requirements
Should have adequate space to meet needs of the family members.

(vii) The reliability of seller
All legal documents to be available and valid before final transaction.

Renting a house

(i) Income
Family should rent a house that they can easily afford without straining.

(ii) Life of family
A large family will require a big house

(iii) Composition of family
It determines size and type of a house. A family with both girls and girls need separate bedrooms for both sexes.

(iv) Place of work and schools
It should be near place of work and schools to avoid spending much on transport.

(v) Social amenities
Consider social environment i.e security and behaviour patterns of the community in area.

CARE OF THE HOME

- A house is a basic necessity for people so that always be kept in order.
- Living in dirty and unpleasant conditions is a health hazard,
- It should be cleaned for comfort, health and safety.

Classification of dirt/dust

(i) loose dirt
(ii) fixed dirt

(i) Loose dirt

It is composed of very small light organic or inorganic particles e.g soil, ah, soot, chalk, dry leaves, scraps, or hair and skin that can be carried from one place to another.

(ii) Fixed dirt

It is dirt which when it comes into contact with water or grease, it sticks onto surface of an article. It can also be due to air and moisture forming tarnish in metallic materials e.g of fixed dirt.

(a) stains
(b) mud
(c) tarnish/rust

Basic cleaning equipment and materials

Cleaning equipment

e.g

(a) sweeping broom
(b) scrubbing brush
(c) cobwebs brush
(d) toilet brush
(e) dustpin and dustpan brush
(f) clothes brush
(g) bottle brush
(h) buckets

(i) basins and karais
(j) dusters
(k) mop and mop bucket
(l) floor cloth
(m) scoring pad

Cleaning materials and agents

Examples of cleaning materials and agents:

(a) detergents
(b) grease solvent
(c) crease absorbents
(d) metal polishes
(e) glass cleaners
(f) abrasive powder
(g) toilet cleaner
(h) air fresheners

Broom and brushes

Materials for making brooms and brushes

- Handle made of wood, metal/plastic can be plain, painted/varnished
- Broom fibres on head may be made of animal hair, vegetable fibres, grass, straw synthetic filaments.

A. **Animal hair**

(1) Horse hair

Makes good quality sweeping brooms and brushes

Disadvantages: It is expensive

(2) Bristles

- it is from animal of the pig family,
- it is strong and resilient,
- it is thick at base and tapers towards end. Mass so ideal for sweeping and collect dust well,

(3) Goat hair

- it is very soft and make of goat's hair,
- used to sweep delicate surfaces,

B. **Vegetable fibres**

Produces stiff brooms and brushes

(1) Bass

- it is strong wood fibrous material, also called bast fibure
- it is from inner fibours bark of plants e,g flax, hemp and jute,
- it is stiff and used for making yard brooms,

(2) Bassive

- from palm trees,
- if it finer that bass and often used as a substitute,

Coconut oil

Used for making stiff brooms, it is the midrib/leaflets of palm trees.

Sisal
It is for brooms and brushes, it is not very stiff and used for sweeping floors.

C. **Grass/straw**
For making brooms and brushes.
- it is cheap
- for sweeping earthen floor and cupboard.

D. **Synthetic filaments**
- for making brushes e.g nylon,
- it is strong and resilient,

Advantages: it doesn't absorb odours and moisture, it dries quickly.
Disadva. If of poor quality it crumples and tangles after use,

Choice of brooms and brushes
(i) buy them for right purpose,
(ii) bristles should be soft/hard and pliable depending on purpose intended for,
(iii) bristles to be closely and firmly fixed,
(iv) handle to be smooth and of comfortable length,
(v) broom to be light in weight,
(vi) handle to be firmly fixed into head, outer end should have a hole/depression for hanging in order for storage to be easier.
(vii) Head to be smooth a curved at edges to avoid damaging furniture,
(viii) Wooden part to be appropriately finished for easy cleaning,
(ix) Materials used should be durable for brush to last long.

Daily care of brooms and brushes
(i) remove fluffs threads and bite of hair,
(ii) shake off any dust after sweeping,
(iii) store by hanging/placing upright on handles to avoid damaging bristles,

Special cleaning of brooms and brushes
(i) prepare warm soapy water, wash bristles by flicking them in water to remove dirt. Remove dirt if any bits of hair and dirt use a wire or smooth stick then wash,
(ii) rinse in warm water then cold to refreshen bristles,
(iii) clean handle and head carefully depending on material and finish,
(iv) flick broom to remove excess water,
(v) dry brooms and brushes outside by hanging/placing sideways to drip, if laid on back water soaks into wooden part making it rot,
(vi) put toilet brushes in special containers head facing downwards,
(vii) dry them completely,
(viii) hang in a special cupboard/broom rack, bristles facing upwards to avoid flattening.

Points to note when cleaning brooms and brushes
- wash them outside the house,
- use plain water when washing coconut ones because soap softens them, add the ammonia washing soda,
- clean stiff brooms and brushes without using detergent to avoid becoming bristle,
- those for brushing need both soda and detergent to ensure removal of all polish,
- wash and rinse toilet brushes in disinfectant water,

Dustpans
Can be of plastic / metal, have a flat base.

Choice
- should be strong,
- edge should be open for dirt and dust to be swept into it,
- edges must be smooth to avoid accidents and damaging of furniture,

Care of dustpans
- don't bang,
- brush off after use and store appropriately,
- wash weekly in hot soapy water,
- rinse dry and store by hanging,

buckets, basins, and karais

Choice of basins and buckets.
NB: Disadv.
- Galvanized iron buckets are heavy and cumbersome,
  Adv.
  Are strong and durable

NB-
- Enamel ones will cheap and rust easily,
- Plastics ones are light and easy to clean, they also don't chip.

Care of basins and buckets
- wash using warm soapy water
  after use:
- rinse and dry well,
- store away from dust,
- avoid drying on the sun they may bulge and crack,
- avoid drying near fire they will warp,
- avoid dropping and knocking them over to prevent cracking,
- don't use harsh abrasives they will scratch it,
- don't store water in galvanized ones for long they will rust

FLOOR CLOTHES
Choice
- should be made from thick and absorbent materials,

Care of floor clothes
- wash after use with soapy water,
- rinse dry, store appropriately,

Dusters
Are for removing dust and buffing polished and painted surfaces.

Choice
- should be of a fabric that can remove dust,
- should be able to hold dust,

Care
- wash thoroughly in warm soapy water,
- rinse in warm water finally in cold,
- dry in open air,
- store in a dry well ventilated place,

Mops
Floor dusting ones are for dusting floor surfaces after sweeping,
Furniture dusting ones are for dusting furniture,
Floor polishing mops are for polishing and buffing surfaces,
Wet mops are for tiled floors.

Choice
- should be made of twisted cotton yarn,
- should have a removable handle for convenience when washing,

Care of wet mops
Wet mops are used together with a mop bucket to clean,
- should be washed and rinsed well,
- should be dried well after use,
- should be occasionally disinfected.

NB:- mops are for buffing polished floors.
- should be washed well after use,
- should be dried and stored properly (impregnated ones are used for shining floors).

Sponges and cleaning clothes
Are for various cleaning e.g kitchen clothes and floor clothes.

Choice
- should be highly absorbent,
- should be made of strong fibre,

Care of sponges and cleaning clothes
- wash with soapy after use,
- rinse thoroughly,
- squeeze out excess water dry well,
- store away from dust.

Chamois leather
Is soft leather made from skin of goats,
Used for polishing glass and smooth surfaces.

Care of chamois leather
- wash in warm soapy water,
- rinse and dry in a cool place,
- store when dry

IMRPOVISING CLEANING EQUIPMENT & MATERIALS
Examples
Long grass, reeds/twigs used to make brooms.

a) Grass and reeds
   - collect long green grass and reeds,

- take a reasonable amount, tie tightly using a string,
- fold top edges back tie again to make firm and to produce a neat edge,
- trim cover edges evenly.

b) Twigs
- Collect greed twigs,
- Trim well to a uniform length,
- Tie firmly at upper edge,

Improvising brushes
Cobweb brushes,
- use sisal/coconut fibres,
- tie well round a long smooth stick,
- trim

Bottle brushes
- use sisal/coconut fibres,
- tie well around a small smooth stick,
- trim

Dustpans
- use a flat piece of tin/debe, cardboard paper, an old jerrycan/large rectangular plastic bottle.

Cleaning clothes
- use old sheets, clothes
- should be washed and cut neatly into required sizes,
- hem edges,

Floor clothes
- use old bedcovers, blankets, towels and sheets,
- should be washed clean,
- should be cut neatly into required sizes and edges hemmed.

IMPROVISED ABRASIVES
- charcoal,
  crush charcoal into a powder
  store in a covered container
- sand sieved
- rough leaves
  shouldn't be from poisonous plants,
  should be fresh,
  clean before use,
- sisal
- crushed egg shells
- maize cobs

Reasons for cleaning a home
Cleaning is the removal of dirt and any other foreign matter from the surface of an article, a household furnishing or any other item;

Why clean;

(a) For preservation of appearance
Dirt is removed from surfaces so that the original appearance is retained.

(b) Prolong life f the article/surface
If dirt accumulates it destroys surface as harsh methods of removal will be applied and will erode surface.

(c) Ensures healthy environment
Dirty conditions encourage breeding of disease spreading insects e.g flies, mosquitoes and pests e.g rodents.

(d) Psychological satisfaction
A clean tidy home makes family feel comfortable and motivated to stay in the house.

(e) To cut down costs
Fixed dirt requires expensive cleaning agents and takes time and energy to remove.

METHODS OF REMOVING DIRT FROM SURFACES

1) Sweeping
- collect all necessary equipments,
- move movable furniture to one side, cover foodstuffs,
- close windows and doors to prevent dust from being blown by wind,
- sweep from farthest corner coming towards door,
- maintain good posture not to get fixed,
- sweep with a long low strokes to avoid rising dust to much,
- head of broom to be kept down to ensure all dust is trapped between bristles,
- stand behind broom not to get dirty,
- sweep all parts of room methodically,
- gather all dust together at a point, collect using a dustpan and brush,
- put collected dust in a sheet of newspaper with dirt picked from broom wrap burn/put in a dustbin,
- rearrange furniture, open windows and doors to air room,
- dust all surfaces methodically,
- clean used equipment, store appropriately,
- if earthen sprinkle a little water over whole surface to reduce amount of dust that is to be raised.

2) Dusting
- should be after sweeping a room

Procedure:
- Fold duster to form a pad because it removes dirt effectively,
- Work methodically from top downwards,
- Unfold and refold duster to expose clean surface, dust till thoroughly done,

3) Scrubbing

A method used to remove fixed dirt from surfaces e.g surfaces made from stone, cement terrazzo and plain wood;

Procedure;
- use warm soapy water and hard scrubbing brush from farthest end to room,
- scrub a small area at ago using circular nuts along grain,
- rinse scrubbed areas by wiping with clean cloth rinsed in warm water,
- overlap sections work towards door,
- dry surface

4) Suction
A vacuum cleaner is used to remove dirt from surfaces.

Advantages:
Loose dirt is not blown about from surfaces instead it is sucked into a bag attached and can be disposed later.

Types of vacuum cleaner
(a) upright suction cleaners,
(b) cylindrical suction cleaners,
(c) round suction cleaners.

Use and care of vacuum cleaners
(a) follow manufacturers instructions to avoid damage to both machine and surface being cleared,
(b) emptying dust bags regularly of too full they strain motor hence wear it or tear dirt bag,
(c) storing in a cool dry place to avoid damaging it,
(d) servicing a cemented dealer to avoid damage,

5) Wiping
Used on floors that can be damaged by scrubbing and scouring;
e.g PVC flooring, tiles & painted and varnished surfaces.
Procedure;
(a) wipe floor with a mop, sponge/cleaning cloth from warm soapy water, if stubborn dirt rub using mops, sponge or cloth within a mild abrasive,
(b) rinse with a cloth from warm water then cold to remove dirt and soap,
(c) dry,
(d) buff to shine

Removal of fixed dirt
Should be removed with help of a cleaning agent.

Type of agent to use depends on
(i) nature of dirt,
(ii) surface from which dirt is to be removed

Agents used
- water,
- soap and soapless detergents,
- abrasives e.g scouring powder and pads,
- grease solvents e.g kerosene, benzene and turpentine,
- absorbents e.g chalk, blotting papers

Cleaning different rooms in the house
Daily cleaning
It is removal of loose dirt from rooms and surfaces on daily basis e.g sweeping, brushing, dusting and suction.
- It involves tidying up, that is putting household items back to their normal place.

Weekly cleaning
Involves removal of both loose and fixed dirt,
- It is thorough cleaning done once a week e.g sweeping, dusting, suction, scrubbing and wiping.

Special cleaning
It is thorough cleaning done occasionally once a month.
- Assign cleaning different surfaces; pg 88 – 105.

KITCHEN EQUIPMENTS
E.g equipment used in preparing, cooking, serving and storing food.

Classes
(i) Large kitchen equipment
e.g cookers, refrigerators, dish-washers.
(ii) Small kitchen equipment
include kitchen tools, e.g knives, spatulas, can openers, potatoe peelers, egg whisks, baking tins and casserole or pyrex dishes.

(iii) Time and labour saving kitchen equipment
- Are manufactured to ease food preparation by making it faster, energy saving and convenient.
- Are time saving and labour saving though expensive.
- Useful in hotels, institutions of higher learning and hospitals e.g dishwashers, potato peelers, food mincers, food slicers, microwave ovens and small electrical appliances e.g kettles, coffee makers, toasters, food mixers and blenders.

General points to consider when buying kitchen equipment
(a) Requirements/needs of family
It should adequately serve the needs of family.

(b) Space available
There should be adequate space to store large kitchen equipment.

(c) Efficiency of equipment
Any bough should perform its specific function properly.

(d) Availability of service and spare parts.
Should be readily available for large and labour saving equipment.
(e) Type of material
Material should be appropriate, durable and easy to clean.

(f) Cost/affordability of the equipment
Should be affordable to family.

(g) Size
Size should cater for diverse cooking needs of family.

(h) Type of fuel
Consider fuel availability when buying cookers, refrigerators and appliances.

(i) Ease of use
Should not be too complicated for user. A manual should be provided.

Large Kitchen Equipment
Cookers:
Is used for surface cooking, baking, roasting and boiling foods.

- Operated by gas, electricity/combination of two.
- May not have an oven and grill.

Care of a cooker
- Switch off gas tap/main switch, if charcoal/firewood remove all charcoal and firewood.
- Switch on when cooking utensils are on the hot plate for economical use,
- Wipe spills immediately to prevent formation of permanent stains,
- Avoid storing utensils in the oven/top of cooking surface to avoid damaging the appliance,
- Avoid using non heat resistant materials for cooking,

Cleaning
- Turn off current from main switch,
- Wipe surface after use,
- Rinse and dry a mild abrasive can be used,
- Occasionally remove movable parts, clean appropriately, clean metal surface underneath.
- Light gas burners when it dries to ensure they are working.

Microwave oven
- It cooks, defrosts and reheats foods in a fraction of time required for conventional ovens/cookers.
- Food is cooked by high frequency energy called microwaves.
- As food absorbs waves, the molecules within it vibrate against each other friction produced creates heat that cooks food.

Care of a microwave oven
- Use microwave glass and plastic for cooking because metal ones reflect waves,
- Shut microwave door firmly after food is put in switch on,
- Avoid tampering with safety switch in case of an electrical fault instead get a qualified technician or manufacturer,
- Avoid switching the appliance when oven is empty,
- Clean with a cloth wiring out of warm water,
- Avoid abrasives when cleaning.

Oil stoves
Use wicks/pressure

Care:
Should be stored in a safe dry place to avoid rusting.

Cleaning an oil stove
- clean regularly,
- wipe any food spills with a cloth wrung out of hot soapy water,
- dismantle occasionally and clean thoroughly,
- wash wicks in hot soapy water to avoid smoking,
- rinse in warm water dry them thoroughly,

NB:- never allow water in the kerosene tank instead when cleaning rinse it with paraffin.

Charcoal stove
- it uses charcoal/coffee husks, saw dust, maize cobs and cow dung,
- the energy saving uses less fuel because of the ceramic lining on inner side that acts as an insulator hence conserve heat.

Care:
- avoid spilling foods and liquids on the ceramic lining to prevent if from cracking,

NB:- To conserve heat and energy, use a cooking utensil same size as cooking surface.

Refrigerator
Stores perishable foods e.g meat, fish, poultry eggs, vegetables and milk.

Types
Absorption refrigerators that use gas/paraffin.
Compression refrigerators : are electricity powered and action of internal motor causes some noise and vibration. Are cheaper to maintain as they freeze more rapidly.

Care of a refrigerator:
- All foods to be covered to prevent absorption of odours,
- Hot foods should never be stored in it they reduce efficiency leading to spoilage of foods,
- The door should not be left open,
- Avoid storing it under direct sunlight, near cooler/near water heating equipment.

Cleaning of the refrigerators
- wipe spills immediately,
- occasionally remove all contents defrost clean appropriately,
- use warm soapy water clean all parts rinse with cloth wrung from warm water and dry,
- wipe all container return to the fridge,
- defrost regularly to improve efficiency.

Small kitchen equipment
(a) measuring and weighing equipments,
(b) cutting tools,
(c) shaping and mouldering tools,
(d) separating tools,
(e) shifting, mixing, turning and scooping tools,
(f) oven/baking utensils,
(g) pans and pots

Points to consider when buying small kitchen equipment
(a) Type of equipment
- should be one suitable for function
- easy to clean and durable,
- if oven pans and pots should be good conductor of heat,

(b) Size
- choose a variety of sizes that will cater for different cooking requirements.

(c) Ease of use
- all equipment should have firmly fixed parts that fit well into each other,
- for knives, spoons, pans and pots, handles should be comfortable and made of heat resistant materials,
- saucepans and saucepots should have a flat and even base to ensure they are well balanced and prevent them from tilting over,

- should have sides with a rounded bend at bottom to avoid dirt hiding in and to make cleaning easy.

(d) Purpose
- ensure equipment is for the right purpose.

Measuring and weighing equipment
- to get accurate results in cookery, one should use accurately weighed ingredients and should be in correct proportions, e.g measuring jugs, measuring cups, measuring spoons and weighing balances,
- measuring and weighing equipment may be made of plastic, metal/glass.

Care of measuring equipment
- should be used correctly to get good results,
- should not be overloaded to avoid spoiling them.

Cleaning the measuring equipment
Should be cleaned according to the materials rinsed dried and stored appropriately.

Cutting tools
e.g knives, kitchen scissors, potato peelers, fish and egg slices.
- Cuts, peels, chops, slices food during preparation and service.

1) Knives
   Vary in type depending on functions e.g utility (kitchen) knife
   paring (vegetable) knife
   butchers knife
   carving knife
   palette (pastry) knife
   knife and fruit knife

2) Graters
   Are flat square/cylindrical with holes punched/drilled into it. Have metal, plastic/wooden handles and have fine medium and coarse cutting section.
3) Egg slice
   Used to slice hard boiled eggs.

Care of cutting tools
(i) should only be need for foodstuffs for cutting edge not to become blunt or damaged.
To also ensure foreign flavours are not introduced into food.
(ii) use for right purpose to avoid making blunt,
(iii) avoid soaking wooden ones or those with wooden handles, it causes warping, discolours them and loosens joint.
(iv) blade of knife shouldn't be exposed to open flame it destroys the knifes tang,
(v) the blade to be sharpened regularly using sharpening steel, oilstone/an electric sharpener to improve efficiency,
(vi) knives to be stored individually to prevent blades from coming into contact with each other.

Care of cutting tools
- clean according to materials,
- pay attention to joints and groves to avoid accumulation of dirt.

Shaping and moulding tools
e.g chopping and pastry boards
- rolling pins
- jelly moulds,
- meat tenderizers
- potato mashers
- chopping board is for cutting meat and vegetables.
- pastry boards are for chapattis and pastries – rolling pans are for rolling out,
- rolling pins pastry and chopping boards are made of wood, some chopping boards may be of plastic,
- a meat hammer (tenderizer is used for beating steak for frying and roasting) used together with chopping board,
- may be of wood/metal,
- a potato masher is for mashing foods e.g vegetables like potatoes and peas.

Use and care of shaping and moulding tools
- use separate chopping boards when cutting cooked meat, raw meat, vegetables and fruits to avoid contamination.
- when using a meat hammer, don't heat the board it will be damaged,

Cleaning shaping and moulding tools.
- avoid soaking because it spoils wood,
- shouldn't be used to hammer nails or objects,
- chopping boards, pastry boards and rolling pins to be washed immediately after use and stored when completely dry,
- meat hammer to be cleaned in warm soapy water paying attention to grooves to remove all bits of meat.

Separating tools
- used for draining, straining and sieving food stuffs e.g sieving flour, draining water from pasta and straining soups,
  e.g sieves, colanders, draining spoons.

Strainers
May be of stainless steel/plastic used to drain foods.
NB:-
- should be chosen to suit the purpose e.g fine mesh for tea strainers and flour, large mesh for vegetables, mashroom and similar foods.

Colanders
For draining foods
Made of stainless steel, aluminium or plastic, metal ones are the best they don't bend out of shape.

Qualities
- it should be one that is designed to drain all foods,
- should have handle supports/base high enough for bottom not to rest directly on surface of sinks/any other utensil,

Care of separating tools
- use for correct purpose,

- don’t strain hot liquids e.g hot fuel or oil using a plastic strainer sieve/colander because it will damage it,
- use a wooden spoon because it can cut the wire mesh,

Care of separating tools
- clean currently according to materials,
- use a soft brush to unblock mesh,
- dry and store correctly.

Lifting, turning, scooping and mixing tools

Used for mixing, stirring, turning and serving food stuffs during preparation, cooking and serving, e.g spoons, forks, fish slice, scoops, balloon whisks and rotary whisks.
- Made of wood, stainless steel or silver,
- Some have wooden handles/plastics,
- Spoons may have deep/shallow bowls,
- Are for stirring and beating, spoons with shallow bowls are the best.

Wooden spoons
- may have deep/shallow bowls,

Advantages:
- they don’t scratch pans/bowls,
- handle doesn’t get hot when stirring food,

NB:-
- shouldn’t be left to stay in foods they get stained and absorbs flavours,
- those with shallow bowls are the best because they are used for stirring.

Metal spoons

Are for stirring, mixing and eating,
- are made of aluminium, stainless steel, iron or silver,

Disadvantages:
- are made of metal wires,
- are balloon shaped,
- are for beating eggs, cream or sauces.

Rotary whisks
- have two handles one to hold whisk and the other to form blade when whisking,
- have same function as balloon whisk.

Forks
- may have 2/3/4 prongs/tines,
- may have long/short handles,
- they are used for holding food firmly when carving, to lift cooked meat, and turn chunks of roasted meat.

Care of lifting, turning, scooping and mixing tools
- care should be taken when using them not to scratch containers,
- metal spoon are good for making cake mixtures because they provide a cutting edge,
- avoid using forks, scoops and fish slices for lifting chunks of foodstuffs,
- avoid leaving plastic handles leaning against hot containers they melt.

Cleaning lifting, turning, scooping and mixing tools
- should be cleaned depending on material they are made of and stored correctly,

- pay attention to tines and spaces between them when cleaning forks,
- avoid soaking spoons and tools with wooden handles they get spoilt and discoloured,
- avoid standing them in food they get stained and absorb flavours,
- store appropriately when clean and dry

Oven utensils

- are made of materials that withstand high temperature e.g heating resistant glass, porcelain, earthenware and iron,
- aluminium also used because it reflects radiant heath enabling food cook slowly and evenly,
- vary in size and shape e.g pie dishes, casseroles, baking tins and roasting trays and tins.

Care of oven utensils

- clean after use according to material,
- store when dry to avid rusting, not stick ones should not be cleaned with abrasives this removes the coating,
- casseroles shouldn't be exposed to extreme temperature and should be allowed to cool before soaking,
- avoid handling carelessly i.e banging or dropping to prevent breakage.

Pans and pots

- e.g frying pans, sufurias, saucepans, and saucepots,
- may be of aluminum, stainless steel, enamelware and cast iron,
- used for surface cooking e.g boiling, stewing, frying and steaming,
- saucepans have one handle and saucepots have two,
- sufurias and earthenpots have extended handle rim for handling.

Care of pans and pots

- to ensure durability shouldn't be placed in cold water before cooling to prevent warping,
- should be washed using a scouring pad/fine steelwool, don't use strong alkalis,
- rinse, dry, and store correctly,
- avoid dropping/banging it loosens handles and dents pans,
- keep all handles away from centre of stove to avoid burning.

Time and labour saving kitchen equipment:

- they save on labour and time,

e.g food mixers
food mincers
potato peelers
deep fat fryers
dish washers
liquidizers
food slices
potato choppers
food warmers
sterilizing sinks

Care of time and labour saving equipment

- follow manufactures instructions to prevent damage,
- use for their specific functions,
- store correctly as in manual,
- in case of technical faults, consult a qualified electrician/manufacturers,

Care of kitchen equipment

- should be cared for depending of material e.g plastic, mental, wood, glass, earthenware and plant materials for calabashes and guards.

Plastics

Made from natural substances e.g casein, coal cotton and oil.

- used for making cups, spoons, plates and knobs for electrical appliances e.g cookers and refrigerators.

Are of two groups

(a) Thermoplastics

Softens when heated to temperature used during its formation without undergoing a chemical change e.g acrylics, silicon and polyvinyl chloride (PVC).

(b) Thermosetting plastics

Heat is used to permanently let them into shape, they don't soften/melt after setting e.g melamine and phenolic.

Care of plastics

- avoid contact with sharp objects they cause scratches/cuts that habour dirt,
- avoid open flame contact it causes warping/leaning them in the sun for long,
- avoid bending/hitting plastic items,
- don't use abrasives when cleaning they scratch them.

Cleaning plastics

- wash in hot soapy water use a soft cloth/sponge
- occasionally use mild bleach or citric acid/soaks in hot lemon water overnight to remove stubborn stains,
- rinse in hot water,
- dry by rubbing/buffing with a soft cloth to shine,
- store correctly.

Metals

(a) Functional (useful) or decorative metals e.g stainless steel

- decorative or ornamental are those used as ornaments, to decorate house e.g gold, brass and silver,
- some functional ones may also be for ornamental purposes.
-

(b) White/coloured metals

- are for functional purposes e.g aluminium, steel, tin and silver,
- are mainly used for decorative purposes e.g copper and brass,

(c) Soft and hard metals

- soft metals wear/get damaged easily; e,g silver tin and aluminium, they should be handled carefully
- hard metals are stronger and hard wearing, e.g steel, chromium and gold.

Examples

Stainless steel

It is resistance to staining,

- are not easily dented,

- used to make knives, spoons, forks, saucepans, cutlery blades, counter tops and liners in freezers.

Care of stainless steel equipment
- after washing dry completely before storage to avid spotting,
- avoid exposing to open flame/excessive heat it darkens steel,
- should be stored on highly polished surfaces.

Cleaning stainless steel equipment
- wash in hot soapy water,
- rinse in hot water,
- dry
- polish using a clean soft dry tea towel or a glass cloth,
- store correctly.

Aluminium
For making saucepans, frying pans, sufurias and measuring jugs.

Care;
- don't use baking soda the alkaline salts dissolve aluminium and form dark spots/tarnish,
- avoid exposure to extreme temperature,
- avoid soaking with hot equipment in cold water it causes buckling.

Cleaning aluminium equipment
- wash in hot soapy water,
- rub stains with a nylon scouring pad or steelwool,
- rinse in clean hot water to remove soap and dirt,
- dry,
- store correctly.

Iron
The items are normally protected with a coat of paint, enamel or zinc to prevent rusting,
- used for making heavy cooking pans, charcoal stoves, oil stoves, buckets and karais.

Care of iron equipment
- keep dry to prevent rusting that causes metal to tarnish,
- avoid harsh abrasives,
- oil using unsalted fat frequently to prevent rusting especially handle joints,
- avoid dropping/banging to prevent chipping.

Cleaning iron equipment
- wash in warm soapy water,
- use a soft cloth and a mild abrasive,
- rinse thoroughly in warm water to remove soap and dirt,
- dry,
- store away from moisture

Enamel
- It is a plastic resin sprayed onto a metal and baked to high temperature to give a hard glossy and durable finish.
- Porcelain enamel is used for making saucepans, casseroles dishes, pie dishes, bowls, mugs, coxens, teapots and plates,

Care of enamel ware

- avoid scouring using abrasives to prevent scratching,
- avoid dropping and banging to avoid chipping,
- avoid sudden changes in temperature e.g putting ice water in hot porcelain enamel pot causes cracking,

cleaning enamelware
- use a sponge to wash utensils in warm soapy water,
- rinse in warm water,
- dry
- store correctly.

Wood
- used for making pastry boards, rolling pins, chopping boards, sugar dishes, handles for knives and saucepans and work surfaces,

Types:
Hard and soft wood
Hard wood has close grains and soft wood has open.
Wood may be finished in different ways;

i) Plain wood
Is wood that has not been given any finishing and used for making kitchen table, chopping boards, chairs/work surfaces,

ii) Polished wood
- is wood whose surface is protected by a thin coating/film of furniture polish,
- painted wood is one covered by a coat of paint that changes its appearance,
- used for making dining tables, chairs, side tables and cupboards.

iii) Varnished wood
- wood is coated with a special kind of liquid mixture,
- used to make dining tables and chairs, cupboards, side tables and handles for knives, saucepans, serving dishes and forks.

iv) Laminated wood
- it is wood with laminated plastics e.g formica,
- used on wall panels, counter tops, dining tables and work surfaces.

v) Stained wood
- Stains used are water /oil based. Oil stains are better than water stains they last longer.
- Used to make chairs, cupboards and tables.

Care of wooden equipment
Plain wood
- remove food stains immediately,
- avoid harsh absrasives roughen surface,
- avoid hot water it causes discolouration and warping of wood,
  wood also softens due to absorption of moisture by wood cells.
- avoid direct heat/sun it also causes wood to warp
- scrub along grain direction using a soft brush,

Polished wood

- protect surface from hot dishes using heatproof mats it prevents them from scorching
- wipe water spilt and any stains immediately,
- avoid abrasives they leave scratch marks on them.

Painted wood
- avoid exposing to heat it softens paints,
- avoid turpentine it discolours the paint,
- avoid wetting surface too much it softens paint and may blister,
- don't use sharp objects they scratch surface,
- dust regularly to prevent staining,
- apply new paint after old has scrapped off.

Varnished wood
- avoid hot water it softens the varnish,
- avoid strong alkalis e.g washing soda they spoil its appearance.

Stained wood
- avoid washing with water it removes the staining substance hence spoils appearance.

Cleaning wooden equipment
- dust with a cloth (dry),
- clean using warm soapy water and scrubbing brush,
- for large surfaces use soapy water and a cloth,
- scrub in direction of grain to prevent roughening of surface and to remove all dirt,
- rinse thoroughly with a cloth from warm water twice to remove soap and dirt,
- rinse finally with a cloth from cold water to freshen and preserve colour,
- clean a section at ago overlapping parts to ensure all parts are cleaned,
- for small items e.g rolling pins and chopping board;
  (a) use warm soapy water and scouring pad to scrub surface,
  (b) rinse thoroughly in warm water finally in cold,
  (c) wipe to dry
  (d) dry in warm airy place,
  (e) store correctly.

Cleaning polished wood
- dust thoroughly,
- clean with a cloth wrung out of warm soapy water,
  wipe with a cloth wrung out of clean water,
  allow to dry
- apply polish using an old piece of cloth,
- rub in circular movements overlapping to ensure polish is evenly distributed and no polish is fed into open cracks,
- shake away and spray polish sparingly, hold it 6" and leave for approximately 10 minutes for polish to set for easy shining. For spray polish buff immediately,
- use a soft dry non fluffy cloth folded into a pad to buff surface, to ensure a proper finish and remove excess polish, rub hard using circular movements.

Cleaning painted wood
- dusting daily keeps painted wood clean and attractive,
- occasional cleaning:
  (a) dust thoroughly,
  (b) use warm soapy water and clean cloth to clean surfaces,

start from bottom to avoid water marks/tear marks,
(c) remove stains with an appropriate stain remover,
(d) rinse immediately using clean warm water and clean cloth from top downwards,
(e) rinse in cold water,
(f) allow surface to dry,
(g) apply furniture cream using a soft dry cloth, rub well to get a shiny and glossy surface.

Cleaning varnished wood
- dust with a soft duster,
- use a soft clean cloth wrung out of warm soapy water/warm water having vinegar, 1 litre of water one tables spoons of vinegar,
- wipe with a clean cloth wrung out of warm clean water,
- dry using a soft cloth to rub surface,
- store small wooden items correctly when dry.

Cleaning stained wood
- dust thoroughly using a soft clean duster,
- remove stains using a cloth wrung from warm soapy water,
- wipe with one wring from warm water finally from cold water,
- dry completely,
- apply furniture polish in circular movements,
- allow it to settle,
- buff with a clean cloth to shine,
- rub with a soft dry cloth to remove excess polish and dirt.

Glass
Used to make water tumblers, plates, bottles, casserole dishes, pie dishes, jugs, mixing bowls and pudding bowls.

Care of glass kitchen equipment
- protect from sharp blows and knocks,
- avoid extreme changes in temperature when using heat resistant glass in oven place under low/moderate heat, increase gradually or warm dish in hot water and wipe dry before placing in oven,
- glass utensils from fridge to be placed in a bowl of hot water before putting in oven,
- avoid abrasives when cleaning,
- avoid placing glass tumblers inside each other they can break,
- store carefully to avoid breaking.

Cleaning glass equipment
- rinse off any dirt in warm water,
- wash in warn soapy water use a soft cloth/sponge,
- rinse in warm water three times,
- drip dry on a rack,
- buff with a dry lintless cltoh.

Earthenware
- are known as china and are made of clay

Types:
(i) Glazed earthenware
Used for making cups, saucers, bowls and cooking and serving dishes.

(ii) Stoneware
It is hard, shiny, and transparent and vitreous in nature)
Used for making cups, saucers, cooking and serving dishes,

(iii) bone china
It is thin and very strong,
Used for cups, plates, saucers, side plates, dinner plates, teapots and saucer bowls.

Porcelain
It is a hard, white, shiny material used for making cups, plates and ornaments.

Care of earthen ware
- avoid extreme temperature and sudden change in temperatures,
- avoid stacking carelessly when cleaning and piling plates too high may cause breaking,
- avoid harsh abrasives they scratch surface,
- gently wash in a plastic bowl or with a folded towel at bottom of sink to prevent breakage,
- shelves, racks/tables for storing utensils should be firm and strong to stand weight, should also be lined to prevent chipping.

Cleaning earthenware
- use a soft cloth and hot water to wash,
- rinse in hot water to remove soap and dirt,
- dry completely on plate rack/use a dry tea towel,
- store correctly,

Calabashes:
Care of guards and calabashes
- avoid banging/hitting they chip, crack/break,
- don't expose to a naked flame they burn,
- store in a cool dry place to avoid dampness that causes mouldering,

Cleaning
- wash in warm soapy water using a mild abrasive,
- rinse thoroughly in warm water,
- finally in cold to refreshen,
- place upside down on a rack,
- store in a cool dry place

Safety precautions and rules when handling kitchen equipment
1) use equipment for right purpose and according to manufacturers instructions for safety and durability,
2) turn handles away from pathway to avoid accidents,
3) avoid reaching baked items with bare hands use oven clothes or gloves,
4) use potholes when handling hot pans don't use papers on damp clothes,
5) direct lid away when opening cooking pots to prevent scalding the skin,
6) avoid scarves, hanging ties on clothes and ribbons around necks, they catch fire easily,
7) avoid handling electrical appliances with wet hands,
8) keep doors and drawers of cabinets and cupboards closed to avoid knocking on them,
9) knives and forks should be stored with handles pointing towards you for easy reach and to avoid cuts,
10) clear spills and vegetable peelings on floor immediately to avoid accidents.

Improvising kitchen equipment

1) A steamer improvised by using a saucepan/sufuria with tight fitting lid,
2) A charcoal cooler keeps cool by evaporation,
   Looks like a kitchen cupboard with a double wall into which small pieces of charcoal are packed, on top of the cupboard there is a tray into which water is poured. A sack cloth is placed on top to ensure that water drips continlously onto charcoal, as water evaporates from charcoal it absorbs heat from the contents of cupboards keeping it cool.

   NB:-
   - should be constructed away from the sun,
   - should be erected in a place that ensures proper drainage of water dripping from charcoal.
3) A meat safe stores meat,
   Also looks like a kitchen cupboard lined with fine wire mesh for adequate circulation of air
   It is lined with hooks from inside to suspend meat on.
4) A stand with various shelves constructed from wood used for draining washed utensils instead of tray,
5) Graters from clean perforated tins,
6) Dredgers from plastic containers with perforated lids,
7) An oven improvised by using a debe
   After lighting a charcoal stove, place a debe $^1/_3$ full of sand on it and cover it,
   Method is cumbersone as one has to keep on replacing burning charcoal.

FOOD HYGIENE

Means practices that safeguard against food contamination that may lead to food poisoning and spoilage. Proper personal and kitchen hygiene practices ensure food remains wholesome and safe.

NB:- favourable conditions for growth of micro-organisms are warmth, moisture, darkness and dirt.

Kitchen hygiene

- Kitchen hygiene is cleanliness of surfaces, equipment and proper disposal of refuse,
- Food storage, production, service handling and preparation should be carried out in a hygienic manner to prevent food contamination,
- hygiene practices include:

1) keeping kitchen free from spilt food, crumbs and scraps, that attract flies, cockroaches and rats,
2) cleaning cooking and serving utensils properly after use and drying before storeage,
3) kitchen clothes to be washed daily and boiled to kill germs and if white should be bleached once in a while to remove discolouration,
4) work surfaces to be cleaned with warm water and detergent,
5) lining kitchen refuse bin before use,

- food storage equipment to be clean at all times e.g refrigerator, kitchen stores, vegetable racks and meat safes.
  Store to be checked often and any food/vegetable showing signs of spoilage to be removed and discarded,
- practicing principles of first in first out (fifo) to be practiced when storing foods to prevent food spoilage,
- kitchen floor to be swept of any spilt food and vegetable peelings, wipe grease from floors they may cause falls, sprains and fractures,
  floors to be kept clean because they attract flies.
- providing adequate lighting
  food to be cooked and stored in clean and well ventilated cupboards or larders and free from pests e.g flies, rats, cockroaches/even pests,
- not handling cooked food with bare hands instead use properly cleaned kitchen tools,

- not storing cooked food for too long under warm conditions to avoid food poisoning,
  leftovers to be cooked and stored appropriately in small portions and shouldn't be reheated more than once,
- clean water to be used for preparing food and all kitchen equipment to be cleaned before use,
- containers used to hold food to be free from cracks and chips,
- wasting foods to be eaten raw e.g fruits and vegetables to be washed thoroughly under clean water.

Persons handling food to observe the following
- wear protective clothing to prevent contaminants from outdoor clothing coming into contact with food,
  surfaces and equipment:
  NB: hair to be covered and kitchen shoes to be worn,
- hands to be washed with a soft scrubbing brush in warm soapy water and dried with a towel,
  should be washed thoroughly after visiting toilet, handling food refuse, handling money, touching parts of the..
  avoid wearing jewellery, rings, watches and bracelets they trap grease, dirt and bacteria.
- avoid smoking, tasting food using fingers/other activities that are bad,
- persons suffering from infectious diseases e.g diarhoea, typhoid, cholera, and dysentery and other diseases e.g sore throat, skin infections, worms, hepatitis should not handle food.

Food spoilage and poisoning
Food spoilage
It is deterioration of food resulting in food becoming unfit for human consumption.

Causes of food spoilage
(i) aerobic,
(ii)anaerobic

(i) Aerobic
Aerobic is caused by micro-organisms in presence of oxygen, e.g moulding of bread and rotting of meat.

Anaerobic occurs within the interior of food parts in sealed containers where oxygen is absent or present in limited quantities e.g in canned foods.

Causes of food spoilage
- oxidation of chemicals present in fats or fatty foods,
- chemical present in pesticides and herbicides sprayed on fruits and vegetables,
- chemicals present in food containers wrapping and packets,
- action of enzymes in fruits making them overripe,
- reactivity i.e decomposition of fats,

Food poisoning
- some micro-organisms produce toxins which are harmful to human beings,
- contaminated food may lead to food poisoning, it is considered an illness due to consumption of food containing toxins, chemical poisons or harmful micro-organisms.

Causes

- insecticides, pesticides, herbicides, kerosene, detergents and dry cleaning agents can contaminate food and cause food poisoning,
- bacterial contamination: caused by bacteria that get into the food and contaminate it. The bacteria enters the alimentary canal and produces toxins that cause abdominal pains and vomiting.
  foods like ice cream, nuts, meat pies and poorly stored cooked foods provide conditions for growth of bacteria.
- Natural poisoning
  occurs in badly stored grains, e.g stored in damp conditions and when not completely dry, they produce poisons called aflatoxins. Aflatoxins are poisonous substances that are produced by a mould fungus,
  to prevent it plants should be stored only when completely dry;
  NB: poisonous parts of certain plant food e.g cassavas can also cause food poisoning.

Signs and symptoms of food poisoning

i) vomiting
ii) severe stomachache/abdominal pains,
iii) diarhoea,
iv) fever,
v) general body weakness,
vi) dizziness.

Prevention of food spoilage and poisoning

- avoid buying canned foods that have expired, check expiry dates always,
- buy fruits in seasons,
- buy from clean market and vendors,
- store under right conditions to avoid spoilage,
- storage facilities to provide adequate space with protection against dust, insects and rodents,
- avoid storing near foods to prevent chemical contamination, poisons and toxins,
- place refuse in correct and sealed containers away from food area,
- foods to be eaten e.g fruits and veges to be washed under clean running water,
- frozen foods to be thawed completely before cooking,
  it ensures heat penetrates food adequately and kills harmful bacteria,
- leftovers to be cooled completely and be stored under low temperatures and be packed in small portions, avoid reheating more than once,

Storage of perishable and non-perishable (dry) foods

Perishable foods

Examples – meat, meat products, vegetables, milk, milk products and eggs.

- They deteriorate very first, they have to be stored at low temperature to maintain freshness,

Storage:

- Raw foods e.g meat and poultry not to be used immediately should be divided into portions, labelled and stored in the freezer,
- All stored foods to be covered,
- Meats, e.g beef, bacon, pork, poultry and fish to be used within 2 days, should be stored on first and second shelves, directly under freezer,
- Butter and cheese to be wrapped in greaseproof paper and to be stored on top shelf/on special compartments on door,
- Caned meat and other cooked foods to be stored in the middle shelf,
- Foods likely to deteriorate faster should be kept on shelf closest to freezer compartment.

- Vegetables, salad ingredients and nitrous fruits to be wrapped in perforated polythene bags and to be stored in the crisper,
- Bananas shouldn't be stored in a fridge they turn black,
- Eggs to be on egg racks on door, shouldn't be washed because it makes them porous shell susceptible to entry of bacteria,
- Milk to be in bottles in correct rack on the door

Storage of non-perishable (dry) foods
- Should be stored in a cupboard/food store or ladder,
- Food to be stored in the larder are tea leaves, coffee, sugar salt, jam, and cooking fat,
- should be packed in dry covered containers (plastic) if not already in containers and clearly labelled.

Other methods of storing foodstuffs at home
- milk can be put in a clean bottle (jug) with a lid and stored in s container of cold water,
- a muslin cloth is then put over bottle with ends touching the water to keep the surrounding cool,
- water moves up cloth by capillary action and draws heat from milk,
- as it evaporates, heat is lost through cooling milk,
- it can keep fresh for 12 hours.

Water treatment at home

Water needs to be purified because or presence of micro-organism e.g bacteria cause water borne diseases e.g typhoid, dysentery and cholera.

Methods of purifying water

1. Sedimentation
- water is collected in a container and left to stand for a while, solid particles e.g leaves and soil will settle at the bottom,
- to quicken the process salts of aluminium can be added especially to hard water, solids in the water will coagulate and sinks to bottom,
- the water may still contain bacteria in so should be boiled before drinking.

2. Filtration

After sedimentation the water may still be brown so it is passed through a series of filter beds having different grades of sand and gravel.

Diagram
- all minute impurities are removed and water starts to sparkle,
  home made filters are useful in areas where water is fetched directly from rivers, dams or lakes,
- a low concentration of chlorine or ozone is added to kill micro-organisms.

3. Boiling
- it kills disease causing micro-organisms and other parasites,
- filter water using a clean cloth,
- put in a container heat and bring to boil approximately 10 minutes to ensure all micro-organisms and parasites are killed,
- cool covered,
- store in some container,
- if it is transferred to another container the container should be rinsed in boiled water,

Storage;
- purified water should be stored in a sterile container to prevent contamination.

METHODS OF COOKING

Reasons for cooking food
- to improve appearance of food, make food attractive,

- to improve flavour or taste of food,
- to make food tender and easy to chew,
- to kill germs and parasites,
- to keep food for long,

e.g

i. Boiling
ii. Stewing
iii. Roasting
iv. Baking
v. Frying
vi. Steaming

Factors that determine methods of cooking

i. Types of food,
ii. The health condition of consumer of meal,
iii. The available time,
iv. The available fuel,
v. The available cooking equipment.

Categories of cooking methods

i. moist heat methods e.g boiling, steaming and stewing,
ii. dry methods e.g baking, roasting and frying

i. Moist heat methods of cooking

1. Boiling

It is cooking food completely immersed in liquid bubbling at 100^{o}C and keeping it at that temperature till ready.

Suitable foods;

- meat
- poultry
- root tubers e.g arrow roots, yams and sweet potatoes

Rules for boiling foods:

- boil in just enough water and nearer serving time to preserve nutrients,
- pan should be covered,
- green veges to be boiled in salted water to retain colour,
- root veges to be cut into even sized pieces and be put in water before boiling,
- meat to be cut into large pieces and put in boiling water to be to seal the inside for juices to be retained,
- once food boils to boiling point heat should be simmered,
- foods should not be overcooked, retain shape, nutrients, cocoon and flavour,
- liquid for boiling meat and veges to make stock/sauces,
- seasoning to be added to boiling water,

Advantages of boiling

- needs little attention,
- liquid for boiling can be used to prepare stock, sauces and gravies,
- convenient if modern type of cooking equipment are not available,

Disadvantages

- flavour and nutritive value damaged.

2. Stewing

- it is cooking food in a measured amount of liquid and then allowed to simmer,

Suitable for;
- beef,
- poultry,
- vegetables
- fruits

- aim is to give food enough time to soften and to retain nutrients and flavour.

Rules
- meat should be cut into neat and equal pieces to cook evenly,
- stewed beef and poultry to be browned well before adding liquid to seal juices,
- enough liquid, stock or water to be added to avoid having thin watery stew,
- pan/pot to be covered with a fitting lid,
- use gently heat during cooking to avoid hardening of proteins and damaging food texture and flavour,
- check on seasoning before serving,
- serve in liquid used for cooking,

Advantages
- an economical method of cooking cheap cuts of meat,
- needs little attention,
- can be on top of stove in oven,
- good for cooking tough cuts of meat,
- nutrients not lost.

Disadvantages
- slow method so needs adequate time,
- consumes a lot of fuel.

3. Steaming

It is cooking food using steam from boiling water,
Steam doesn't come into direct contact with food instead comes in contact with the container holding food:

Suitable for;
- fish fillet
- puddings

Methods of steaming
- plate method,
- bowl steaming,
- using a steamer,
- using a colander

- Plate method:

Food in a covered plate is placed over boiling cooking pan.
NB:- root vegetables can be cooked at same time to save fuel.

- Bowl steaming

Food is placed in a covered bowl and placed in a pan of boiling water

- Using a colander

A colander covered is used to hold food.
It is placed on a saucepan of boiling water,
NB:- the colander should fit well on saucepan, and base shouldn't come into contact with boiling water.

- Using a food steamer

A steamer with several compartments for different foods is used.

Rules to follow;
- Follow instructions if using a steamer,
- Steam to be produced constantly so water bath should be allowed to evaporate,
  This will prevent pan containing water not to be damaged and food not to burn.
- Always add into the water bath some water to maintain,
- Cover food carefully to avoid direct contact with steam/water,
- Steamed/pan to have a tight fitting lid to avoid loss of steam,
- Direct steam away from you when opening lid to avid scalds.

Advantages of steaming foods.
- Food is light and easy to digest so suitable for invalids and convalescents,
- Nutrients and flavour not lost,
- Different dishes can be cooked same time e.g food may be cooked on water being used for boiling root vegetables.

Disadvantages of steaming foods
- Requires a lot of attention to ensure water bath does not boil, evaporate and get dry,
- Dangerous steamer may cause scalds,
- Not good for cooking tough foods.

Frying
It is cooking food in a lot of fat or oil in a pan.

Methods of frying
- shallow fat frying
- deep fat frying
- dry fat frying

- Shallow frying
  - it is cooking food in hot fat half way the food,
  - suitable for eggs, sausages, thin slices of meat, fish, poultry joints and pan cakes.

- Deep fat frying
  - food is cooked in hot oil ⅔ of a pan that completely covers the food,
  - a deep fat fryer, strong deep pan, a frying basket and draining spoon are required, suitable for potatoes chips, mandazi and samosas.
- Dry fat frying
  - cooking food in its own fat in a shallow pan/cooking in a lightly greased pan,
  - oil/fat used comes from the food being cooked, e.g bacon, and cuts of pork.

General rules for frying foods

- prepare food correctly e.g for fish and meat cuts shouldn't be more than 2.5cm thick to ensure thorough cooking,
- use good quality fat that has a high smocking point to prevent food from burning on heating,
- pan should be strong for fat not to overheat,
- for deep frying, should be ⅔ of a pan to avoid overflowing,
- heat fat to right temperature before putting food to prevent food from absorbing fat and becoming too greasy,
  if fat is too hot it burns the outside of food and leaves it undercooked,
- foods to be coated unless starchy like potatoes and doughnuts,
  use butter/beaten eggs and bread crumbs,
  others should be dried before frying e.g potato chips,
- lower food gently into hot fat to avid accidents e.g scalds,
- avoid overloading the fryer it lowers the temperature of oil,
- avoid having boiling water near fryer because the bubbling water may get onto the frying hot oil and cause accidents,
- drain any surplus fat/oil on absorbent paper before serving,

NB: should not be prepared for weight watchers.

ii. Dry heat methods of cooking

Baking

- it is a dry method of cooking food using dry hot air in an oven. Suitable for foods that have enough moisture e.g potatoes and flour mixtures e.g cakes, scones and bread.

Rules for baking foods

- oven should be pre-heated to correct temperature before putting food in oven,
- place food in the right shelf, top is hottest, middle and lower are moderately hot,
- always observe baking time (duration so as to reduce baking temperature for some foods) e.g for yeast mixtures temperature should be reduced once yeast is leveled and crust is formed for even cooking,
- avoid opening oven door before mixture settle because cool air can make them sink,
- test the food for readiness before removing from oven,
- turn the foods on a cooling tray or rack to cool unless they are to be served in the dishes in which they were baked,

Advantages

- doesn't require a lot of attention if temperature is well set,
- light and easy to digest,
- saves fuel because several dishes can be cooked at same time,

Disadvantages:

- only suitable for certain dishes,

Roasting

- as cooking food close to a source of food; suitable foods;
  - meat
  - maize
  - sweet potatoes
  - yam

- arrow roots
- fish

food can also be roasted in an oven/while rotating on a spit, fat should be used to bake foods before roasting, good for cooking meat.

Rules for roasting foods
- foods to be prepared correctly and seasoned before putting in roasting pan,
- joints to be raised from bottom of pan to avoid frying,
- oven should be pre-heated to the correct temperature before putting food,
- charcoal burners must be red hot before putting food to quickly brown the top and seal juices, it ensures food is free from smoke,
- frequently basting and turning of food should be done to keep food moist and ensure even cooking,
- use juices from pot roasted meat/chicken to make gravy,
- avoid pricking the surface of meat because this allows juices to run out and leave the roasted piece dry.

Advantages of roasting foods
- it is quick method,
- roasted food is attractive and appetizing,
- it is easily digested,
- it is tasty especially meat.

Disadvantages
- it is expensive meat to be roasted, should be of high quality,
- needs constant attention,
- food to be basted and turned frequently to prevent burning and drying.

TEXTILE FIBRES

A fibre is hair like unit of raw material from which clothes are made. A textile fibre is a unit of matter which is spun/weaved into yarn and made into fabric.

Properties of acetate rayon
- has good lustre,
- drapes well,
- soft,
- can be treated to repel water,
- weaken when wet,
- doesn't with stand high heat,
- has a thermoplastic nature,
- leads can be permanently pleated,
- less absorbent than viscose rayon so dries easily,
- develops and holds static electricity,
- resistant to shrinking, creasing and stretching,
- easily damaged by chlorine, bleaches and acetone,

Uses:

For dress materials, linings, underwears, soft furnishings, scarves and carpets,

Examples;

Crepe, ninon, taffeta, velvet, jersey, satin, net etc.

Elastic fibre
Are elastic rubber like substances e.g lycra and spandex.

Properties of elastofibres
- excellent elasticity and recovery,
- non resistant to heat,
- thermoplastic,
- good resistance to abrasion,
- resistant to perspiration and body oils,
- strong and durable,
- generates static electricity,
- absorbent,
- cool and allows skin to breath e.g lycra and spendix.

Uses:
- makes corcets, brassierses, bikers, swimsuits, raincoats, and support hosiery.

PHYSICAL IDENTIFICATION OF TEXTILE FIBRES

i) Cotton
- feel light,
- burns rapidly in and out of flame,
- wet on bright yellow flame,
- smells like burnt paper leaving grey ashes.

ii) Linen
- tougher than cotton and has a luster,
- burns readily with a bright flame,
- emits smell of burnt grass.

iii) Wool
- it feels hairy,
- it is warm,
- burns with spluttering noise and smoulders leaves blade ash smells of burnt feathers and hair,

iv) Silk
- feels smooth and has lustre,
- burns with spluttering noise and is self extinguishing,
- smells like burnt hair/feathers.

v) Viscose
- viscose feels soft and smooth,
- has appearance of alka,
- burns readily with a bright flame leaving a grey ash,
- smells like burnt paper.

vi) Acetate
- melts and burns with a bright flame leaves hard brittle irregular beads,

vii) Nylon
- repels flames and melts into a hard bead.

viii) Polyester
- shrinks and melts on burning ,

- burns with difficulty smells leaving behind a hard round bead,

ix) Acrylic
- shrinks and melts on burning into a tar like bladder bead,
- burns with a sooty flame, leaving a hard round black bead,
- it is self extinguishing.

x) Elastofibres
- shrink and melt from flame, forming a hard irregular bead

xi) Asbestos
- melts and forms a gummy substance called residue.

THE LARGE SEWING EQUIPMENTS

Table /worktop
- should be large enough,
- comfortable height for user,
- smooth and flat not to spoil fabric,
- shouldn't be polished.

Use and care
- dust before using
- avoid scratching with sharp objects e.g tracing,
- avoid staining with ink/carbon.

Long mirror
- should be large enough for one to see himself from toe during fitting,

Use and care
- used when making fitting garments,
- clean with a dry cloth before use,
- avoid scratching,
- should be firmly fixed.

Drawers
- should be large enough,
- finished smoothly,

Use and care
- for storing needlework,
- should be lined with newspapers.

Wardrobes
- should be of smooth wood,
- smooth finish,
- lockable,
- rod/rail should be present

use and care
- for hanging complete/nearly complete garments,
- clean regularly and place mothballs occasionally.

Hangers

- should be accounted sizes,
- should be of smooth wood, plastic/metal,
- should be smooth,
- should be strong with wide enough to carry work,
- should have wounded corners to keep shape of garments.

Use and care
- for hanging complete/nearly complete garments,
- dust occasionally

Irons
- non rusting materials
- medium management

smooth sole
- pointed toe to reach into galtery
- should be thermostatic (control heat automatically).

- **Ironing board**

Use and care
- used to press work at every stage,
- adjust to a comfortable height,
- remove a wash cover regularly,
- fold and protect from dust when not using.

THE SEWING MACHINE
Parts of a sewing machine
The slide plate
It covers the part that houses bobbing case and protects shuttle from dust.

Shuttle (feeddog)
The loop that revolves back and forth during process of machining.
It facilitates locking of upper and bobbing thread and causes fabric to move forward.

Feedplate/throat plate
Protects shuttle and area around it.

Presser foot lifter
Holds fabric against feed dog during stitching.

Tension disc
Controls tightness of thread during stitching

Thread take up lever
Controls movement of thread and helps in sewing process.

Presser bar (screw)
Used to raise/lower presser foot, adjusts pressure exerted by presser foot lifter to allow fabric of different thickness to pass through.
Arm
Top part that houses the balance wheel and spool pin, used to hold and lift the machine.

Spoon pin
Used to hold reel of thread while sewing.

Balance wheel/hand wheel
Controls movement of needle during stitching process.

Stop motion screw
Stops movement of needle during process of winding bobbin.

Bobbin winder
Holds bobbin when winding it with thread.

Stitch length regulator
Adjusts length of stitches.

Table
Holds work during stitching.

Needle clamp
Holds machine needle in place.

Diagram.

FORM II NOTES

LAUNDRY EQUIPMENTS

The right equipment should always be used so as to acquire successful results.

Factors that determine the amount of equipment:
- amount of money available for it,
- space available in the house though some can be in built,
- laundry equipments are grouped depending on type of function it is made to perform e.g
    (i) washing equipment
        (ii) drying equipment
        (iii)finishing equipment
        (iv) storage equipment

(i) Washing equipment
Come in a variety of forms and materials

(a) Basins and bowls
- plastics are most common,

Reasons:
- they come in a variety of colours and shapes,
- are light
- are readily available
- fairly cheap

Galvanized
- used for washing
- can be for boiling

choice, use and care of basins and bowls
- a lot of washing to be done

Durability : good quality one and rust free
Design: should be well designed ones, comfortable when cleaning and easy to lift e.g ones with handle.

(b) Buckets and pails
For fetching water,
- can be plastic/galvanized
- advantages and disadvantages refer to basins.
- Debes can be used in place of the two.

(c) sinks
Can be made of (i) baked enamel
(ii) metal
(iii)terrazzo
- should be deep enough to hold a lot of clothes,
- may be fixed with taps hot and cold if possible

care, use and care of laundry
- deep enough,
- strong and durable,

- should be for laundry work only
- cleaning every after use

(d) Laundry brushes
- are brushes that are either too stiff/nor too soft,
- used for cleaning very dirt clothes parts e.g collars, pocket openings,
- children's clothes e.g derim, khaki.

Choice, use and care
- should have a handle that doesn't warp,
- firmly fixed bristles,
- don't put pressure on bristles when storing,
- removing fluffs when cleaning.

Washing machine
They are devices that are labour saving are effective for laundry work.
- Are time saving so good for pipe with little time for housework,

Types of washing machines
(a) Machine with a wringer
- Most basic machine,
- Has a single washing tub and needs to be filled with water manually,
- Draining of water also done manually using a bowl/horse pipe,
- Washing action is by a timbler
- The wringer is attached to the tip

(b) Twin tub
Two tubs are built into one body casing.
- washing tub having a timbler/pilsato,
- a spin dryer:- it has a perforated inner wall which water is extracted/removed from clothes by the forces set in motion by the spinner,
- pipe normally filled for draining the water,

(c) The semi-automatic
Functions like the twin tub
Diff. clothes are put in one compartment and at one setting,
- washing done and at another spin dryer is set in motion to wring out water

(d) Fully-automatic
It (i) washes
(ii) rinses
(iii) wrings
(iv) dries clothes at single setting of the controls

All the processes are timed and machine switches itself off automatically. After the above clothes can be
(a) pressed
(b) aired
(c) stored

Factors to consider when choosing a washing machine:
- cost and maintenance
- size and cleaning action to suit work intended,
- always get instruction sheet for it,
- get the guarantee for it for some period,
- electrical connections should be in order and plug of correct voltage,
- should be from a reliable firm that offers after sale services,
- well designed and pleasant to work with e.g a top that can be used for other jobs e.g storing flowers,
- one that is automatic so that one can attend to other jobs,
- space in the house,

Care of washing machines:
- avoid overloading,
- wiping every after use,
- washing the inside occasionally with soapy water and removing stains,
- leaving the door open after use to get rid of smells,
- removing clothes immediately instruction for use and maintenance, refer to pg. 13

examples
- indoor drying racks,
- spin dryers,
- tumble dryers – the two use electricity,
- a clothes house – for drying kitchen clothes,
- air dryer,
- spin dryer,

choice, use and care of dryer
- consider the amount of laundry handled, type should be appropriate
- availability of fuel e.g spin dryers and tumble one where there is electricity,
- economy of fuel,

Care
- avoid overloading because it can get spoilt
- consider their qualities when drying.

Pressing and ironing equipment
Clothes are ironed/pressed depending on the type of fabric.

1. Ironing board:
Made of wood/metal,
- may be attached to the wall approximately 1m from the floor,
- normally padded and has a loose cover,
- some have sleeve board for
  (i) ironing sleeves,
  (ii)children's garments

Choice, use and care of ironing board
- should be adjustable,
- should have a heatproof mat for putting on the iron when ironing,
- should not be one that wobbles,
- should be one with a sleeve board,

- should have a well fixed cover and well padded;

Care:
- using a loose cover than can be cleaned frequently for board to remain clean,
- oiling joint occasionally,
- folding and storing against the wall/any flat surface,

2. Ironing table
Good for flat items e.g beddings and table linen,

Choices
- one made of plain wood because polished wood is easily scorched.

Use:
- use a clean old blanket and sheet to give a smooth surface,
- iron should be on a stand to present burning the sheet

3. Mangle
It is an ironing equipment with two padded rollers through which items to be pressed are passed while applying heat and pressure.

NB:- Heat and pressure send be controlled to come up with good results.
- Come for flat items like bedsheets, pillowcases, table linen, loose covers towels etc.

4. Irons
Charcoal irons:-

Advantages;
- its cheap,
- it is easy to maintain,
- made of cast iron so exerts enough pressure on garments being ironed,
- has a smooth back and vents that support burning of charcoal,

Charcoal, use of care of charcoal iron
- should have a wooden handle comfortable to hold,
- should have firmly fixed screws to avoid accidents,
- should be well designed and attractive,
- bid should be closed and charcoal to be hot before use,
- cleaning one sole property before use
- emptying the non after use and cooling it before storing on a stand,
- not dropping because it can break,
- not dipping in cold water since sudden contractions can cause breaking,
- oiling the screws frequently,
- cleaning with warm soapy water, rinsing and drying occasionally,

Gas iron
Choice use and care
- type chosen should be attractively designed,
- single the match before turning gas on,
- flame should be regulated and adjusted to required heat before using,
- switching off and disconnecting after use,
- cooling and storing in a cool place,

Pressure iron
- well designed using non-rusting material,
- Fill reservoir with paraffin and put lid tightly,
- Pump to apply pressure, light and regulate flame,
- Switch off after use let out pressure,
- Cool it and store in a dry clean place,

Dry electric iron
Choice, use and care
- should have a themostat for controlling the temperature,
- a well insulated flex cable and pilot indicator that shows when the correct temperature has reached,
- parts must be firmly fixed and temperature control knob labelled according to fabric,

Care:
- iron should cool after use,
- store in a cool dry place,
- shouldn't be dropped to prevent damaging the bimetallic strip,
- a knife shouldn't be used to scrap off stains instead stains should be rubbed,
- worn out flex cable should be replaced to prevent shocks,
- avoid touching the iron with wet hands when ironing,
- don't iron wet clothes

Steam iron
It is an electric iron which has a compartment in which water is heated to give steam,
- it has a lot of holes at the sole to let out steam,
- it is best for clothes that need dampening e.g (i) cotton (ii) linen

types
- kettle steam iron
  it is one where heated water in the reserviour is boiled to give steam.
- The drip-feed type
  One where water falls in steady drops at intervals onto the hot plates in the steam chamber. It is then converted to steam.

Choice, use and care of steam iron
NB:- save refer to electric iron
- should have an option for dry and steam ironing,
- sole plate should be made of stainless steel,
- the dealer bought from should be reliable who offers after sale services,
- it should have a dial knob that shows the point at which it is operated by steam,
- should have enough vents that are not clogged,
  NB:- avoid hard water because it clogs them
- a button for spraying water on small areas should be present
- the iron should be light in weight and from a renowned manufacturer/reputable one

Flat irons:
- useful where electricity is not available,
- it is operated by placing on a source of heat e.g store then used for pressing,
- NB:- disadvantages is that it is cumbersome since it requires heating each time it cools.

Storage Equipment

Reasons for proper storage of clothes

- To prevent them from dust and destructive pests e.g rats, moths etc,
- To keep them free from dampness that causes rotting and growth of mildew,
- To keep them off from direct sunlight that causes bleaching of garments and fading of colours,
  NB:- choice of storage facilities depends on type of clothes to be stored.

Examples of storage facilities

- wardrobes,
- chest of drawers,
- dressing tables,
- cupboards,
- suitcases and boxes,
- improvised storage facilities e.g cartons, bar of wood with hooks/nails baskets etc.

Care and cleaning

- cleaning regularly,
- checking stored garments to ensure they are in good condition,
- rotating clothes in storage so that the same garments are not used so often,
- lining shelves, cupboards and drawers
- cartons and baskets should always be placed on raised surfaces to prevent dampness,

Drying equipment

- some fabrics require drying under a shade/indoors others can be directly on sun,

Clothes line

- can be a wire/string,
- it should be firmly held and of a strong material
- should be on under a shade and another on the sun,

Choice, use and care of clothes line

- shouldn't be of a material that stretches,
- shouldn't be one that stains garments,
- should be strong not to warp under weight of clothes,
- smooth to avoid damaging clothes,

Care

- sharp objects should not be used on the line,
- children should not play with it,
- it should be cleaned regularly,

Pegs

choice, use and care

- should have a smooth finish to prevent spoiling clothes,
- strong ones that don't come apart easily

care:

- use only for laundry,
- store in a bag/tin to prevent losing/damaging

DETERGENTS AND LAUNDRY AGENTS

Definition of detergents
A substance that aids is removal of dirt by emulsifying grease and increasing cleaning power of water.

Categories
(a) soap
(b) soapless detergent

Soap and soapless detergent
Soap is made by the reaction of fat or oil of animal nature e.g mutton and beef or vegetable e.g soyabean, peanut, olive oil etc with an alkaline substance e.g caustic soda (sodium hydroxide (NaOH)/caustic potash i.e (potassium hydroxide).

The alkali hydrolyses fat forming fatty acid and glycerine. Fatty acid is mixed with a strong alkali that neutralizes acid producing soap. This process is called saponification, Fatty acid + NaOH $\rightarrow$ Soap + water

NB:- (i) solid/hard fats make soaps that are less soluble in water and with best cleaning properties. Soaps from olive oil are softer and dissolve very fast.
(ii) to improve quality a mixture of fats is used.

Substances added to soap and soapless detergents
The substances are used for:
i. improving efficiency
ii. appearance
iii. acceptability

Examples:
a. Builders
To improve cleansing power in removing dirt from fabrics and surface. They determine how strong/milk a soap is.

b. Perfumes
To make them fragrant, toilet soaps normally more performed.

c. Dyes
To make them attractive, though soap flakes and some soap powders are never dyed.

d. Antiseptics
To provide protection against germs.

Types of soaps
- hard soaps,
- soap flakes,
- soap powder,
- antiseptic soap,
- liquid soap,
- toilet soap

a. Hard soap
- called bar soap
- for cleaning of household surface and laundry,

Care

- bar soap when not in use to be stored on a shelf or airy place.

b. Soap flakes
- From thin film of mild soap that is dried and broken into small pieces.
- Good for delicate fabrics e.g woolens, silk and children's clothes,
- It is cleansing action is more effective with warm/hot than cold one,

care
- Should be stored in an airy tight container to prevent moisture clogging flakes that make them difficult to dissolve.

c. Soap powder
- soap in powder,
- obtained by spraying method in a drying tower,
- builders are added before making the soap,
- whitening agents e.g sodium perforate or laundry blue added during manufacture,

Advantages
- good because it is more soluble than bar soap/soap flakes,
- give excellent results in both cold/hot water.

Care
- keep in its packets/moisture proof bag,
- keep in a dry place

d. Disinfectant/antiseptic soap
- It is soap which substances that kill germ/prevent them from spreading have been added during manufacture;

Examples:
- dettol
- protex

- also kills/keeps away germs from surfaces,
- for washing hands after doing dirty jobs,

e. Liquid soaps
- are very milk soaps,
- for delicate fabrics and children's clothes.

f. Toilet soap
- are bath soaps also called natural soaps,
- have no free alkali but have a high content of fat/oil

Advantages
- gentle to the skin,
- well performed,
- attractive in colour,
- attractively packaged,
- come in a variety of shapes, sizes and colour,

Advantages of soaps

- lathers with water and have a good cleansing power,
- easily dissolves in water (warm),
- lowers surface tension of water so increases the cleaning action,
- more suitable when hand-washing,
- good ones will help dissolve and hold dirt in suspension till it is removed from fabric,

Disadvantages of soaps,
- doesn't dissolve easily in cold water,
- lathers easily with only soft water,
- it forms scum with hard water and till hardness is removed it will not lather easily,
- some discolour light coloured clothes,
- if not well rinsed, it discolours clothes

Properties of a good laundry soap
- should be one that is easily soluble in water,
- should lather easily in both cold or warm water,
- shouldn't have substances that can harm fabrics/users hands,
- firm because the soft one has too much moisture that causes it to waste away quickly,
- one which can be rinsed out fast,

Making soap jelly
- shread/grate soap into pieces to get approx a handful,
- put in a pot and add a cup of water,
- heat stir until soap has melted,
- it should not be allowed to boil over,
- store in a container for use,

NB:- if powder in water a little quickly forms lather,
Can also be made from pieces accumulated for long.

The cleansing action of detergent
- the detergent lowers surface tension of water so solution is able to penetrate in the fabrics and the greasy spots,
- the grease and dirt held in suspension till rinsed (warm water is the best for this),
- with mechanical agitation the dirt comes off from the fabric.

Factors that contribute to the efficiency of the detergent
- the temperature,
- washing time,
- mechanical action,
- type of water (soft/hard)

Soapless water
Are detergents manufactured purely from chemicals e.g petroleum by products e.g benzene and napthalene.

Examples
- flakes,
- liquid,
- powder,
- paste.

Advantages of soapless detergent

- don't form scum with hard water,
- suitable for delicate fabric e.g silks and woolens (synthetic detergents)
- lather easily in hard water,
- versatile,
- has higher cleansing power,
- they are many variety/wide variety/range

Enzyme detergents.
- They breaks down protein stains of blood, sweat and food,
- Best when using warm/hot water,
- Should not boil because the detergent is spoilt,
- Good for both machine and handwash.

Factors to consider when choosing using and storing soapless detergents
- should be right type for right type of fabrics,
- should be heavy duty ones if meant for heavily soiled garments e.g overalls, white cottons, towels, dust coats etc.
- should be light ones if meant for woolen garments, underwear, children clothes, and other delicate items
- should have manufacturers instructions that should be read well before using,

use and care
- reading instructions carefully,
- use economically,
- store in a cool dry place

WATER
- it is odourless and tasteless when pure,
- occurs in 3 physical states of matter;
  i. solid (ice)
  ii. liquid
  iii. vapour (gas)

Sources
i. rivers,
ii. rain water,
iii. springs,
iv. boreholes

Types
a. Soft water
b. Hard water

a. Soft water
- has a flat taste,
- lathers readily with soap,

NB:- underground water is hard because it dissolves minerals e.g $MgCO_3$, $CaCO_3$, as it runs through rocks and penetrates the ground.

Advantages

- Saves times and money because it lathers easily with soap,
- Doesn't form scum that discolours clothes

Disadvantages
- Flat taste so not good for drinking

b. Hard water
- Doesn't lather easily because of presence of calcium and mg salts,

Types: (i) Temporary hardness
(ii) permanent hardness

i) **Temporary hardness**
Causes of temporary hardness
(i) $Ca(HCO_3)_2$
(ii) Magnessium bicabornate ($Mg(HCO_3)_2$

Uses of a lot of water
- When boiled it forms fur (calcium/magnesium carbonate) in boilers/kettles. This interferes with heating and causes blockage of pipes.
- Scum is formed when temporary hard water is boiled, CO_2 is driven off while calcium carbonate/magnesium carbonates is precipitated,
  $Mg(HCO_3)_2 \rightarrow$ boiling = Carbonate + CO_2 + H_2O
  Insoluble
  $Ca(HCO_3)_2 \rightarrow$ boiling = Carbonate + CO_2 + H_2O

ii) Permanent hardness
- can't be removed by boiling

Causes:
- $CaSO_4$
- $MgSO_4$
- $CaCl_2$
- $MgCl_2$

Removed by using soap/soapless detergents i.e
(i) washing soda ($CaCO_3$)
(ii) slaked lime ($CaOH_2$)
(iii)iron exchange (permanent method)
(iv) synthetic detergents – Have chemicals in powder form that soften it during washing/cleaning.

- NB:- hard water wastes soap and soapless detergents because it doesn't lather easily.
- It is good for drinking since it has calcium salts for teeth and bone formation.

Advantages of hard water
- Has a better taste,
- Has calcium good for teeth and bone formation

Disadvantages
- Wastes soap, time and money because it takes long to lather,
- Blocks pipes because of formation of fur,
- Discolours kettles and boilers as a result of fur.

LAUNDRY PROCESSES
- fabrics come from fibres which have different qualities and different characteristics.

- fabrics should be handled carefully;
  i. to keep them in good condition,
  ii. to make one feel a sense of enhanced well being

The process include:
Empty pockets
Why?
- to remove important documents and items of value,
- to remove harmful objects,
- to remove loose dirt off from articles

Repairing
Clothes are sorted according to
- fibre
- colour
- deyce of cooling,

NB:- washed separately
Testing of colour should always be done:

How?
By wetting part of the article, rinsing and squeezing in a white towel, if it is stained then the colour is not fast.

Soaking
Why?
- to dissolve some stains,
- to loosen dirt hence easy to come off,

NB:-
- woollens shouldn't be soaked because it tends to damage fibres,
- heavily soiled ones should be for 4 hours only because heavy dirt re-deposits on fabric during long soaking,
- handkerchiefs, should be separated and soaked in a covered bucket in salty water,
- NB:- salt softens and breaks down mucus making it easy to wash them.

Washing
- can be by hand/machine,
- is done using warm/hot soapy water according to type of fabric,
- dirt removed by friction/kneading and squeezing,
- attend to dirty parts/soiled parts first then rest of garment systematically

Rinsing
- it is for removing all traces of soap before airing,

Why rinse thoroughly
Insufficient rinsing causes:
- discolouration of garment due to action of detergent on it,
- skin irritation if garment is worn
- unpleasant smell,
- stains on clothes,
- fibres are damaged because they become course

NB:- rinsing should always be more than ones,
Always use correct washing temperature.

Processes that may be done during rinsing stage:-
- bluing
- starching
- fabric conditioning
- disinfecting

Wringing /removal of water
- it is for heavy articles e.g sheets, towels, cotton shirts etc.

Drying
- can be done indoors/outdoors on a clothes line.
- Done by (i) drying cabinets
  (ii) spin dryers
  (iii)clothes houses
  (iv)tumbler dryers etc

Disadvantages of indoor drying
- the warmed air used produces s steamy atmosphere,
- clothes lines should always be two; one under a shade another under the sun,
- should be raised from the ground to prevent soiling clothes,
- garments should be held on line by their strongest parts:
  (i) hem
  (ii) waist,
  (iii)straight threads downwards,
  (iv) the shoulder
- synthetic garments that require little or no ironing should be drip dried,
- woollens to be flat on towel/cloth or newspaper under a shade to keep them off dirt.

SPECIAL TREATMENT IN LAUNDRY
Treatment done to some fibres before drying include:
(i) Boiling - Too white articles to make the white
(ii) Disinfecting – done to clothings of the sick and children
(iii)Bleaching - done to whites to remove stubborn stain and to disinfect cotton and linen
(iv)bluing - to enhance colour of garments.
(v) starching - a) to stiffen/restore body,
b) to give a glossy finish that improves appearance
c) whitens whites
d) makes garments dirt resistant
e) keeps garments clean for long

Ironing and pressing
- done after washing and drying,
- restores fabric to its original appearance,
- results produced by careful combination of;
  i. temperature
  ii. moisture
  iii. pressure

Method used affects (i) appearance of garments/article (ii) durability of garment/articles.

Points to note when ironing clothes
- articles and garments should always be pressed immediately after drying,

- should be aired after ironing before storage,
  Reasons: (i) to get rid of moisture that causes mildew stains,
  (ii) to get rid of unpleasant odour
- recommended temperature should always be observed:
  (a) to prevent burning and damaging fabric
  (b) to achieve desired results

Storage

Points to note when storing clothes

- should be stored appropriately,
- should be protected from pest during storage,
- storage facility should always be away from sunlight so that garments don't bleach,
- they should not be in a damp area that can cause growth of mildew and rotting,
- should be classified during storage for them to be reached easily when needed,
- it should always be one that can protect clothes from dust and creases,
- check the facilities from time to time to review conditions of clothes stored.

LAUNDERING DIFFERENT FABRICS

Introduction

Definition of laundry

Refers to i) sorting
ii) mending
iii) soaking
iv) washing
v) rinsing
vi) drying
vii)finishing (ironing and pressing)
viii)airing and storing

Preparation given to clothes before washing

- sorting
- mending i.e replacing buttons, sewing hems, mending tears and seams,
- removing stains depending on type of garments,
- soaking - to wet garments
  - to soften dirt
  - to loosen it

NB:-

a) shouldn't last more than 24 hours to reduce bacterial action
b) heavily soiled to be soaked in warm water,
c) change water if they are to be soaked more than 24 hours,
d) soak different groups of garments separately.

Reasons for laundering clothes

- for them to last long,
- for the clothes to appear as neat as possible,
- to give confidence to the wearer,
- for hygiene purpose,
- for psychological reasons

Laundering white cotton and linen

Process	Method	Reasons
Mending	Mend torn parts e.g missing and loose buttons, turn pockets inside out, zip up zips if any	To prevent more tear during washing

Processes involve

i. mending (e.g torn parts, sewing missing and loose buttons)
   Why?
   a) to prevent more tear during washing,
   b) protect zip from spoiling,

ii. turning pockets inside out why?
   a) to remove documents and any objects especially children clothes
   b) to ensure thorough cleaning of pocket

iii. removing stains
   Reasons – prevent spreading of stain to other parts
   NB:- use right method for specific stain and fabric

iv. soaking
   NB:- - each should be soaked separately
   - should be in cold water not more than 24 hours,
   - soaking water to be changed if its longer soaking

   Reason for soaking clothes
   - to wet and soften the garment,
   - to loosen dirt and make washing easy

v. washing : why to remove dirt
   Procedure - pour out soaking water and wring,
   - use faction in soapy water,
   - double parts and very dirty parts to be started with
   - washing rest

vi. Boiling: why?
   - to whiten
   - to remove stubborn stains,
   - to disinfect,
   - to improve colour by removing colouration on some garment.

   Procedure - place in boiler/suitable container
   - boil for 10-20 min, keep turning time to time,

   NB:- boil innerwear, towels and fast coloured articles separately

vii. Rinsing
   Procedure - use warm water twice,
   - finally in cold

   Reasons for rinsing
   - to remove dirty soapy water,
   - to refreshen (using cold water).

viii. Bluing
   NB:- - each article should be blued separately,
   - never leave them in blue because it stains fabrics.

   Procedure: - put garment in blued water
   - squeeze out as fast as possible

   Reasons for bluing
   - to make whites whiter

- to brighten and freshen blue coloured clothes

ix. Starching:
Procedure: - soak and squeeze in starch solution of the right strength
Reasons: - to restore body/stiffen
- improve appearance (smoothen)
- to give a glossy finish (shinny)
- hence make them dirt resistant

x. Drying
- whites should be on the sun,
- pegs should be used,

Reasons - to remove moisture,
- to whiten

xi. Warm rinsing
- for loose coloured ones wash in soapy water,
- fix colour with salt,
- avoid friction and wringing,
- drying should be under a shade

Finishing whites, coloured cottons and linen
i. Damping
- water sprinkled evenly in small container using fingers,

Reasons for damping
- to remove creases easily during pressing,
- to spread moisture evenly,

Procedure - ironing double and thick parts w.s of garments parts to note when ironing,
- iron should face away from the body
- NB: right temperature should be used to avoid scorching/burning fabric
- sole of iron should be clean

ii. Airing
NB: should be done a place with free air circulation especially hot air,

Reasons for airing
- to ensure garments have dried completely,
- to avoid mildew stains,
- to refreshen

iii. Folding and storing
NB:
- should be done neatly according to type
- should be stored flat/hang with a coat a hanger

Reasons
- to prevent clothes from creasing and becoming untidy,
- to store them neatly,
- to protect from dust

WOOLLEN
- An animal fibre from sheep.

- It is soft and warm,
- Felts and shrinks, (mats) if not well laundered
- Yellowed by most household bleaches because its affected by alkaline substance
- Affected by high and low temperature.

Laundering wool

i) repairing (darning); to prevent tears getting worse during laundry,
ii) taking measurements; i.e size of garment/tracing outline on a large sheet of paper before washing Reason: to keep original shape
iii) stain removal; use a very weak solution e.g weak acid because this has little harm to it.

iv. Washing and rinsing

- shake off dust,
- prepare warm soapy water
- wash by kneading and squeezing while it is in the water and it should be as quickly as possible. Friction makes fibres shrink (mat)
- when lifting it should be bundled in the palm of the hand to avoid stretching it,
- rinse in warm water (till clean)
- add fabric conditioner in last rinse to freshen and condition fibres.

v. Drying

- squeeze out water by rolling in a towel,
- dry flat under a shade on a towel/blanket/newspapers; to prevent stretching,
- take measurements again to maintain original shape
- if changed pull and put garment to get original shape,
- tie lower part of sleeves and the ribbing part at waist; to prevent weakening because of sunlight
- keep turning as it dries.

vi. Pressing

- use warm iron and damp piece of cloth to:
  i) prevent from direct heat,
  ii) hot iron can scorch it,
  iii) to avoid pressing garment out of shape press it systematically,
- it shouldn't be excessive because it can spoil the natural elasticity of wool,
- It dark coloured finish from wrung side; why: to avoid glazing/shiny patches on the garments.

vii. Airing and storing

- should be thoroughly aired,
- folded and stored in a dry place; why;
  i) to remove any smell
  ii) to protect from moths and silver fish,
  iii) to prevent rotting

SILK

- Natural fibre from silkworms
- Is smooth and comfortable to wear,
- Easily damaged by alkaline substance and acids
- Difficult to remove perspiration stains,
- Weakened and decompositioned facilitated by sunlight,
- Weakened by strong detergents and high temperatures (garment discolour)

NB: can be laundered at home/dry cleaned

Laundering silk fabrics

i) repairing and removing of stains,

ii) washing: - use warm soapy water
- kneading and squeezing friction spoils the fibre
- squeeze extra lather on very dirty sections.

NB:- its damaged by acids and alkaline so use mild detergents.

iii) Rinsing: - rinse as for others (cotton and linen)

iv) Drying: - drying should be under a shade because:
a) it is affected by strong sunlight
b) if white it yellows under strong sunlight

v) Finishing: - use a moderately hot iron
- R.S – w. avoiding dampening; why; moisture leaves marks looking like stains.
- coloured to be finished immediately after drying to prevent scorching
- squeeze knitted silk in a towel to remove moisture and press.
- avoid ironing knitted ones; why; they tend to stretch out of shape

Airing and storage:-

i) should be at a place with free air circulation

ii) store well according to type

Reason: - to remove moisture
- to dry properly

Rayon

- it is a regenerated fibre
- from cellulose e.g viscose and acetate rayons

Viscose rayons

- absorbs moisture readily,
- dry cleans very well,
- not very strong when wet,
- damaged by acidic bleaches,
- sensitive to heat,
- damaged by twisting, friction/wringing,
- damaged by high heat,
- affected by acetic acid and acetone,
- affected by long exposure to sunlight, it is weakened

Laundering types of rayon fabrics

Procedure

a) Washing

- doesn't need soaking,
- use warm soapy water kneading and squeezing,
- rub lightly with open palm of hands,
- washing should be quickly and carefully,

NB:- friction damages it.

b) Rinsing

- use plenty of water,
- same temperature,
- use fabric conditioners to condition fabric for easy pressing,

- squeeze out all water

c) Drying
- done under a shade,
- roll in a towel if small stems and press,
- hand on clothes line if heavy and large to drip dry,
- if too heavy dry flat as for woolens.

d) Finishing
- iron while still damp; why? it creased badly and is affected by very hot temperature
- don't dampen if too dry instead deep in water and half dry it.
- Iron dark coloured ones on wrung side; why? to avoid shiny, dark patches on R.S
- air to dry completely

e) Airing and storing
- should be done thoroughly,
- protect from insects and dust

Synthesis fibre

e.g nylon
- are man made,
- are strong and resilient,
- elastics,
- resist alkaline substances, mildew stains and damage by insects,
- affected by strong acid substances,
- affected by sunlight
- whites don't retain the original white for long,
- can be heat treated e.g when pleating,

Laundering synthetic fibre

i) soaking
ii) Washing: - use warm soapy water (mild soap)
- kneading and squeezing
- squeeze after every rinse,
- rinse thoroughly in cld water
- avoid wringing

NB:- strong soaps discolour fabric, twisting and wringing damages the fibre and causes creasing.

iii) Rinsing: - squeeze and remove all traces of soap
iv) Drying: - should be on a hanger/clothes line (drip dry); why; to prevent heavy creasing
- should be under shade; why; yellow and rots if white when put direct on strong sunshine.
v) Finishing: - need little/no ironing because fabric doesn't absorb water.
vi) Airing and storing:
- should be thoroughly done;
why? - to remove excess moisture
- to freshen
- storage should be appropriately done e.g by hanging
why? - it has a slippery feel so is easily disorganized with slight to not/not enough it doesn't squeeze

Acrylic fibres (courtelle, acrilan and orlon)

- are warm.
- soft,
- suitable for cold weather,
- for blanket, sweaters, carpets and rugs mainly,
- are like fool in feel and appearance but have different properties,
- are light,
- resistant to heat and chemicals,
- are strong and hard wearing,
- wash and dry easily,
- can be dry cleaned safely,
- absorb little moisture so uncomfortable when worn during hot weather,
- they absorb perspiration

NB:-
- knitted acrylic should be drip dried under a shade,
- finishing should be with little/no ironing why – they stretch out of shape.

Laundering acrylic

1) Washing:
   - is in warm soapy water,
   - use a mild detergent,
   - take measurements as for wool
   - rub gently if very dirty

NB:- strong detergents and soaps discoloured it, measurements taken to prevent stretching

2) Rinsing:
   - use warm water thoroughly to remove soap traces,
   - final to be cold having a fabric condition

   Why? – to remove static electricity
   - to freshen garment
   - to reduce creases

3) Drying:
   - should be drip dried under a shade,

   Why?
   - garment drys quickly
   - it will require little/no ironing
   - strong sunlight spoils it,

   - hanging should be straight by thickest e.g hem, waists, shoulder,
   - use good quality pegs,
   - treat knitted ones as woolen to prevent stretching

Procedure of laundering silk, nylon stockings
- washing should be frequent because perspiration causes foot rot,
- incase of ladders they should be repaired temporarily,
- use kneading and squeezing in warm soapy water turn then repeat washing,
- rinse in warm water final cold,
- squeeze out and beat in towel,
- air on a clothes line if indoor place them evenly over a pulley/screen,
- keep seams straight,
- let them dry completely press it at feet and suspender tops using a very cool iron,
- air mend if tears occur during washing fold neatly in pairs,

NB:- attend to ladders immediately and don't fit suspenders tightly.

Cardigan pullover/sweater/shawl

The above are mostly knitted from wool/acrylic so treated as woolens.

NB:-
- laundering should be in warm water throughout,
- detergent should be delicate,
- take measurements as for wool before washing and when drying.

Procedure of washing:
- mend and take measurements,
- washing to be kneading and squeezing in warm water,
- rinsing twice/thrice in warm water,
- squeeze in towel to remove water that adds weight and makes garment pull and stretch them out of shape,
- spread on towel/old clean sheet/newspapers under shade on flat surface/ground, smoothen and straighten sleeves and garments,
- check measurements pull/tie to keep shape,
- leave under shade till dry,

Pressing
- a moderately hot iron should be used i.e temperature should be set appropriately,
- use a clean white cloth spreading on garment to prevent shiny spots,
- air, fold and store in a dry place,

Laundering baby's and children's clothes
- separate them during laundry and give special laundry because baby's skin is tender,
- take other health measures in account,
- soak in warm soapy water,
- use mild detergents (soapflakes, gentle liquids and powder soaps and wash in hot soapy water),
- rinsing should be thorough to remove detergent completely and boil for 30min,
- use special fabric conditioner e.g nappis and nappy fresh to make them soft and fluffy,
- they should be dried in sunlight for bleaching and disinfecting,
- they shouldn't be starched/blued,
- they should be dried and finished according to type,
- air and store.

Laundering woolen fibres
- avoid soaking because it will weaken and shrink,
- don't use rubbing/friction because it will stretch,
- avoid drying in the sun it causes breaking of fibres,
- don't starch it causes hardening and breaking of fibres,
- how water will make it shrink, harden and crease so acid it,
- it shouldn't be ironed because it will stretch and produce shiny patches on it,
- wool shouldn't be hang, since it will stretch and loose shape,
- avoid cold water when rinsing it felts and matts.

SPECIAL TREATMENT IN LAUNDRY WORK

Special treatment is treatment carried out regularly e.g
- stain removal,
- disinfecting,
- fixing of colour,
- starching,
- blueing,
- valeting,
- dry cleaning,
- sponging,
- fabric conditioning.

Reasons for special treatment

- specific attention is given to treatment required,
- gives one the opportunity of disinfecting clothes to prevent spread of diseases,
- preserves colour and appearance of clothes,
- garments and articles are handled individually
- because of their use some items require special attention e.g towels, handkerchiefs, overalls aprons etc,
- appropriate times and methods are chosen to handle specific cases,

Wash care labels
- they should be understood so that clothes are given correct treatment,
- labels are normally at
  (i) back of neckline
  (ii)side seam
  (iii)waist seam

Continental system of textile labeling signs and symbols

Suitable for white cotton and linen with no special families that need special treatment. E.g coloured nylon, polyester, cotton and rayon articles with special finishes acrylic/cotton mixtures, coloured polyester/cotton mixtures.

e.g silk, wool and printed fabrics with colours not fact at 40^0 with this care should be taken during washing.

Ironing symbols
- the iron symbol is used.
- The no of dots show the right temperature

a) . use a cool iron, approx 120^0 e.g polyester

b) warm iron approx. 160^0C e.g rayon

c) hot iron approx 210^0C eg cotton

d) don't iron

Drying symbols

1) drip dry

2) dry flat

3) hang on line

4) May be tumble dried

Treatment symbols

1) Bleach

2) Treat with chlorine

3) Don't use household bleach

Cleaning solvents

1) dry clean
letters A, P, F is for professional dry cleaners regarding type of solvent or agent to use.

2) Don't dry clean

3) May be hand washed

4) Don't hadwash

Stain removal

- It is a discolouration on fabric that cant be removed easily by normal washing method,

Rules in stain removal

- Should be removed while still fresh because they may become fixed and stubborn if they are not removed immediately,
- Use appropriate stain removal agent,
- Start with mild stain removers before using strong ones,
- Identify fabric and choose a suitable stain remover,
- Start from outside of stain to inside to avoid spreading of stain,
- Should be rinsed thoroughly to remove traces of agents from fabric that otherwise can damage the fabric if left to dry in them,
- Keep all agents away from children.

Stain removal agents

i) Bleaches

Two categories:
(a) Oxidizing bleaches
e.g - hydrogen peroxide
- sodium hypochlorite
- sodium perborate
- sunlight
They combine with stain to form colourless compound

NB:- fabric should be rinsed thoroughly after treatment.

(b) Reducing bleaches
e.g sodium hydrosulphate.
They change the stain into a colourless substances by removal of oxygen;
NB:- to get good results always follow manufacturers instructions.

ii) Grease solvents

e.g - acetone
- methylated spirit
- paraffin
- turpentine
- sodium carbonate
- carbon tetrachloride and benzene

NB:- are highly inflammable and others are poisonous. Therefore the following precautions have to be taken.

- work in an airy place,
- avoid inhaling fumes,
- avoid working near naked flames or lighting a cigarette,
- don't use more than the required quantities,

iii) Absorbents

e.g
- Blotting paper,
- Talcium powder,
- French chalk

They absorb stains white wet.
- Powder is dusted on stain them given time to absorb stain,
- Its then brushed off,
- Then rinsed,
- If blotting paper its placed on oily/greasy stain and pressed with hot iron till stain is absorbed,
- Garment is washed normally and rinsed,

PRINCIPALS OF STAIN REMOVAL

- For alkali stain user acidic agent e.g vinegar/lemon juice to remove iron rust,
- If acidic stain use alkali agent e.g Ammonia to remove fruit stains,
- If alcohol based used alcohol,
- Water based stains use water e.g distemper,
- If greasy/oil use soap and water/grease

- Stain on flooring materials, carpets and special articles, follow manufacturers instructions/involve a professional cleaner.

Handling of specific stains

Blood, egg milk (protein stains)
- Soak in cold water when fresh.
- Use enzyme washing powder,
- Rinse well a wash normally,

Tea, coffee, colour and other beverages
- If cotton a linen pour boiling water through stain immediately,
- Soak in warm soapy water,
- Use enzyme washing powder,
- For dried ones rub with glycerine,
- Soak in sodium bicabornate/borax,
- Rinse well,
- Wash normally.

Grass
- Use colourless spirit/surgical spirit,
- Rub it on stain/soak part stained in it,
- NB:- Acetone can also be used but not on acetone fibres because it can dissolve,
- Rinse well,
- Wash normally.

Oil, grease, fat, wax polish
- scrape off as much as possible,
- place blotting paper on it and below it,
- press with a warm iron,
- NB:-
- Or dip in grease solvent e.g turpentine or petroleum,
- wash normally,
- rinse well.

Ink/biro pen and ball point ink
- remove immediately,
- use a pad of cotton wool/cloth dipped in surgical spirit/any grease solvent,
- rinse well,
- wash according to fabric, or
- apply salt/lemon solution
- sponge using hydrogen peroxide if possible,

Banana stain
- rub with solvents e.g paraffin/turpentine while fresh,
- wash normally,

NB: if dry use a piece of lemon dipped in salt,
Pour boiling water on it,
NB:- The stain shouldn't be removed while fresh because it becomes stubborn when dry.

Chewing gum/bubble gum/tan
- use ice cubes/put in freezing compartment,
- scrape off the gum,
- rub with butter/lard,

- use carbon tetrachloride/other grease solvents,
- wash normally,

perspiration/scorch marks
- if cottons, linens and rayons, use sodium hypochloride bleach,
- if wool and silk use hydrogen peroxide follow this by potassium permanganate and oxalin acid,
- rinse well in cold water finally,
- dry on sun if possible,

Mildew
- bleach if possible by sodium hypochloride, if (cotton and linen) and hydrogen peroxide if wool and silk,
- rinse well,
- wash normally,

Paint (a) oil based
- use turpentine/turpentine substitute,
- rinse well,
- wash normally

(b) emulsion
- rinse in cold water/use surgical spirit,
- rinse well

Nail varnish
- use acetone/nail varnish remover

Laundry blue:
- soak in hot solution of lemon juice/vinegar (acetic acid) and water,
- ration should be 1 teaspoon: ½ litre of water
- wash,
- bleach in sun

Lipstick
- use grease solvents,
- work from W.S over pad of cotton wool,
- use a mild detergent to wash,
- rinse well

Beet root stain
- if wet use cold water to remove,
- for fresh ones use turpentine/paraffin,
- dry ones refer to tea stain, with bonak (sodium perbonate)

Medicines
- use white spirit (surgical spirit) or ethyl, alcohol for those that can't be washed by water,
- wash normally,
- rinse well,

NB:-
1) Before removing stains always test colour fastness
2) Garment shouldn't stay in the agent for too long because the fibres will be weakened

3) Test the effect of the agent on a hidden part of garment,
4) If the stain removal is on a small area, place over a pad of an absorbent material.

DISINFECTION
It is a treatment done on clothes to prevent spread of infectious diseases.

Method used:
i) Boiling
e.g cotton and linen
- NB: clothes should be washed first and rinsed to prevent dirt and stains being more fixed on garment.
- should take 2 to 30 minutes.

ii) Steaming
- steam under pressure is used to disinfect clothes,
- it needs special facilities so it is used only in institutions e.g hospitals, hotels, colleges etc.

N/B:-
- clothes should be washed and rinsed before steaming.

iii) Fumigation
- garments/articles are sprayed with chemical disinfectant/confined in a fumigated chamber for some time,
- N/B: chemical should be rinsed off after fumigation.

iv) Liquid disinfectant
- Most common in home laundry; why? because they are easy to use on all fabrics.
- A little disinfectant is mixed with water and garment put in the mixture e.g savlon, dettol, itzal, robberts etc.

FIXING OF COLOUR
Points to note when washing loose coloured garments and articles.

i) should be laundered individually so as not to stain other garments,
ii) should be washed quickly to prevent too much colour loss,
iii) shouldn't be soaked for same reason,
iv) salt and vinegar should be added to final rinsing water to fix dye and brighten colours,
v) should be washed by kneading and squeezing without wrnging,
vi) should be dried flat,

N/B:-
Colours can be revived using commercial preparations when they fade i.e tinting,

Def. of tinting
Reviving of colours using commercial preparations
It is done the same way as blueing e.g of articles that can be tinted include;
a) faded window curtains,
b) lined materials
c) other household articles

N/B:- **Points to put in mind when fixing/tinting colour**
- rinsing should not be done to articles/garments that have been tinted because the colour added is light,

- use an infusion of tea/coffee if a buff colour is required,
- if using commercial preparations follow manufactures instructions
- fabric should be clear before fixing colour,

STARCHING

It is used for;

i) keeping cotton and linen crisp and fresh
ii) making garment last for long

N/B:- it can be bought in

i. powdered form
ii. liquid form
iii.spray form

N/B:-

- always read instructions/directions given. ordinary powdered starch can be prepared in different strength to suit garments.
- It should not be used every wash day because the crispness from liquid plastic remains for several washes.

N/B:

Spray starch is good why?

- It is economical,
- It is convenient because the spray can be directed at particular part of garment that needs starching e.g
  a) cuffs
  b) collars,
  c) waistbands etc
- powdered starch can be prepared in two ways:

i. cold water starch
ii. boiling water starch

i. cold water starch

for (i) thin muslin articles
(ii)men's collars,
(iii)shirt fronts very stiff

Preparation

Ingredient
- 2 teaspoons starch powder
- 1 teaspoon boiling water
- ½ teaspoon borax
- ½ litre cold water

Method

- weigh starch and put into a basin,
- dissolve borax in boiling water in bowl,
- add cold water to this and pour it on starch,
- make a smooth paste,
- cover, leave for ½ an hour to soften starch grains,
- stir thoroughly before use.

Application

- knead and squeeze dry article to be starched in mixture,

- the starch grains will be absorbed into the fabric fresh,
- squeeze out,
- rub off grain from the surface using a brush/dry cotton clothe,
- iron immediately, use a clean hot iron quick movements over material.

Boiling water starch
- for different articles (Advantages)-
- dilution ratios can be varied to suit different laundry articles.

Preparation
Ingredients - 1 teaspoon of starch powder
- teaspoons of cold water
- approximately pint of boiling water

Method
- measure starch put in bowl,
- add 1 teaspoon cold water mix with a wooden spoon to a consistence of thick cream,
- add boiling water from fire straight stir constantly till a thick semi transparent colloidal solution if formed. (full strength starch for strong use)
- dilute immediately before if jells with same amount of warm water,
- cover and leave till needed

Application
- start with articles that need to be very stiff because it will be diluted each time an article is put in,
- approximate strengths of starch recommended for various items.

1) collars, stiff caps, hats.
   1 part start to 1 part water

2) Tray clothes
   1 part starch to 2 parts water,

3) Aprons, overalls, table mats and thin table linen
   1 part starch 4 parts water

4) Ordinary table linen, cotton dresses, blouses and shirts,
   1 part starch to 6 parts water

5) Very good quality linen damasks and garments which only need crispness
   1 part starch to 8 parts water.

Coarse damask table clothes, linen, tea cloths and pant blouses.

BLUEING
- Laundry blue is used in order to counteract the yellow tinge in white clothes that is caused by soap.
- It strengthens colour of blue clothes,
- Improve black colour in clothes.

Types:
i) solid

ii) liquid

- Liquid blue is not common because it tends to dye clothes.
- Solid blue is most common, it absorbs some yellow light making less yellow to be reflected hence fabric looks brighter.

Procedure of using
- put a lube in a small flannel bay or wrap with a piece of clean cotton cloth
- squeeze through water till denied colour is obtained e.g sky blue for (i) white clothes (ii) for also pale blue clothes
- darker shade for dark blue and black clothes.
- The blue should be put in final rinse water and garment should be immersed in water for a short time that has little vinegar.
- rinsing and reblueing can be done if necessary.

VALETING
- means simple dry cleaning that is done at home for garment and articles that don't need laundering.
- done to articles that are not frequently washed e.g fruits and jackets,

Advantages:
Saves money because garments are not taken to dry cleaners.

Dry cleaning
- it is a method used to clean fabrics in certain liquids which replace water.
- the dry cleaning solvents dissolve the dirt without affecting colour and other finishes on fabrics,

There is use of absorbents e.g
- French chalk,
- Fuller's earth,
- Commercial dry cleaning powder.

Grease solvents are used e.g
- Benzene
- Carbon-tetracchloride,
- Petrol

N/B:
Articles that can be dry cleaned at home are the ones that are small and not washable e.g
i) scarves,
ii) ties
iii) hat etc

Advantages of dry cleaning
- garments retain shape and size,
- dyes not affected so good for treating loose coloured articles,
- finishes not affected,
- woolen articles don't felt/shrink

Disadvantages of dry cleaning
- expensive,
- he dry cleaning solvents are highly inflammable so dangerous,

Dry cleaning small articles using grease solvents:

- should be in a well ventilated place to prevent from naked flame because vapour can make one drowsy/place can catch fire,
- pour selected solvent in a plastic container,
- shake/brush to remove dust,
- immerse article in solvent clean by kneading and squeezing hands in rubber gloves
- rinse in clean solvent,
- squeeze out hang to dry in the open for them to dry faster,
- press/iron according to fabric when dry,
- air and store,
- drain solution used from sediments, store appropriately,
- N/B:- avoid exposing solvents for too long because they evaporate very fast.

Dry cleaning with absorbents
- prepare a flat clean surface,
- shake/brush off dust,
- spread a thick layer of absorbent powder on dirty areas rub gently,
- leave for 15min for powder to absorb grease/dirt,
- brush powder from surface
- N/B:- light coloured articles that can otherwise be affected by dry cleaning.

Spotting and Sponging
A method of removing surface dirt without immersing fabric in water. Done on thick materials e.g woolfen or dark coloured ones.

Advantages
- It is cheaper thatn dry cleaning,
- No loss of colour as in nroaml washing,
- N/B: sponging solutions can be made at home; e.

i) plain warm water/with little detergent suits all fabrics,
ii) warm water having vinegar/acetic acid (1 teaspoon to one litre) suits dark coloured fabrics.
iii) 1 litre clean water warm
1 teaspoon fine salt
1 teaspoon clear vinegar
2 teaspoons household ammonia
Suits all fabrics.
} mixed

iv) 1ml salt
1ml white vinegar
1ml gum Arabic
Suits light coloured fabrics.
} mixed

Method of sponging a garment
- Prepare a flat clean surface,
- Shake and brush off loose dirt,
- Spread the garment on it,
- Dip folded cloth sponge on selected solution, squeeze out any excess,
- Clean a small area at a time, rinse each portion with sponge from clean warm water,
- Overlap parts cleaned to prevent leaving dirt on garment,
- Hang in an airy place to remove smell of the solution used and moisture,
- Press/iron garment depending on type air to dry,
- Spotting by grease solvent can be done if necessary.

N/B:- Ironing by steam iron gives very good results.

Advantages of sponging
- Economical money and time saved because clothes are not taken for dry cleaning often,
- Loss of colour especially for heavy or bulky garments reduced,
- It is easy to prepare the solutions at home,
- Fabric conditioners/fabric softeners used in final rinsing water.

Reasons/importance of fabric conditioning
- reduces wrinkling of garments and duration for garments and last for long,
- to prevent malting of woolens and pile fabrics e.g corduroy,
- to prevent static electricity and clinging of synthetic fabrics,
- to remove coarseness in flameless and toweling materials, to give a soft comforting feel,
- it adds extra moisture to synthetics that have little natural moisture,
- to refreshen the garments.

N/B:-
- use only the recommended amount because too much reduces absorbing of article,
- should not be poured directly onto fabrics but should be evenly distributed in the last rinsing water,

Examples of fabric conditioners
i) stir soft
ii) velvet touch
iii) sunlight

STORAGE OF CLOTHES AND HOUSEHOLD LINEN:
Importance of proper storage of clothes
- to keep them neat,
- clean
- free from grease,

Points to note
- ensure clothes are clean,
- clothes should be dry,
- well ironed,
- drawers should be well lined
- lining paper to be changed frequently,
- clothes should be removed from storage facilities frequently to air them to ensure freshness,
- shelves to be labelled according to type of articles stored,
- socks to be kept one inside the other to prevent misplacing,
- clothes have to be protected from pests e.g moths

Types of storage facilities
- built in wardrobes,
- chests of drawers,
- dressing tables,
- suitcases and bores,
- cupboards and drawers,
- bedsides cupboards

Improvised storage facilities
- hooks/nails fixed on a wooden bar on wall,

- a strong carton,
- a long wire/string fixed from one wall to another across the room,
- a movable wardrobe.

Choice and use of storage facilities
- should be lockable e.g wardrobes drawers, cupboards etc,
- drawers to be deep enough and slide and ease,
- it should not be one that exposes articles to direct sunlight and dust,
- the rod in wardrobes should be strong to stand the weight of clothes,
- should be clear and dry with smooth surfaces that are easy to clean,
- should be strong and durable with enough storage space,
- hangers to be smooth, durable and other padded for delicate garments.

Care: N/B: Each garment to have its hanger
i) if possible,
ii) similar garments to be in one section for easy removal,

(b) for neatness
iii) garments should be factored to keep shape and avoid slipping off,
iv) covering those not used frequently in polythene bags,
v) clothes should be stored in drawers, boxes, cartons after neatly folding them,

Built in wardrobe
Are built into the wall during construction of the house,
Are normally fitted with storage facilities for different garments,

Free standing wardrobe
- also filled with drawers and some have full size mirror fixed on door,
- it may have a shoe runk at bottom,

Chest of drawers
- For items of clothes that need folding, top part has 2 small drawers for articles like socks, underwear and handkerchiefs,
- Used in chest of chest of drawers or wardrobe,
- It is for storing folded clothes where there is limited space,

Cupboards and shelves
- some bedrooms have fitted cupboards and shelves used for storing bed linen and flat articles,
- some beds have drawers under mattress and bedside cabinets for storage

Sideboards
Table clothes can be stored in this found in sitting room/dining room,
Reason; For easy reach when needed

Kitchen cupboards
For storing kitchen clothes e.g
- dishcloths,
- tea towels,
- hand towels

Storage space above heaters
For bedline storage e.g

- Sheets
- Bedwarmers
- Pillowcases
- Towels

OTHER IMPROVED STORAGE FACILITIES:

1. Cartons

- Should be chosen with care i.e should be strong
- Used for storing flat items e.g towels, pillowcases, bed sheets, items required frequently.

NB:

- Clothes should be completely dry before storing in cartons.
- Well folded. It is because cartons have no ventilation.

2. A wheel/strong string fixed on nails driven in one wall of bedroom

Advantages:

i. Clothes can be aired
ii. Prevents clothes from wearing

Disadvantages:

i. They become dusty

Storing dirty clothes

- Should not be stored together with clean ones.
- Should be in a laundry bucket/carton
- NB: the bucket can be plastic/woven and should be kept in one bedroom.

Folding

- Flat articles eg bed sheets, tablecloths, pillowcases, towels, tea towels and small articles eg handkerchiefs, underwears, socks, etc.
- Should be folded and stored in a box.drawer/carton.
- Items should be neatly folded so as to occupy little space.
- Socks should be one into another

Folding a shirt

- Fasten all buttons lay shirt front on table.
- Fold sleaves towards the back.
- Fold shoulders also to back
- Fold along with of garment into two/three depending on length

Flat articles

- Bedsheets
- Chairbacks
- Towels
- Handkerchiefs
- Fold with sharp threads first
- Fold table cloth lengthwise

SEAMS

Def of a seam: A method used to join two/more pieces of fabric together. It can be functional, decorative/both seams can be worked on 2.5/3.5 depending on effect deserved eg when meant for decorative purpose its worked on 2.5 and a contradicting colour of thread can be used.

Types of seams

Are four types
- Open/plain seam
- French seam
- Machine fell seam/double stretched seam/overlaid/lapped seam

Seams are of categories:
- Inconspicuous seams
- Conspicuous seams

Factors that determine choice of seam

i. Types of fabrics
- If heavy weigh an open seam suits because it will avoid holiness
- If it's a slean fabric a seam that hides raw edges is suitable

iii. Use of garment
- Some garments require very strong seams because they are washed frequently eg nightdresses and children clothes
-

iv. Position of seam
- Some suit certain areas better than others eg overland seam attaching goves and panels in garments.
- French seam is not suitable for curved areas.

Points to consider when making seams
- For heavy materials make seams that are flat to avoid hollowness.
- Should be well neatened and properly pressed
- Machine tension should be correct to
- Stitching should be on the stitching line
- Should be flat seams and neat on both R.S & W.S
- For materials that fray seams that hide raw edges should be made
- The fell off seam should fall on back of garment
- Seams should have even width all through

Open seam (plain seam)

Used on outer garment eg sleeves, blouses, skirts and shorts
Made from medium weight or heavy fabric
Its inconspicuous when pressed upon result slow or R.S
Use suitable for transparent edges

Method of working
- R.S matching place 2 pieces of 1 fabric
- Pin and table along filting line
- Remove pins and machine stitch along filting line. Remove backing
- Open seam and press flat
- Turn one raw edges and neater seam

Neatening an open seam
- Loop stretching
- Edge stitching
- Overcastting
- Pinning
- Branching

Factors that determine the method of neatening

i) The position of the seam

- if on straight line the seam allowance should be pressed open and neatened separately,
- if on curved edge e.g armhole then they should be trimmed and neatened together,

ii) The weight of fabric

Edge stitching and some methods cant suit heavy fabric it makes the seam bulky,

iii) Type of fabric

Fraying material suit strong method of neatening that beat off raw edges.

Neatening by loop stitching

Suits light and non fraying materials.

Method of working

Measure 1cm from fitting line trim off excess fabric

- loop stitch edge

Diagram

To neaten by edge stitching

Suitable for non fraying materials of medium weight.

Method

- measure 1cm from fitting line,
- fold along 1cm from fitting line to W.S of seam turnings,
- tarts,
- machine 1mm from fold,
- trim excess turnings,
- completed seam allowance should be 1cm.

To neaten by overcasting

- suits all fabrics apart from the ones that fray.

Method

- Measure 1cm from full line,
- Trim turning press open,
- Overcast raw edges

Diagram

Procedure

NB: suitable for heavy and non fraying materials.

- measure 1cm from fitting line,
- trim the excess fabric with pinking scissors,

To neaten by bias binding

- suits medium weight fabric,
- NB: if heavy fabric light weight bias should be used,
- It is good for curved edges.

Method of working

- measure 1cm from fitting line, trim off excess materials.

- place R.S of garment seam allowance to L.S of bias,
- pin tack machine 2mm from the raw edge,
- turn binding to W.S of seam allowance fold binding it touch machine stitches,
- slip stitch binding in position

French seam
- for delicate and fine materials that fray,
- good for garments that need frequent washing e.g
  (i) children garments
  (ii)underwear of fine lightlight materials.
- not good for heavy weight fabrics because they are bulky.

Advantages
- it is strong as strain in wear is held by two rows of stitching,
- raw edges are completely concealed.

Method of working
- place w.s of fabric together, pin and back 0.6cm above stitching line,
- remove pins machine along fitting line,
- remove tacking trim off raw edges to 4mm.
- remove pins machine along fitting line,
- remove tacking trim off raw edges to 4mm,
- remove pins machine along fitting line,
- remove tacking trim off raw edges to 4mm,
- press seam open to remove grooves with toe of iron,
- finished fell should be 0.6cm,
- press fell towards back of garment,

Characteristics of a good French seam
- the width should be even,
- should be a correct width 0.6cm,
- should have a knife edge,

MACHINE FELL SEAM
Advantages
It is very strong strain is held by two rows of stitching, suits garments that need frequent washing
e.g - nightdress
- trousers
- underwears

No raw edges are seen because it is self neatened.
NB:-
- it can be on r.w/w.s depending on effect desired e.g on underwears it is worked on w.s,
- seams always stitched flat towards back of garment,
- can be functional/decorate if the threads contracts with fabric of functional thread matches the colour of fabric,

Methods of working
- place 2 pieces of fabrics w.s matching pin, tack and machine along f.l.
- remove tacking press seam open,
- trim front side to 1.5cm and back to 0.5cm,
- make small turning on front seam allowance of 0.2cm,

- told over back seam allowance,
- pin tack in place and machine 0.1cm from fold,
- the complete seam should be flat with two rows of stitching,

OVERLAID SEAM
- Both functional and decorative
- Most suitable for fixing yokes and panels in dresses and skirts,
- Mostly worked on r.s of garment,
- Abit strong because the 3 layers are held by a row of strong stitches,

NB:- should never be used to join 2 full parts
The part that is plain should always be the overlay and the one full should be underlay.

Method:
- Turn seam allowance to w.s along fitting line of overlay.
- Place folded edge of overlay over fitting line for the 2 fitting lines to be together.
- Pin and tack through the 3 thickness of fabric.
- Remove pins machine close to fold,
- Remove tacking, trim seam allowance to 1cm and neaten.

Methods of neatening
1. overcastting
   trim turning to 1cm and overcast edges together,

2. loop stitching
   trim to 1cm loop stitch edges together

3. binding
   trim seam allowance to 1cm. attach bias binding over both edges and machine.

4. self binding
   trim turnings of underlay to 6mm,
   trim turnings of overlay to 1.3cm,
   make a small turning 0.2cm to w.s of overlay,

- fold over narrow turning for fold line to touch line of machining.
- remove pins hem it in position,
- finished with should be 1cm,
- this method suits light weight materials

PATTERNS AND GARMENT CONSTRUCTION
Reasons for using patterns is to:
5) ensure
6) they help save time,
7) save fabric,
8) give accuracy

- Patterns may be selected in relation to type, size, style and design. They can be drafted/commercial paper ones.

Choice depends on

- correct fashion,
- season,
- weather conditions
- purpose/use
- figure type

Commercial paper patterns

Are produced using standard body measurements.

- The measurements are based on standard body figure and where figures deviate from the standards attention are done to produce well fitting patterns.

- Start on standard body measurements
- Misses 1.65cm – 1.65cm height without shoes.

Size	6		8		10		12	
	In	cm	inc	cm	inc	cm	inc	cm
Bust	30.5	78	31.5	80	32.5	83	34	87
	23	88	24	65	25	64	26.5	67
	32.5	83	33.5	85	34.5	88	36	92
	15.5	39.5	15	40	16	40.5	16.25	41.5

Draw table 2, 3, & 4 pg 103

NB:

1. misses is for well developed figure and proportionate in all areas,
2. young junior/teenagers; for young woman bust and waistline larger than bust

Choosing commercial patterns

- factors to consider when choosing commercial patterns,
- measurements should correspond with one's body measurements, is less for measurement, waist and hips
- should be of current fashion,
- style should suit figure type,
- should have one/more styles/views,
- if one is a beginner should choose simple patterns having simple sewing notions,
- patterns envelope should have pattern pieces, contain measurements, materials to purchase and sewing notions,
- the envelope should have an instruction sheet showing steps of constructing the views.

Body measurements

- it is important to take body measurements correctly so that garments can fit well,
- when fitting garments one should know the shortcomings of ones figure and it is good points,
- the garments should highlight good features and hide faults,
- to get accurate body measurements one should dress simply when being fitted,

Measurements normally taken

Bust

- take fullest print of bust and 2 fingers need to be placed between body and tape measure for ease,

Waist

- it is found waist with 2 finger placed between body

Hip
- tape is placed around fullest part between 18cm and 23cm from waistline depending on height of one.

Back length
- from nape – centre back of waist line,

Shoulder length
- from neck to edge of shoulder
- full shoulder length is taken from edge of one shoulder edge of other shoulder over nape.

Back width
- 10cm down from nape over the shoulder blades from armhole to armhole.

Shoulder to waist
- Place the tape on shoulder close to neck over the high bust/chest to waist line,

Chest width
- It is midway between high bust/chest and shoulder line across from arm hole to arm hole

Outer width
- Allow a bent from edge of shoulder to waist.

Inner arm length
- From armhole underarm to wrist with the arm outstretched at an angle of 45”

Round armhole
- At edge of shoulder round the upper arm giving enough allowance for ease of movement.

Wrist measurement
- It is at wrist around wrist bone. It is important to ensure the size of buff is neither too wide nor too tight.

Skirt length
- Determined by taste and fashion.
- Measured from waistline at back downwards but if figure is full should be from side and front from waistline.

Diag pg. 106

Figure type in classes
- Tall and plump
- Should reduce height and fullness,
- They suit small designs vertical lines and skirt plus blouse outfits
- Shouldn’t wear tightly fitting flared skirts and bright fabrics

Short and plump
- short outfits that give an illusion of height to make figure appear slimmer,
- they also suit small prints and vertical lines,
- they should avoid clothes from bulky fabrics and twice with a lot of fullness at waist,
- avoid contracting broken outfits and wide belts because they tend to reduce height and add width.

Tall and slender

- should be styles that add fullness and reduce height,
- horizontal liens suit because they make a figure appear less tall and full,
- fabrics new suit because they add fullness and reduce height,

Short and slim
- it is a figure called petite,
- fabrics and styles that add width and height suit,
- very larger patterns, wide belts bangles, boots, watches, buff links and bouties don't suit,
- contracting broken outfit having vertical/horizontal lines also don't suit, they make a figure smaller,
- slim gently flawed skirts, smooth fabrics with small prints suit,

Heavy hips and large bust
- avoid shiny fabrics,
- avoid pockets because they enhance the bulky look,
- clinging ones are not suitable instead one should wear vertical lines and plain necklines with little accessories,
- one should also avoid bulky fabrics with fullness.

Average figure
- it is a standard well proportional figure or standard figure that looks nice in almost any style,
- commercial patterns are bread on standard body measurements so one has to make alterations to suit them.

Pattern symbolic and markings
- are markings found on commercial and drafted patterns,
- they act as guides to the worker when laying, cutting out and joining and making the garment,
- they should always be transferred to fabric if good results have to be achieved,
- examples of pattern markings

Grain
- lengthwise/crosswise threads in a fabric,
- Lengthwise threads are referred to as warp,
- Cross wage are wefts.

Selvedge
A narrow firm edge on both lengthwise finished edges of a never fabric.

Bias
Any direction away from true straight lengthwise/crosswise threads,
True bias runs diagonally to warp and weft.

Symbols used on patterns

1. ↔ Straight line
It is placed to run parallel to warp/weft,

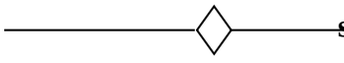
4) place on fold
Arrow points the fold of fabrics,

5) ← cutting line
It is thick outer line. Sometimes has a symbol of scissors

6) .. Alteration line
Its man to lengthen/shorten

7) ←←← direction of stick

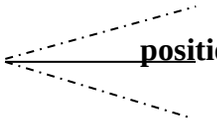
8) ─ cutting line
Stitching line _____ seam allowance

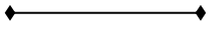
9)  **straight line**

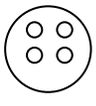
 **double stitch**

NB:- sometimes numbered to be matched with corresponding notch, on another piece, e.g back notch and front notch on a bodice.

NB:- also called balance marks. Are always cut outside.

10)  **position of dart**

 **position and size of buttonhole.**

 **position and size of hem**

 fold line

 **direction of stitch**

 **position and size of zip**

Drafting and developing patters for an apron
- Used for protection of clothing e.g in kitchen cooking, when cleaning the house, doing laundry work etc.
  NB:- the fabric must be firm to stand frequent washing.

Materials suitable
- Printed jinja
- Plain jinja
- Poplin
- Khaki/denim for heavy duty ones,

Designs of aprons - two piece
- 1 piece

Assign pg 110-112 - short type

Preparations of fabric and cutting out.
- Pressing because creases can lead to wrong measurements and poorly drawn pattern,
- Checking the grain by folding fabric selvedges together and weft edges should lie flat and even,
- Pulling fabric in opposite direction of off grain start to gain, checks/stripes can be used as a guide,
- Pulling a thread across the fabric to ensure edge is straight,

Rules for pattern layout and cutting out
- ironing pattern pieces before laying out on fabric,
- following the layout diagram with fabric folded length wise R.S facing selvedge together,
- grainline should always be parallel to selvedge,
- all corners and curves should be pinned accurately for pattern pieces, not to move out of place when cutting,
- work should be held firmly and cutting should be with long strikes and no tying of work,
- all patterns markings needed for garment and should be turning for accurately,
- pattern pieces should be removed carefully folded and kept in an envelope,

diag

Method of transferring markings
- carbon paper and tracing wheel,
- long and short tacking using constructing coloured thread,
- tailor tacks,
- thread marking,
- tailor's chalk

Assign: Pg 113-114

FOOD NUTRIENTS AND NUTRITIONAL DISORDERS

Def of food

Any liquid/solid that can be taken by man to provide energy and supply the body with materials that are to build and repair tissues.

NB:- the ingested substances that are not absorbed by body are called wastes,

Nutrition

A process by which the body obtains food/nutrients, digest modify them and utilize them to make the body healthy. Absorption and assimilation of these substances by body in alimentary system is called **metabolism.**

the process includes disposal of waste matter through secretion and excretion.

Food nutrients

Food is classified according to its nutritional value/its function the body.

Categories

Proteins – body building foods
Carbohydrates – energy giving foods
Vitamins & minerals – protective foods.

Proteins

Are cupboards of carbon, hydrogen and oxygen. Have nitrogen, sulphur and ammonium,
- have approximately 22 different amino acids, each protein food is different from the other because of the amino paid present out of 22 ten are for growth and repair of worn out tissues. Adults need only 8 of them, children require 10
- non essential amino acids are synthesized by body from those supplied by food,
- enzymes of proteins

Complete / first class proteins
- also called proteins of high biological value,
- are from animal sources, e.g meat, eggs, milk and cheese,

NB:- only plant protein with essential amino acids.

Second class proteins
Are plant protein – don't have all essential amino acid. Most are obtained from (i) pulses i.e dry edible, leguminous pod seeds e.g
  - peas
  - beans
  - black/green grams
  - lentils etc
- nuts are also under second class proteins.

NB:- it is important for one to eat both animal proteins and plant proteins for the body to be supplied with good quality proteins.

Functions of proteins in the body
5) for growth and repair and replacement of work to tissues
   form a major component of body muscles, brain and body fluids.
6) provide energy in absence of energy
7) prevent kwarshiokor

Major sources of proteins (animal source)
- Beef,
- Poultry,
- Fish,
- Fowl,
- Milk,
- Cheese etc.

Others include insects e.g termites, locusts and grasshoppers

Plant source
Soya beans
- All pulses,
- Nuts i.e peas, beans and lentils, black beans (njahi), simsim, peanuts, cashew nuts, monkey nuts etc.

Effects of heat on proteins
- when exposed to heat they coagulate and denature if too high, coagulation – process varies from one protein to another. e.g egg white coagulates before you at high temperature. It too high heat is used, the protein toughens, becomes shrunken and rubbery and less digestable.
NB:- Moist heat makes collagen to change to gelatine hence becomes tender and soft.
- dry heat melts fat and causes extraction of juices that give the taste of roast,
- earthen heating denature, proteins making it hand and indigestible,

Protein foods:
Milk
Food value of milk

i) has 2 protein - lacta/bumin and
- caseinogein
Small traces - lactoglobilin

NB:- it is called a perfect food because:
5) it is very nutritious
6) contains all necessary nutrients in correct proportion,
7) has not waste,
8) it easy to digest

ii) has fat (cream) that is easy to digest so good for children, side and elderly,
iii) carbohydrates i.e in form of sugar.
a) lactose has no sweet taste and not fermented by yeast
iv) minerals i.e calcium
potassium
phosphorous
v) Vitamins A, B_2 (riboflavine), B (thiamine) little amount and nicotinic acid.

NB:- lacking ones are C and D but are syndclined by the cows during sunny weather.

Average composition of milk
Protein 3 to 3.5% per litre,
Fat 3.5 to 4.5%
Sugar 4 – 5%
Minerals 0.7%
Water 87% - 88%

Types of milk
Fresh milk
This milk forms a thick layer of cream when left to stand homogenized.

Pasteurized milk
Its milk that has been subjected to temperature $63^0 – 66^0$ held there for 30minutes then cooled rapidly very fast.

Ultra heat milk (UHT)
- can last for long,
- it is homogenized (pasteurized milk is passed/forced through fine compartments under pressure. This breaks up fat globules finely distributing them throughout in milk. The milk never forms the cream line and milk is easily digested, treated to 35^0C for 1 second it is cooled and packed.

Advantage:
- milk lasts for long time.

Powdered milk
Milk (fresh) is sprayed on a very hot stainless wall so falls as powder.

Evaporated milk
Fresh milk is boiled to remove water leaving concentrated milk twice, strength of normal milk.

Condensed milk
Milk is boiled to remove water and sugar added to give a thick syrup and kept in sterile tins.

Milk products

Cream
Cream is removed from milk and sold can be single cream/double cream.
Butter
- from milk fat,
- served with carbohydrates foods e.g bread scones baked potatoes, boiled maize etc;

NB:- should always be in a cool place if kept for long it becomes rancid.

Cheese
- it is from soured of sour milk,
- milk is curdled by use of lactic and producing bacteria,
- cheese is most concentrated of all protein,

Types
- hard cheese (cheddar)
- soft cheese Danish hive,
- lean cheese from skimmed milk (Dutch cheese),
- cream cheese from cream, any always soft and doesn't keep for long
- processed cheese

Food value of cheese
- proteins (high biological value proteins),
- fatty acids that add flavour to it
- phosphorous,
- be eaten with a starchy food and should be chewed thoroughly,
- it should be crated before putting on salads/ starching foods

Effects of heat on milk
Boiling spoils flavour,
It slightly reduces food value,
NB:_ it readily boils over because of the skin that forms when milk is exposed to heat

Uses of milk;- making
i) sauces e.g custard sauce, white sauce,
ii) baltas, beverage e.g milk tea, coffee etc
iii) enriching foods mashed potatoes, puddings

Meat
- it is flesh from animals and birds.
- Internal organs meat is called offal
- Intestines are called tripe

Sources of meat
- Ox and cow - beef
- Sheep - mutton
- Lamb - lamb
- Pig - pork when salted and smoked it is bacon
- Calf - veal

- it is flesh from animals and birds.
- Internal organs meat is called offal
- Intestines are called tripe

Pork

Qualities

- flesh should be pale pinkish,
- finely grained,
- should have smooth fat that is white and slightly oily,
- should always be used when fresh

Methods of cooking meat

- roasting and baking suits wing rib, side rump steak, beef steak and top rump,
- boiling and steaming tough cuts of meat e.g shoulder, neck, silverside,
- offal – internal organs e.g liver, kidney grilled.
- Rabbits – rabbit
- Game – animal/blood protected by game law (Game meat)
- Poultry – chicken, ducks and turkey

Food value of meat

- problem first class protein,
- fat,
- Vit. B group riboflaxim and nicotinic acid,
- Thiamine (little)
- iron, phosphorous and calcium,
- water 60% to 75%,

Structure of meat

- lean meat form the muscle,
- it consists of little bundles of very fine fibres,
- fibres are filled with water,
- extractives that give meat the flavours;

care: (i) mineral salts
(ii) proteins

Elastive makes up the walls of/little tubular fibres

- it is yellow and brown as tendon,
- fat appears in little globules in fibres,
- amount of fat depends on type of meat,

Quality of meat;

Refer to tenderness/toughness of meat.

Factors that determine quality

- length of fibre,
- thickness of fibres,
- amount of coactive tissue,
- the age of animal,

the older the animal the tougher the meat.

NB:-

- beef from shin and necks is tough, loin is tender,
- breasts of chicken is tender, legs are tough,

NB:- toughness is reduced by hanging when animal is slaughtered freshly, myocin (soluble protein) slots and becomes insoluble,

- rig or mortic (stiffening of muscles takes place immediately an animal is slaughtered causing meat to toughen.

This condition reduces after a few days because acids and enzymes are produced hence soften meat making it tender and flavour is also improved.

Methods of softening meat before cooking

i) beating with a rolling pin/steak hammer, it crushes fibres and reduce stringiness,
ii) dipping in lemon juice/vinegar or adding to cooking liquid,
NB:- tomatoes can also be used to add in liquid. The acid in the lemon/vinegar changes connective tissue collagen to gelada,
iii) rubbing surface of meat with fruit extract/sap of pawpaw,
enzyme papain in it works like the enzymes in the digestive tract

NB:- papain can be bought in liquid form or granular form.

Recognition of good quality meat;

Beef

- firm and smooth to touch,
- if lean meat should be a good red colour and should have small fibres,
- cream fat with fresh smell,
- if from an old animal should be darker in colour

Mutton

- red texture fine and firm to touch, white fat and tender

Lamb

- same as mutton but bones should be small,
- flesh should be light coloured,
- finer grains.

Pork

- pale and pinkish in colour,
- finely grained,
- smooth fat that is white and slightly oily,

NB:- should never be reheated because it becomes poisonous, should always be used when fresh.

Assign; drawing cuts of meat

Method of cooking meat

i) prime cuts of meat – roasting and baking e.g wing ribs, ribs, sirloin, rump steak, beef steak and top rump
ii) tough cuts e.g neck – boiling and stewing, shoulder and silverside,
iii) offal (internal organs) – grilled, fried and stewing e.g kidney, liver

Effects of heat on meat

- fat melts,
- proteins coagulates,
- meat becomes firmer,
- colour changes from red to brown,
- elastic of muscles and fibres contacts and squeezes out juices hence meat shrinks,
- the juices give roasted/grilled a coating (burn) that makes it tasty and appetizing,

- if moist these juices run into the cooking liquid so all soluble vitamins and minerals are retained in it.

NB:- it is good to use the liquid used for cooking because it is nutritious e.g serving it or using to prepare other dishes e.g soups and gravy,
- Further cooking changes collagen to gelatine that is easy to digest.
- Overcooking makes it dry because the protein are denatured,

Reasons for cooking meat
- improve appearance,
- to make it more digestible,
- improve flavour,
- kill germs,

Assign: pg 124-127

Fish
- fish must always be eaten fresh because the flavour deteriorates very fast,
- flesh has muscle fibres that vary in length and thickness according to type,
- it has short and fine fibres compared to beef,
- the fibres are packed together in flakes and has little connective tissues,
- fat is distributed in fibres.

Types of fish
Classes
i) non fatty/white fish e.g tilapia, kingfish, fat is stored in liver,
ii) oily fish – fat is distributed in fish e.g Nile perch, sandiness, salmon etc
iii) shell fish – e.g crabs, oyster, lobsters, shrimps and prawns,

Food value of fish
- proteins - first class proteins

Factors to consider when buying fish
NB: Form of fish
- fresh,
- frozen
- canned,
- smoked,
- sundried

i) should be bought on the day it is to be cooked,
buy frozen, dried/smoked
ii) should not have unpleasant smell,
iii) should have bright eyes, moist and sunken,
iv) scales should be plenty, shiny and moist,
v) firm flesh and moist,

Reasons for cooking fish
- to conserve,
- to add to its natural flavour,

- to prevent it from falling apart

Steaming whole fish
- soaking for a few minutes using cold water for scales to loosen,
- removing scales with a knife,
- splitting, underside of fish,
- internal organs and cleaning thoroughly

Methods of cooking fish

i) Grilling

Used to conserve the flavour of fish, suits whole flat small fish,

NB:- points to consider when grilling.

ii) Grill should be moderately hot,

iii) Fish should be turned ones to prevent it from breaking

Moist methods

Shouldn't be boiled because most flavour is lost. It also flakes easily.

Steaming

Avoid perforated steamers unless fish is wrapped in aluminum foil, why is because are lot into water below. Instead use 2 plates on top of boiling water

Poaching
- Fish is cooked in very little liquid that has salt lemon juice/vinegar, omo and spices

NB:- top should be basted as liquid simmers.

Frying:

Reasons
- juices are sealed in,
- flavours are sealed in,
- foods don't burn,
- to add nutrient,
- makes food have a crispy texture

NB:- Fat should always be drained for it not to be absorbed by the coating.

Effect of heat on fish

i) the liquid protein coagulates at $60^0 – 70^0$ ($140 – 160^0$F),

ii) the juices are squeezed out at 70^0C:

NB:-

It takes a short time to cook because

It has small amounts of connective tissue,

iii) it cooks very fast if it is in moist heat,

iv) overcooking makes flakes fall apart,

v) juices run out,

vi) fibres dry and toughen (protein are denatured)

Eggs

Food value of eggs
- has a shell that is made of inedible calcium carbonate,
- it is lined with a tough white,
- a white string like membrane i.e chalaza suspends it in the egg white.

Consumption of an egg

i) **Protein 16%**

White 13%
Whole egg 15%

ii) Fat

32% in yolk
8.28% in egg white
Whole egg 10%

iii) Minerals 1% in yolk and whole 1% while has 0.75%.

Nutritive value

a) Proteins
- vitellin,
- livetin

has all amino acids, therefore egg yolk is most valuable of all proteins.

b) Fat

Finely emulsified is in digestible form.

c) Vitamins

A, D, B(thiamine) B_2 (riboflavin, nicicin traces)

d) Minerals e.g sulphur, calcium phosphorous and iron,

e) Water 75% of egg.

NB:- no carbohydrates present.

Testing for egg freshness

NB:- An egg remains fresh for 3 weeks. It depends on how it is stored because its shell is very porous. When an eggs stays for sometimes. Water evaporates and air fills the air. This makes the egg light. If fresh it sinks when dipped in water.

Breaking on a saucer
- When broken a fresh one has the yolk standing up while is thick with only a narrow border,
- One that is not fresh has the yolk flattening when broken and mixing with white because as the egg stays the membrane around yolk weakens hence cause it to spread,
- When broken if egg continues to stay longer it is consistency thins,
- Stale smell
  The egg has an unpleasant smell when broken

Storage of egg
- Should be kept with rounded and uppermost,
- if on the side the chalaza is overstretched so forces yolk to rest on shell so it makes the egg to decomposer factor.

Uses of eggs in cookery
- as main dish e.g fried, crumbled egg, curry etc,

- thickening agent eg. When making sauces, custards and puddings its because, the egg protein coagulates when heated so thickens the mixture,
- for glazing e.g dinner rolls, scones pastries and breads to give a golden brown crust,
- for garnishing e.g salads cooked vegetables etc,
- binding agent,
  e.g meat and meatballs,
- coating agent
  e.g fish, chicken coated with bread crumbs to prevent food from breaking/absorbing oil,
  to enrich other dishes e.g porridge,
- as an amulsifier e.g in mayonnairre

Effects of heat on eggs
- albumen becomes opaque and firm;

NB:- it dissolves in cold liquid, firmness degree depends on heat degree and length of cooking time.
- Egg white hardens faster arm yolk because of liquid % of fat in yolk.

PULSES AND NUTS

Pulses
- Nutritive value (i) proteins
  (ii) calcium
  (iii) Iron
  (iv) group to vitamins

NB:- lack of Vitamin A, Vit C and fat

Points to note on pulses
- must always be soaked before cooking,
- soaking water should always be used for cooking,
- soda should be put in soaking water to soften skin,

NB:- they are normally used in place of meat

Nuts

Food value
- proteins
- fat (high proportion)
- carbohydrates (little)
- calcium and iron,
- Vit. C
- thiamine

CARBOHYDRATES
- are complex substances of carbon, hydrogen and oxygen
- constitute $^{2}/_{3}$ of food in our diet,
- are quickies and enzymes digested,

NB:- are changed chemically to simple sugars for item to be absorbed in the blood, amount required by individual depends on

i) age
ii) body size
iii) amount of work be done

Carbohydrates occurs in food in form of starch and sugars. Excess of it is changed to fat for future use.

Carbohydrates		
monosaccharide	disaccharides	polysaccharides
examples	examples	starches
glucose	sucrose	cellulose
fructose	lactose	
galactose	maltose	

Monosacharides/simple sugars
- simplest form
- all digested carbohydrates are converted into simple sugars that can be absorbed into the blood,
- it is done through the villi e.g small

Examples
- glucose/dextrose found in ripe fruits and are

glucose
- its amount is controlled by insuline from pancreas,
- inefficiently of insulin can lead to diabetes,
- it's a source of energy so its normally given to invalids and athletes,

NB:- can be extracted from starch commercially to be used for making sweets.

Fructose

Sources (i) honey
(ii) fruits
(iii)plant juices

Similar to glucose

Galactose
- formed during digestion of lactose found in milk sugar

Dissacliaride/double sugars
- has 2 monosaccharides,
  for dissacharides to be absorbed during digestion they are broken into 2;
  e.g sucrose
  from (i) sugarcane
  (ii)fruits

NB:- has 2 sugars glucose and fructose:

Lactose:
- its milk sugar,
- its not so sweet,
- it's a combination of glucose and galactose

Maltose
- sources from germination of barley grain,
- has 2 sugars glucose and glucose,

Polysaccharides
- more complex than disaccharides,
- are insoluble in water

  e.g (i) starch
  (ii) glycogen
  (iii) cellulose

NB:- during digestion the starches are broken into simple sugars.
Cellulose is never broken down but it acts as roughage in humans.

Starch:
Found in ;
- cassava
- yams
- arrowroots,
- cereals
- pulses

Heatrine
- when exposed to heat starch changes to dextrine that is sweater

e.g
- Toasted bread,
- Breakfast cereals (cornflakes)
- Crusts of loaf
- It is also more soluble and digestable. Toasted bread is more digestable than untoasted.

Glycogen
- it is from animal carbohydrates.
- Glucose is normally changed to glycogen for storage in liver and muscle tissues,
- It can again be changed to glucose for use,

Cellulose
- most complicated form carbohydrates,
- it has very mary sugar units,
- its not digestible so only acts as roughage but not food,
- it is only digested by herbivorous

sources of cellulose
- skin of framework of (i) fruits (ii) vegetables

Functions of carbohydrates in the body
i) to produce heat
ii) assist body use the nutrients,
iii) regulates body processes

Sources of carbohydrates
- cereal grains,
- starchy roots and tubers,
- sugar cane
- beef sugar,
- beat sugar,
- sweet potatoes etc

Effects of heat on carbohydrates (moist)
- absorb moisture when exposed to heat swell and burst,

- gelatimize on further heating,

NB:- heat softens cellulose,
- sugar melts and forms a syrup turns to caramel,
- continuous heating makes it to chain.

Dry heat on carbohydrates
- starch is changed to dextrin e.g bread,
- further heating makes dextrin to chain,

Effect of cooking on sugar;
- it forms a solution in liquids that form syrups when the liquid evaporate,
- if with no liquid it melts,
- colour changes to brown i.e caramelizes,
- overheating makes it to chain and become bitter with unpleasant flavour,

Fats and oils
Sources
From - animals
- plants

Made up of carbon, hydrogen and oxygen. Fats have may fatty acids mixed with glycerol. The fatty acids give them the flavour and solid a liquid state.
e.g of the fatty acids
- stearic and palmitic acid make them hard,
- bortyric acid gives flavour
- oleic acid makes it soft/liquid,
- caprylic acid gives flavour to gouts milk

NB:- excess fat is always deposited around internal organs e.g heart, kidney and below skin.

Functions
- provides energy for the body,
- one stored under skin acts as an insulator i.e keeps body warm,
- protects internal organs from physical harm,
- improves palatability food and satiety individually and separately,

Sources
Animal fat eg – dopping, bacon from meat
- fish liver oil
- flesh of oily fish
- eggs from yolk

Vegetable fats
- olive oil
- corn oil
- nut oil
- coconut oil

NB: fat should be taken with carbohydrate food to make it easily digestable e.g bread, butter cheese.

WATER
Its ¾ of body weight
Functions

- Formation of all body fluids
- Helps in excretion of waste materials from kidney and sweat
- Maintains body temperature by perspiration
- Helps in digestion and food absorption

NB: Should be replaced everyday because its lost on daily basis through sweat and wastes

Sources

Water
Drinks
Beverages
Fruits
Vegetables
Foods

VITAMINS

Are for normal metabolic and growth. Must be provided in the diet because the body even manufacturers them apart from vitamin D

Classes

i. Fat soluble, ADE
ii. Water soluble B&C

Sources

- plant
- animal

Vitamin A

Its fat soluble and not lost in water. its destroyed through oxidation on exposure to air
Thos process changes it to a useless compound Vitamin A is stored in liver, kidney and adipose tissues in animals and humans.
Vegetable fat has no vitamin A but it's always fortified (added) during manufacture

CLASSIFICATION OF CARBOHYDRATES

1) Monossaccharide/simple sugars

They are the simplest digestion they are always converted to simple sugars absorbed in the blood; through villi of

- Small intestine

e.g

- Glucose
- Dextrose

N/B:- naturally found in (i) ripe fruits
(ii) vegetables (some)

- Fructose
- Galactose

Glucose

- the amount in blood is controlled by insulin that is produced from pancreas,
- lack of insulin causes diabetes,

Functions

It is a source of energy, so mostly given to invalids and athletics

N/B:- it is also from starch (commercially) attracted to make sweets.

Fructose

Sources: (i) fruits
(ii) honey
(iii) plant juices

Galactose

- formed during digestion of lactose a sugar in milk.

2) Disaccharide / double sugars

Has 2 monosaccharides.

During digestion its broken into two for easy absorption.

Examples:

- Sucrose

Sources

- Sugar cane
- Beef root
- Fruits
- Some vegetables

Has two sugars (a) glucose,
(b) fructose

Lactose

It milk sugar that is not sweet

Sources

- milk,
- has 2 sugars (i) galactose
(ii) glucose

Maltose
- has 2 molecules of glucose

3) Polysaccharide
They are more complex carbohydrates
- they are not soluble in water.

Examples
i) starch
ii) glycogen
iii) cellulose

after digestion starch and glycogen are broken down to simple sugars but not cellulose so it just acts as roughage.

i) Starch
Sources:
Cassavas
Roots
Potatoes
Arrowroots (tubers)
Seeds e.g cereals and pulses

- when starch is heated it changes to dextrine that is sweater;
  e.g (i) toasted bread
  (ii) breakfast cereals (cornflax)
  (iii) crusts of loaves etc

It is more soluble than starch

Glycogen
It is glucose that has been converted to glycogen to be stored in liver, muscle tissues,
- can be converted to glucose for use again by the body

Cellulose
Most complicate carbohydrates
- has loose of sugar units,
- acts as roughage because it is indigestible,
- only digested by herbivores animals;

Sources
Skin of framework of (i) fruits
(ii) vegetables
(iii) cereals

Functions of carbohydrates
i) production of heat
ii) production of energy
iii) assist body in using the nutrients
iv) regulate body processes

Sources of carbohydrates
- cereal grain,
- starchy roots,
- tubers,
- sugar cane and beef sugar

Effects of moist heat on carbohydrates.
- Grains absorb moisture, swell burst and gelatinizing,
- Cellulose softens
- Sugar melts forms syrup, turns to caramel,
- Continued heating makes in change

Deficiency lead to permicious/vegaloblastics anaemia

What is it?
- It is condition where the red blood cells are enlarged become few with limited capacity to carry oxygen.
- It is a deadly condition and is not treated;

Sources of Vit. B_{12}
Liver
Beef
Ox-kidney

Functions of Vitamin B_{12} in the body, for formation of red blood cells.

Vitamin K
- Its fat soluble,
- It is for normal clotting of blood,

Sources
- Cabbage
- Spinach
- Peas
- Cauliflower
- Cereals

N/B:- it can be synthesized by intestinal bacterial action so its deficiency is rare.

Vitamin E
- It is fat soluble
- It is for normal fertility

MINERAL ELEMENTS
e.g - calcium
- phosphorus
- sulphur

Others are needed in traces, e.g
- iodine
- copper
- zinc

Minerals from the skeletal structure of the body.
- Are found in everybody cell and all body fluids;

Most importance are:
- Calcium
- Phosphorus
- Iron
- Iodine
- Sulphur
- Sodium chloride
- Magnesium

Calcium
It is for bones and teeth

Functions
i) works together with Vit. D forming strong bones and teeth
ii) it is for normal clotting of blood,
iii) maintains a healthy nervous system and conduction of nervous impulses
iv) works with Vit. D and phosphorus to prevent rickets in children and osteomalaria.

Sources;
- Milk
- Cheese
- Eggs
- Whole bread
- Calcium fortified flour
- Green veges
- Hard water
- Small fish eaten with bones.

Deficiency
Lack of calcium causes;
- poor development of bones and teeth,
- leads to rickets of severe,
- failure of blood to clot properly
- muscle crumps

Phosphorus
It is necessary for body tissues;

Functions;
- works with calcium for normal hardening of bones and teeth,
- forms part of nerve and brain and body cells
- one of enzymes that control metabolism of proteins, fats and carbohydrates,
- inform of sodium phosphate maintains correct acid-base balance of blood

Sources;
- meat and meat products,
- dairy products
- green vegetables
- fish

- eggs
- whole cereals and pulses

Sodium chloride (common salt)
Functions
- activate muscles
- necessary for healthy skin
- helps body fluids work well
- stimulates nerves

Sources;
- proteins foods
- green vegetables
- onion
- sodium chloride (common salt)
- N/B:- it is in all body fluids

Functions
- Correct functioning of muscles

EFFECT OF DRY HEAT ON CARBOHYDRATES
Starch is converted to dextrine,
- It is a more soluble starch than dextrine that is why toasted bread is more soluble than toasted,
- Further heating chars it

Effects of cooking on sugar
- sugar turns to a liquid (form a syrup as it evaporates.)
- if it is cooked with no liquid it melts quickly and browns, i.e caramelizes,
- overheating makes it to change and develop a very bitter unpleasant flavour,

FATS AND OIL
Are from animal and vegetable because plants and animals convert carbohydrates and store it as fat,
- the two are a source of energy,
- fats have many fatty acids combined with glycerol,
- these acids are the cause of the characteristic flavour of fats
- they are the cause of its solid and liquid state
- ref; to 135 e.gs of fatty acids and function;

N/B:- too much fat is always deposited around delicate internal organs e.g heat, kidney below skin

Functions of fats and oils
- provides fuel and energy for body,
- fat under the skin acts as an insulator so keeps body warm,
- one around delicate parts help protect them from harm,
- it improves palatability of food and satiety

Sources;
- animal fats
- plant oils

Animals fats
- meat e.g dripping suitland and lawn,
- fish e.g fish, liver oil, flesh of oily fish

- eggs e.g egg yolk

Vegetable fats

e.g - olive oil
- nut oil
- coconut oil

Fat should always be taken with come carbohydrates to ease digestion because it is hard to digest;
e.g bread and butter
Cheese and marcoroni

WATER

It is ¾ of body weight,

Functions

- for formation of all body fluids,
- excretes waste materials from kidney and sweat,
- maintaining body temperature by perspiration
- aids digestion and absorption of food,
- its lost continuously from the body through lungs and sweat so has to be replaced

Sources;

- water
- drinks
- beverages
- fruits and vegetables
- various foods

VITAMINS

Are for normal metabolism and growth because the body can't manufacture vitamins. It only manufactures Vit. D, therefore must always be provided in the diet,

Classification;

- fat soluble A, D, E, and K,
- water soluble B and C

Sources;

- plant sources,
- animal sources

VITAMIN A (retinol)

Its fat soluble and not in water. so not lost in it.
Its destroyed through oxidation when exposed to air, it room temperature.

- Its converted by oxidation to useless compound when fat becomes rancid
- It is stored in the liver, kidney and a dispose tissue in humans and animals,
- It doesn't occur naturally in vegetables fortified with it during manufacture,

Sources;
N/B;- supplied directly as carotene that is converted by the body to Vit. A.

- Green leafy vegetables,
- Carrots,
- Pumpkins
- Tomatoes

- Pawpaw,
- Tomatoes
- Vegetables and fruits with deep yellow and dark green colouring.

Animal sources
- Fish liver oil,
- Eggs,
- Liver,
- Kidney,
- Butter,
- Herrings,
- Marganine,
- Fresh and powdered milk.

Functions of Vit. A in the body
- For growth in children and protection,
- Protection from diseases of mucuus membrane,
- For healthy growth of skin
- Quick and proper healing of wounds,
- Prevention of nightblindness N/B: if not treated leads to degeneration (thinning of cornea i.e xerophthalmia and finally blindness)

Effects of cooking on Vit. A
Are insoluble in water so not lost by moist methods of cooking/soaking e.g boiling and steaming.
- Cooked vegetables, therefore have enough carotene just like raw ones.

VITAMIN D (Calciferol)
- It is fat soluble,
- Not lost in cooking water,
- Human skin on exposure to sunlight synthesizes it,

Functions of Vitamin D in the body
- Together with calcium and phosphorus, it is for strong bones and teeth,
- It is for absorption of calcium and phosphorus from intestines,
- Prevents rickets in children and osteomalaria in adults

Sources of Vit. D.
- Fish liver oil,
- Milk
- Butter
- Cheese
- Eggs
- Liver
- Sunlight

Effects of heat Vit. D
Destroyed by heat

VITAMIN C (Ascorbic acid)
- water soluble vitamin,
- not stored in the body so enough amount has to be provided in diet,

Functions
- for clear skin and healthy body tissues,
- it helps in healing of wounds and fractures,
- for healthy gums and teeth,
- for proper growth of children,
- to prevent scurvy

Sources;
- fruits
- vegetables
- oranges
- grapes
- strawberries
- red currents
- black currents
- citrus fruits e.g lemons
- vegetables e.g water cress
  new potatoes
  cauliflower

Effects of cooking on vitamin C
- its water soluble so it is destroyed/lost during preparation and cooking,
  N/B:- vegetables should be cooked quickly and served at once
- should be cooked with a lid on because it is oxidized forming a useless substance,
- N/B:- raw vegetables have the most Vit. C though some must be cooked for easy digestion,
- Should be served with liquid used for cooking.

VITAMIN B
Vitamin B complex is water soluble. Most important is B_1 (Thiamine)

Deficiency leads to;
- Loss of appetite
- Poor health
- Disorders of digestive system
- Disorders of nervous system

Functions of Vit. B_1 in the body
- For release of energy from carbohydrates
- Growth in children
- For good health
- Prevention of beriberi

Sources of B_1 vitamin
- whole grain cereals and their unpolished products,
- bran and germ of grain
- dark green and leafy vegetables
- milk
- liver

- fish
- eggs
- yeast and yeast products oat meal pulses and nuts,

Effects of cooking Vit B
- Vit. B_1 is very soluble in cooking water,
- Destroyed by alkalis in baking powder and bicarbonate of soda,
- high temperature destroy it if it is in a pressure cooker/canning,

B_3 (Nicotinic acid) niacin
Functions of B_3
- for releasing energy from carbohydrates,
- for growth
- good health of nervous system and skin
- proper digestion

Sources of B_3 Nicotinic acid
Refer to B_1 Vit.

Vitamin B_{12}
Needed in small amounts
- it is in food of animal origin.

Deficiency
(a) causes muscular cramps
N/B:- salt should always be replaced through foodstuff/added to cooking because it is lost continually in sweat and urine.
In hot weather it is needed more since it is lost in sweat
(b) Deficiency also leads to weight loss and loss of appetite
(c) Leads to importance in men but rarely.

SULPHUR
Functions:
For health of skin

Sources:
- protein foods
- green vegetables
- onions
- sodium chloride (common salt)
- soyabean and eggs
- meat
- cabbage
- dairy products

Deficiency
- cause muscular cramps.
N/B:- - should be replaced in foodstuff because it is lost daily.

POTASSIUM
Found in many foods;

Functions:
Refer to sodium
N/B:- - is more important to muscles and blood cells than body fluids.
- lost in urine and sweat

OTHER FACTORS THAT AFFECT NUTRITIVE VALUE OF FOOD
Acid/Alkaline medium
Vit. B B C are affected when cooking tough green vegetables.
- sodium bicarbonate affects vegetables
(i) softens them
(ii) brightens green colour

Disadvantages
- destroys Vit C and B, thiamine
- others are not affected

Water:
- Are water soluble

Precautions to take
1. avoid soaking
2. avoid washing after cutting it increases loss of nutrients,
3. cook in very little water and serve in its soup and gravy,
4. avoid throwing away liquid used for cooking because minerals also dissolve in it.

Air
- it is affected by air,
- it easily oxidized i.e it combines with oxygen other substances formed are useless to the body,
- N/B:- crushed vegetables, peeled fruits and vegetables shouldn't be left open for long since Vitamins and minerals are lost,
- To prevent this they should be covered or stood in water.

Principles of nutrient conservation
Rules for cooking fruits and vegetables
- A sharp knife should be used,
- The saucepan should have a good fitting lid and has to be clean
- Avoid overcooking veges,
- Don't throw away the liquid used for cooking because it has the dissolved nutrients,
- Shouldn't be reheated but should just be cooked before serving,
- Avoid bicarbonate of soda because it destroys Vit B and C.

VEGETABLES AND FRUITS
- most fruits are eaten raw though a few are cooked e.g
Pineapple
Bananas - when making jam and cakes
Plums

Preparation and cooking of vegetables
During preparation, serving and cooking there are rules that have to be followed.

Green leafy vegetables
- damaged leaves and tough fibrous stalks should be cut and washed carefully in clean water
- soak Brussels sprouts and cauliflower for 10 minutes, add salt to (i) reduce loss of nutrients, (ii) kill insects and then eggs
- should be in running water of open leaf vegetables and if soaked,
- should be cut/shredded according to type.

Cooking green vegetables
- thrown use for soup, sauce/soup
- should be prepared, cooked and served at once and not reheated,
- avoid bicarbonate of soda and should not be boiled/cooled faster,
- Vitamin C and B will be destroyed.

Root vegetables
- Scrub and remove skin by peeling/scraping thinly, most nutrients are found under the skin,
- Use clean water to rinse, if not cooking immediately, keep under water to prevent discolouringly
- Avoid wasting during preparation,
- Young ones should be peeled thinly/scraped off thinly e.g potatoes and carrots.
- Prepare just before cooking,

Cooking root vegetables
- Can be boiled/cooked using conservative methods.
- Root vegetables can be baked, fried/steamed,
- N/B:- beetroot should neither be scraped/peeled, cover with cold water, simmer till skin is rubbed off,
- Slice thinly cover with vinegar and serve with a salad,

Broad beans
- Shell beans,
- Boil 10-20 minutes fill tender,
- Put in open dish coat with parsley sauce/toss in butter

Runner beans and French beans
- wash well remove tips and any strings,
- leave whole/cut in ½ if very long,
- boil 101-5 till tender,
- drain well, toss in butter,
- serve in covered dish

Peas
- shell peas and wash,
- boil in salted water,
- boil 10-15 min,
- drain well serve in covered dish

OTHER VEGETABLES
Mushrooms
- can be fried grilled/served in a sauce
- to fry

- prepare mushroom by removing stalk and peeling off skin,
- melt 30-60gm butter/margarine in a frying pan,
- don't allow them to brown fry gently 3-4cm, turn carefully fry 3-4 minute more,
- serve in toast / to accompany fried bacon steak/chops,

To grill
- prepare mushroom, place in grill pan side up,
- brush with melted butter/margarine,
- sprinkle salt and pepper on it

FOOD STORAGE
Why store food properly
To prevent spoilage and preserve nutrients.

Storage of milk
- bottle has to be wiped/packet to be wiped with a damp piece,
- should be placed in fridge shelf,
- in absence of fridge,
  i. boil milk,
  ii. cold and start in a basin of cold water
  iii. cover with a Muslim cloth tips in water

Storage of butter
- put on a plastic butter bowl with a cover,
- keep in the fridge,
- if not fridge keep in a cool place,
- e.g meat safe/charcoal

Eggs
- place on door rack of fridge,
- if not fridge keep in energy tray in an airy place,

Cheese
- keep in its packet at bottom shelf of fridge.

Meat
- wash divide in small portion (cooking portions)
- wrap in polythene bags store in coolest part of fridge/freeze compartment,
- if fried meat keep dry, protect from insects and other pests.

Fish
- clean
- wrap in polythene bags to prevent exchange of flavours with other food e.g milk,

Fruits and vegetables
(a) should be in a clean airy store
(b) avoid piling up fruits because it causes bruising and spoilage that spreads easily,
(c) in absence of a fridge clean dry well pack in polythene bags to stops exchange of flavour e.g citrus fruits.
(d) soft fruits should be covered and shouldn't be done for long e.g cut water melon and avoiding prolonged storage of fruits e.g strawberries, grapes and melons,

(e) fruits having acid e.g pineapples/lemon shouldn't be stored near others because they affect them e.g milk goes rancid,
(f) bananas shouldn't be stored in the fridge because the blacker,
(g) green peas should be in a polythene bag and must be blanched before storing in the fridge,
(h) green leafy veges shouldn't be stored for long and should be thoroughly cleaned before storing in the fridge,
(i) in absence of a fridge should be sprinkled with water for not more than 24 hours,

Root vegetables
- should be stored in a vegetable rack,
- potatoes should be in an airy bag in a cool, dimly lit store,
  i) to prevent germination
  ii) to prevent turning green
  iii) to prevent getting spoilt
- carrots, turnips and beet root should be cleared, dried and put in polythene bags and stored in lowest compartment of fridge,
- unions, red and white should be in a vegetable rack,

Cereals
Points to consider on storage
- should be completely dry to prevent aflotoxin poisoning,
- should be cleaned and stored in dry ventilated store,
- should be cleared and treated properly with pesticides,

Conservative method of cooking
- should be prepared and cut depending on type
- 500gm vegetables and 30gm marg = ½ litre water and ¾ teaspoon salt,
- The saucepan should be large enough to hold vegetables and lid should be fitting,
- Melt fat in saucepan sweat veges over gentle till fat has been absorbed add water,
- Boil, add salt replace lid,
- Simmer till tender
- Serve in their own stock,
- Garnish and serve,
  N/B:- casserole method can be used to conserve more nutrients

Pulses
- Are dried seeds of leguminous plants e.g
  . beans
  . lentils
  . peas
  . soya beans
  . grams
  . groundnuts

  They are used as vegetables in absence on vegetables/substitutes of animal protein

Cooking pulses (points to consider)
- must be soaked (i) to soften outer coating
  (ii) to reduce cooking time
  (iii)to replace lost water
- bicarbonate of soda should be added to soaking water to soften skin,
- pulses are used in meals and soups,

best served in sauce with added flavour.
e.g kikuyu water pulses, maize potatoes served with vegetables.

N/B:- nutrients in pulses are not easily lost

NUTRITIONAL DEFICIENCY DISEASES AND DISORDERS

This is as a result of:

i) inadequate intake of a particular nutrient,
ii) excessive intake
iii) they body not being able to synthesize/utilize a particular nutrient.

N/B:-

- nutritional deficiency disease is a sign of malnutrition/poor nutrition that leads to poor health,

Causes of malnutrition

1) Ignorance

i) most people have little/lack knowledge of nutrition so loose a lot of nutrients during
  - preparation
  - cooking
  - storing food
- some sell protein rich food e.g eggs to buy scones/nutritionally inferior food,

ii) food taboos and superstitious prohibit people from eating some foods e.g not allowing women to eat eggs and chicken plus children not being allowed to eat eggs and deny the body vital nutrients leading to malnutrition. So people should be educated on discarding superstitious and traditions.

iii) change of lifestyles
people are not aware of amount of nutrients that are enough for the body e.g tend to eat more of proteins or starchy foods so leads to obesity, hypertension, diabetes, anorexia, nervosa gout.

2) Poverty

Incases where people have not income and no land to cultivate then they be malmarished because they will not have enough food to eat so will be malnourished.

3) Wars and natural calamities

Leads to food production falling during times of floods/drought/war hence famine occurs causing malnutrition.

4) Parasites

They reduce amount of nutrients in the body.

5) Body's inability to utilize nutrients

Is because of inherited malfunction of a part of body that affects absorption of some nutrients.

Poor distribution of food

e.g inadequate transport services may cause poor distribution of food so some areas lack food.

NUTRITIONAL DEFICIENCY DISEASES

The diseases are caused by

i) inadequate intake of a given nutrient
ii) excessive intake

Most common diseases are;

i) marasmus
ii) goitre
iii) kwashiorkor
iv) anaemia
v) scurvy
vi) rickets
vii) esteomalaria
viii) beriberi
ix) pellagra
x) eye problems
xi) dental flouroris

Kwashiokor
- Caused be severe malnutrition when they get little protein in the diet,
- It is common in children who stop breastfeeding easily/weaning,
  Why?
- Protein in breast milk will not be provided and yet its not replaced

Symptoms of kwashiokor
- Retarded growth height and weight below not normal for his age, where there is oedema weight may be normal
- Dull child who is irritable and inactive
- Hair is scanty, thin straight and brownish in colour,
- Child will be anaemia since the protein is needed to synthesize red blood cells,
- Swelling of face, hands and legs may spread to other parts of body, when swollen parts are pressed an impression of finger is left because muscles are stretched,
- Affects development of the brain

Prevention of kwashiokor
- Break feeding for long,
- Feed warning baby's on enough protein foods e.g milk, eggs, fish pulses,
- Taking child for check up, toe to check for worms,
- Poverty, ignorance, food taboos and dealing with nutritionally undesirable food habits
- Baby's and young children under 5 years to be taken for post natal clinic or for check up from doctor

Treatment of kwashiokor
- Hospitality the child for diagnosis treatment and management,
- Giving plenty of proteins till recovery if not severe,
- Maintaining high standards of hygiene during handling and serving of food e.g to prevent complications like food poisoning, ingestation by worms etc.

MARASMUS
- Is because of total starvation where the body lacks all nutrients especially carbohydrates, therefore muscles become wasted and very thin,
- Occurs at any age so long as intake of food is inadequate,
- Weaning should always starts at age 4-6 months.

Symptoms
- extreme weight loss (person is emaciated)
- person has not subcutaneous fat and skin wrinkles around thigh and buttocks especially,
- retarded growth and body size doesn't reflect eye to of person,
- a clearly seen oil cage,

- wrinkles face that looks like an old persons,
- head is bigger them rest of body,
- protruding eyes,
- child/person is alert or anxious
- good appetite
- anaemia and weakness

Prevention
- a balanced diet
- medical attention
- plenty of fresh fruit juices

ANAEMIA
- caused by lack of iron/protein/both,
- N/B:- iron and protein are used for formation of haemoglobin that transports oxygen in blood.

Groups of people who need plenty of this
- Baby's of beyond 6 months,
  Because they are born with iron that lasts them for 6 month after this it has to provided in the diet,
- Teenage girls
- Women child bearing age other causes of anaemia,

i) chronic malaria
ii) hookworm infestation
iii) severe loss of blood

Path that lead to anaemia

1) Internal/external
Loss of blood (haemorrhage)
It due to:-
- Menstruation
- Injury - lead to anaemia
- Childbirth

2) Reduced red blood cells
Due to;
- weaning (early),
- child lacks a special protein meant for formation of red blood cells,
- poor balanced diet
- lacking iron rich foods

3) increased reduction of red blood cells (haemolysis)
Caused by:
- chronic malaria (lead to anaemia)
- ingestation with hookworm

Symptoms
- pale/translucent
- pale inside of eyelids
- white nail bed

- weakness and fatique
- face and feet swollen
- rapid heartbeat that leads to shortness of breath

Treatment
- foods rich in iron,
- enough proteins and vitamins B and C,
- consulting doctor because there are other causes of anaemia
- taking iron tablets if severe

BERIBERI
- It due to lack of thiamine (Vit. B_1)
- Common among people who eat polished cereal grains and their products, (Asian countries because there diet is mainly polished rice)
- Polishing removes thiamine
  N/B:- also common in famine stricken areas was torn region and refugee camps

Types
- wet beri beri
- dry beri beri N/B:- the two affect adults
- infantile beri beri,
  it is in infants under 6 years,

Symptoms of wet beri beri
- legs swell spread to face and trunk (oedema),
- reduced urine volume because of retention of fluids,
- pronounced heartbeat i.e pulse rate if faster than normal so chest pains are felt,
  N/B: - this can lead to heart failure and death if not treated.

Symptoms of dry beri beri
- weakness and wasting away of muscles
- numbness
- feeling of pin pricks on feet and arms
- difficulties in walking, kneeling and straightening up from squatting position.

Infantile beri beri
- affects infants that don't get enough amounts of Vit. B_1 in breast milk and mother also lacks the Vit.

Symptoms
- weaknesses
- whiling cry of infants,
- diarrhea,
- vomiting
- loss of body weight
- child marasmus if not treated
- oedema
- convulsions
- death if untreated

Prevention
Eating foods rich in Vit. B_1 (Thiamine) i.e

- whole cereal grains and their products
- leafy dark green vegetables
- milk
- meat

Treatment
- medical attention
- a balanced diet – meals rich in Vit. B_1

PELLAGRA
- it is a disease of 3Ds
  i.e Dermatities
  Diarrhoea
  Dermentia
- common where maize is staple food,
- it is due to lack of miacin (Vit. B_3) in diet
  N/B:- people who eat whole grain and clear products rarely suffer from pellagra.

Symptoms
- weight loss
- weakness
- mental depression
- rough scaly skin that may burst into raw wounds exposing skin to the sun,
- digestion problems leading to abdominal pain and diarrhea
- mouth and tongue may be sore,
- retarded growth
- nervousness leading to anxiety irritability loss of memory and reduced sauce of tough,
- may result to madness (dementia)

Treatment
- foods rich in Vit B_2, nicotinic acid e.g liver, pulses, kidney, fish, milk and whole grain cereals.

MERATOMALACIA
Total blindness because of lack of Vit. A.

Symptoms
- begins as night blindness
- results to xerophthalmia
- conjunctiva dies loses listre and acquires a smoky appearance,
- ulcers form on cornea and leads to blindness if condition continues,

Treatment
- a balanced diet rich in Vit. A,
- Keeping eyes clean
- fresh the doctor

SCURVY
- it is due to Vit. C
- common among people who rarely eat fresh vegetables and fruits

Symptoms
- swollen gums having week capillary that bleed,
- stool that has blood same to urine;
  Why? because of ruptured capillary
- unhealthy skin,
- slow healing of wounds,
- weaknesses

Treatment
- foods rich in Vit. C
- avoiding artificial synthetic juices,
- but encouraging eating fresh fruits, vegetables and juices.

GOITRE
- it is the enlargement of the thyroid gland due to lack of iodine,

Symptoms
- enlarged thyroid gland,
- breathing and voice interfered with a lot of trembling and nervousness,
- for pregnant mothers they may give birth to mentally retarded children
- bulging out of eyes

Prevention
- iodine rich foods e.g sea foods and iodized
- salt
- removing through surgery of hard goiters

RICKETS
- it is common in children
- bones soften, bend and deform
- caused by Vit. D deficiency because of poor diet / lack of sunlight,
  N/B:- Vit. D is important for absorption of calcium that forms bones.

Symptoms
- chest, pelvis and spine deformed,
- bend leg bones (knock knees/bow legs)
- enlarged joints,
- poor teeth development

Treatment
- giving mineral and vitamin at early age,
- eating Vit. D, calcium and phosphorous foods,
- getting enough sunlight so that the skin can synthesis Vit. D.

ESTEOMALACIA
- it is like rickets but affects adults,
- bones become fragile, weak and brittle because of lack of Vit D,
- its common in women who have close births and lack Vit D, calcium and phosphorous

Symptoms
- fractures are common
- deformed pelvis that interferes with walking,
- twitching of face and hand muscles

Treatment
- a diet rich in Vit. D,
  calcium and phosphorous
- consulting doctor if severe

NUTRITIONAL DISORDERS RELATED TO LIFESTYLE
Obesity
An obese person is someone who weighs more than 20% above maximum recommended weight for sex and height.

Causes:
- dietary
- genetic
- hormonal
- mental disorder

it has risks of high blood pressure, and heart diseases.

Symptoms
- excessive weight
- extremely fat body for age

Treatment
- reducing intake of energy giving foods but eating a balanced diet,
- doing physical exercises

High blood pressure
- leads to strokes, heart and kidney diseases,
- N/B:- fat people are likely to be hypertensive

Symptoms
- Frequent headaches,
- Pounding of heart and shortness (loss of breath after a mild exercise)
- Weakness and dizziness
- Pain in left shoulder and chest

Treatment
- Losing weight
- Starches and fatty foods/with a lot of sugar to be avoided,
- Eating foods with little/not salt
- Consulting a doctor

Diabetes
- It is caused by body's inability to control level of glucose in blood by use of insulin hormone.

Signs and symptoms
- Continued thirst

- Frequent urination and a lot of urine passed out
- Tiredness
- Itching and long term skin infection.

Symptoms of severe cases
- loss of weight
- numbness/pain in hands and feet,
- sore on feet that don't heal
- unconsciousness

Adult onset diabetes
Diabetes is influential by the following factors
- genetic factors,
- age affects people over 40 years,
- obesity,
- carbohydrates intolerance during pregnancy

Types of diabetes
i) Chemical diabetes
Its characteristic of abnormal glucose tolerance test with no symptoms of diabetes.

ii) Gestational diabetes
Abnormality of glucose tolerance seen during 1^{st} and 2^{nd} trimester of pregnancy.

iii) Pediabetes
A period in a patient life from birth till recognition of the carbohydrates intolerance by latest available techniques.

Treatment
- having a regulated programme of exercises.
- maintaining personal hygiene
- eating a diet rich in proteins to provide enough nutrients for maintenance of weight that will keep blood sugar almost normal level.
- giving insulin tablets/injection but depends on type of diabetes.

Anorexia nervosa
- it is psychological eating disorder called the "slimmers disease" that affects mostly teenage girls.
- the sufferers becomes so keen to slim so makes herself;
  i) hate food/detest food,
  ii)starves herself
  iii) become severely underweight

  N/B:- This condition can go on for several years and normal pattern may never be gained again. Therefore it may lead to a condition called bulimia.

  Underweight
- occurs when intake energy doesn't meet the requirements of the body, common among people who are ;
  (a) very active
  (b) tense
  (c) nervous
  (d) who get little rest

Causes of inadequate caloric/energy intake
- irregular eating habits
- poor selection of food
- psychological factors that cause eating of too little food that leads to severe weight loss hence anorexia nervosa.

Symptoms
- very poor appetite
- gastro-intestinal disturbances having the following symptoms.
    (a) Nausea
    (b) Vomiting
    (c) Diarrhea
    (d) Hyperthyroidism (increased metabolic rate)

Treatment
- Eating a balanced diet,
- Increased intake of energy foods (caloric intake) starting with small amounts increase day by day till caloric level is normal,
- Increasing protein mineral and vitamin amount in diet,
- Small frequent feeding.

Gouts
It is called the disease of the king,
- It is a form of arthritis i.e means an inflammation of a joint

Causes
- Uric acid
- Amino acids (final breakdown of acid) e.g redment, animal organ meat, kidney and liver)
- Chicken eggs, milk, beans, pork and sardines (fish),
- Cheese and eggs though have low quality of amino acids,
- N/B:- Uric acid of normal amount always dissolves in blood them is passed out through waste by kidney.
- It causes gout if its level in blood and body fluids is higher than normal.
- Uric acid crystals being in joint and tenders,
- The body immune system and white cells fighting these crystals and releasing a chemical that cause;
    (a) severe irritation
    (b) inflammation
    (c) acute pain
    (d) gout (swelling)

  N/B:- Gout occurs mostly in men. Women get it at menopause because the female hormone that is to protect them is low
- its associated with diabetes, obesity, high blood pressure, high levels of cholesterol in blood, diabetes, kidney diseases and sickle cell anaemia.

Symptoms
- sudden and explosive pain that makes the person at night,
- a lot of pain in big toe, hot, swollen and tender,
- shiny skin that has dilated veins

Causes of the attacks
- excess of meat

- joint injury
- dehydration
- excess alcohol ingestion
- sudden severe illness

Treatment
has no cure but can be controlled and managed by;
- use of painkillers during pain,
  N/B:- avoiding asprin it makes level of uric acid increased
- applying crushed ice pack on affected joint to sooth and make place numb,
- not eating a lot of animal protein e.g red meat, kidney liver, sardines,
- foods with prune should be reduced to one serving 5 days a week,
- giving raw vegetables and fruits,
- a lot of fruits to remove the prunes,
- a lot water to prevent formation of kidney stones
- avoiding alcohol,
- losing weight
- excess kits e.g niasin, B complex, Vitamins A should be avoided,
- not hurting oneself/striking a joint,
- avoiding tight shoes

FOOD FORTIFICATION
- It is enriching of food by addition of one/more nutrients to it whether the nutrient is in the food/not,
- this is done to add nutritional value to the product,
- macro-micro nutrients are added to commonly eaten foods to;
  (a) maintain their quality
  (b) improve quality

  e.g of micro-nutrients
  (a) Vitamins
  (b) Trace elements

  The two are added in food for proper functioning of physiological and immunological aspects of human body.

  Macro nutrients include basic nutrients element of a diet;
  i.e (i) proteins
  (ii) carbohydrates
  (iii) fats

  Most nutrients that are fortified are ones that are not found in good amounts in the diet e.g Research has shown that Vitamin A, Iodine and iron lacks in most regions. Therefore cause the related disorders.

  Reasons for food fortification
  To get rid of nutritional deficiencies,
  N/B:- factors to consider when choosing the food to be fortified with a certain nutrient;
  - target groups
  - consumption level i.e has to be one that is regularly consumed.
  - The amounts of foods that are to be fortified in Kenya are very minimum.

Foods commonly fortified

(a) Margarine

It is a vegetable fat. It is fortified with milk, Vit A i.e synthetic retinon and B carotene, Vit D. content of Vit. in it is equal to butters.

(b) Breakfast cereals

- fortified with vitamins
- minerals e.g iron and calcium and
- proteins

(c) fruit juices and soft drinks (some)

Vitamin C lost during processing and storage.

(d) Common salt

Has iodine added to prevent goitre

(e) Bread and floor

- vitamins and minerals
- flavourings
- preservatives

N/B:- The food and drug act law on which modern food law are derived always lay principles that food should be fit.

- for human consumption and free from health hazards,
- additives must be of a natural substance and of quality,
- quality of food must be maintained,
- listing of ingredients and proper description of the product,

N/B:- The law protects consumers ensuring they buy wholesome food, uncontaminated quality and with proper descriptions

N/B:-

(i) Most additions of nutrient are for safeguarding public health,

(ii) Additions may also be done by main factors to reduce loss that it caused by bacteria, pests and rodents, and decay,

N/B: Food processing has become complicated so should always be checked to safeguard the consumer,

CONSUMER AWARENESS

1. Consumer education

   It is a process of creating awareness about information concerning goods and services for satisfying people's needs.
2. An educated consumer is one who is fully informed about goods and services in the market.
3. A Consumer

   He/she is anyone who uses the goods and services to satisfying people's needs. A consumer must always be informed.
   - so as to make wise decisions to pay for the essentials,
   - he/she must be enlightened on how to purchase goods and services to his maximum satisfaction in relation to money spent,
   - he has to know where to purchase goods and services without being exploited
   - he has to obtain the best value for his money without being cheated,
   - he has to know what to look for in goods insider to get satisfaction,

Consumer education
Involves enlightening a person with information he needs so as to be a better consumer while using his purchasing power.

Importance
i) it increases ability of keeping consumption at a comfortable level,
ii) makes consumers aware of product information,
iii) makes consumers aware of their protection,
iv) consumers are able to know their rights and know when they are violated,

e.g violations like
- changing high prices low quality goods,
- not showing country of manufactures,
- lack of relevant information on product performance so consumer should always ensure they have clean information on use of items,

N/B:-
Should always ensure he has a manual on how to use the items.

Importance of consumer education
A consumer is able to decide on what;
- should take priority between wants and needs,
  N/B:- A need is a commodity that a consumer can't do without e.g food, clothing, shelter and has to be catered for before meeting others.
  Wants are those that may not be necessary at a particular time; e.g buying an expensive watch/eating in an expensive hotel.
- Helps consumers not to be deceived by sellers and adverts because they are able to understand the market,
- The consumer is able to plan his expenditure on goods and values,
- He/she is able to make wise decisions on spending of resources,
- Helps consumers present complaints about goods and services,
- Through this he/she can be able to compare prices and quality of goods in relation to price.

Points to consider when buying any item
N/B:- It is important for consumers to always;
1) examine goods well before buying to ensure they are of quality,
2) should always ensure that he acquires a receipt for correct amount of money paid for,

Definition of goods:
Goods
Are tangible products a consumer needs to meet daily needs e.g food, fuel and clothing etc.
N/B:- Goods that are not bright frequently e.g furniture are called consumer durable. Goods can be seen, touched and valued.

Services
Its not a tangible commonly but can satisfy a need e.g
Transport
Doctors
Education
- Consumers can easily be exploited where services are offered since they are not seen, touched/valued and are sold in trust. Consumers sometimes pay for services they are not satisfied with because they agree on a fixed payment before all its given.

N/B:- Consumers should always set priority in acquiring goods and services offered.

Aspects of consumer education

It is education sheets with

i) The need for consumer to know their rights and responsibilities e.g right to information about goods and services,
ii) Principles of good buying, planning and budgeting with money available,
iii) Factors that affect choice of goods and services e.g availability price,
iv) Need of a consumer understanding her role as user of goods and services,
v) Consumer protection and agencies that protect consumers interests,
vi) Ways of acquiring information and using it relating to needs,
vii) Problems facing consumers.

Sources of consumer information

It is important because it enable consumers to get the right decision on what goods and services to buy;

N/B: Information sources include;

1) Manufacturers

It is through
- labels on goods
- brochures
- pamphlets
- demonstration by promoters
- bill boards

2) Mass media

Through
- radio
- television
- newspapers
- magazines
- journals
- books and other forms of lit

N/B:- Consumer should always be careful with the persuasive language used in adverts.

3) Dealers/agents

Done through displaying products and personnel available to explain to consumers about the good.

Other consumers and consumer organizations

Information of one consumer to another can also be through consumer organizations that educate people on matters concerning the girls and services e.g k.c, ebc and government departments.

Information can be from different government departments that deal with some goods e.g knitting boards, weights and measures department, public law institute etc.

ADVERTISING

It is away of making the public aware of products and services on market. The aim is to create a demand for the product.

N/B:- It is considered the quickest ay of passing information about a product and service.

The purpose of advertising is to introduce:
- new product into the market/promotes sale to benefit the producer
- N/B: a decrease in sales is normally due to competition in the market that makes consumers attracted to new product hence sales of the old are reduced.
- It is used to increase sales because it tends to attract the consumer.

Types:
- Informative
- Persuasive
- Competitive

Informative advertisement
Informs the consumer about a product without telling him about goodness or badness of it.
e.g:
- the long availed for unisex t-shirt now available at hibiscus Botique in NRB branches, MBS, Nanyuki etc.

N/B:- it informs the consumers of availability of certain products and services. Aim is to make consumers buy it but he finds out more on it by herself/himself.

Persuasive advertisement
It persuades consumers to buy a product or service other than one he is used to. The advertiser mentions qualities that can be convincing to the consumer e.g Mocha Body cream keeps skins soft smooth and healthy protects skin firm harsh weather conditions keeps you looking young keeps you feeling cool and fresh.

Competitive advertisement
Its common where 2 or more competitors well a similar product e.g cooking fat/tooth paste. Each manufacturer try to convince the consumer how much better his product e.g the best on the market will persuade consumers to but his brand of toothpaste because it has fluoride and another that one doesn't need fluoride because it is in water and too much is bad for health.

FORMS OF ADVERTISEMENT
Information can be passed through the following forms:
(i) person to person form
(ii) print media
(iii) electronic media

(1) Electronic media
Includes radio, television, film etc;
N/B:- when using this form one should consider the following;
a) knowing category of consumer to target
b) ensure the consumers are reached
e.g advert being show just before news in middle of a very interesting movie.

T.V is most affecting. It combines pictures, sound and action hence catching the attention of the consumer.

(2) Print media
e.g magazines, newspapers, pradingings, billboard, buses, bristops.

N/B: when choosing on the media one has to consider the kind of people likely to buy products and see how to understand the one advertising for farm equipment and other materials well put this in a farmers magazine but not a children's magazine for them to sell/ putting in daily newspaper information will rich a larger number of people and will be fast.

N/B:- Billboards on lighting can also be used to pass a message.

Person-person
The agent moves from one place to another to enlighten people on products.

Advantage:
One is offered a demonstration on performance of the product.

Disadvantage
Cost of selling is very expensive because it is time consuming so increases because of product and service.

Effects of advertisement on the consumer
- Some may mislead consumers through deceptive false information that is misleading,
- Examples of a deceptive and misleading advert,
- When it influences a buying behaviour that may be harmful to the consumer's health e.g leading to excessive use of cigarettes or alcohol,
- When it is ambiguous – when there is likely of misinterpreting the message.

Negative effects
i) leads to increase of product cost in order to cover advertising products,
ii) lower quality products may be preferred than high quality ones that have not been advertised well,
iii) they interrupts radio and television programmes unnecessarily
iv) they lead to impulse buying i.e buying without prior planning.

Positive effects
v) enables consumers satisfy their needs effectively,
vi) brings to the consumer awareness of a better commodity/service than the previous one he has been using,
vii) increases demand of products hence higher sales and higher production, so low cost, high production will also create employment and improves living standards of consumers,
viii) increases competition among manufactures so improved products.
This competition sometimes lowers the price of goods.
ix) create employment for advertising agents. Adverts can be educative and entertaining e.g those having music and drama.

ENVIRONMENTAL HYGIENE
Def of hygiene: Its everything in our surrounding and all conditions that influence our lives e.g houses around
Compound
Social amenities e.g schools, parks, cinema halls.

Environmental hygiene:-
It is taking care of all these surroundings by keeping them clean, pleasant and healthy.

Why keep environment clean?
If not clean it leads to environmental pollution, that leads to diseases e.g cholera, typhoid e.t.c

Disposal of household refuse
This refers to all unwanted material that is thrown away,
e.g vegetable peels
- used tins,
- bottles (whole and broken)
- papers
- pieces of wood
- paper as well as plastic bags

Ways of disposing
5. use of dustbins,
6. use of local authority,
7. compost pits etc

Categories of household refuse
(i) organic refuse
(ii) inorganic refuse
(iii)recycled refuse

(i) Organic refuse
It is of substances that can break down or decompose: e.g
- food particles
- peelings
- animals remains
- fruit and vegetable peels

Points to consider when disposing off organic refuse
- wrapping with old newspaper/plastic bag
- emptying and disposing kitchen bin regularly

Ways of disposing off these refuse
- feeding to animals,
- using for mulching ,
- as compost manure by burying in a hole for it to decompose and become manure

Inorganic refuse
- it is one that doesn't decompose e.g empty tins, bottles tops, broken cups and plates, polythene bags etc.
- can be disposed by:
  - burying
  - burning

Dangers of this refuse
- they may be a breeding place for mosquitoes that lead to diseases e.g malaria,
- can be dangerous to children playing barefoot e.g broken bottles and can cause suffocation e.g plastic bags.

N/B:- All of them should therefore be disposed off safely and hygienically.

Recycling
e.g plastic bags
(i) for carrying products
(ii) to make totally different products,
(iii)milk pockets for lighting jiko,

(iv) plastic bottles being used for storing in drinks
(v) paper from bread for storing veges in fridge
(vi) glass bottles on top of concrete walls for protection
(vii) old newspaper to line kitchen shelves
(viii) wet refuse being fed to animals

Collecting household refuse
- dustbins should be always put in each room so that the rubbish is put in them

Choice of bin
- The size should be in relation to amount of refuse
- Should have a fitting lid
- Bottom should be perforated for liquid not to collect in the bin
- Should be durable

Care of the waste bins
- Washing in warm soapy disinfectant water after emptying
- Rinsing in warm water
- Final rinse should be with cold water to refresh
- Drying with a dry cloth and under shade to prevent cracking

POLLUTION
Occurs when environment around us becomes unpleasant, unattractive and dangerous to life.
Characterized by bad smell and poisonous waste
Industralization is the major cause of pollution in water, air and land
Environmental pollution refers to contamination due to harmful substances in the air eg oil and water

Water pollution
Its through
- Sewage/human waste not disposed well
- Industrial waste that is washed into water bodies
- Chemical from pesticides that are also washed eg rainwater
- NB: This water is a hazard to animals, people's health

Air pollution
- It's pollution interferes with nature. Causes of this:

i. Smoke
ii. Dust
iii. Bacteria released
iv. Exhaust fumes from vehicles
v. Cleaning agents
vi. Natural pollutants eg pollen from plants
vii. Insecticides and pesticides
viii. Hair and body sprays

NB: To prevent this the pollutant should be used in moderation

Land pollution
Causes: Solid waste and chemical substances e.g
- Rubbish on the cbd/left lying
- Animal and human waste
- Sharp objects eg broken bottles
- Expired drugs

- Open sewage spills on land

Sanitation
These refers to measures that promote cleanliness in order to protect people from infection
It involves disposal of human, chemical and animal toxic wastes
NB: Long exposure/contact with chemicals may accommodate in the body leading to later illness.

Causes of poor sanitation
a) Human waste
Common in places with no toilets/pit latrines so people help themselves in the bush
The wastes get into the water when it rains, so leads to infection like cholera

b) Industrial waste
From factories that drain wastes into rivers, lakes so pollute animals and plants in the water bodies
This water is taken can lead to a health hazard

c) Solid waste disposal
Categories:
Garbage consisting of food.

d) Rubbish consisting of polythene, tins, bottles etc and matter that doesn't decay. Construction and demolition waste eg wood, stones and bricks.

e) Food sanitation
Some disease can be because of spoiled food/food with toxic chemicals

Dangers of poor sanitation
- Causes land, air and water pollution
- Causes communicable diseases eg diarrhea, cholera, etc
- Infestation of household pests eg rats, cockroaches, fleas, flies, etc

Common communicable diseases
Mostly caused by parasites eg:
1. Typhoid
It's a bacterial disease caused by bacteria salmonella
It's through contaminated water, milk and food. It's excreted through feases and urine of human beings
Takes 10-14 days in the body before showing signs and symptoms.

Signs and symptoms
- Fever
- Severe front al headache
- Weakness and fatigue
- Slow heartbeat
- Abdominal discomfort
- More bleeding
- Constipation

Prevention
- Boiling drinking water
- Wash foods thoroughly before cooking
- Cooking foods properly

- Using pit latrines/toilets
- Washing hands before handling food
- Washing hands after visiting toilet/latrine
- Visiting doctor when signs and symptoms show

2. Cholera

It's an extremely severe and deadly disease caused by Vibrio cholerae bacteria.
It's signs and symptoms are:
- Profuse diarrhea
- Vomiting
- The two lead to dehydration hence death

Bacteria enter the body through:
- Contact with feases and vomit of infected person
- Food and drinks contamination
- Flies landing on food, they always get into contact with vomit and feases of the sick
- Drinking contaminated unboiled water
- Not practicing personal hygiene
- Preparation of the food by victims

Prevention and treatment
- Boiling of drinking water
- Cooking food properly
- Washing hands after visiting the toilet/latrine
- Seeking treatment from doctor
- Keeping toilet/latrine clean
- Boiling milk before using
- Covering food

3. Ringworms

Are fungal infection. Affects skin of scalp and nails
It's characterized by using shaped patches common among people who are not very clean especially children.
Ringworm of feet attacks adults most i.e athletes foot

Signs and symptoms
- Itching between toes
- Itching and sweaty in groins
- Ithch beard area with scalpy patches
- Itchy and scaly patches on head and in hands

Prevention
- Maintaining high standards of cleanliness
- Not sharing clothes, towels, beddings, combs
- Thoroughly drying feet between toes
- Not sharing shoes

4. Malaria

It's caused by plasmodium parasite that is carried by a female anopheles mosquito. This parasite lives on red blood cells destroying them.
A mosquito that bites a person who has malaria can transmit the parasite into blood of a healthy person if bitten

Signs and symptoms
- Recurrent high fever

- Sweating
- Severe headache
- Vomiting
- Loss of appetite

Prevention
- Draining stagnant water because mosquito breed on it
- Pouring oil into pools and ponds for young larvae will be killed
- Cutting grass and bushes around houses
- Using mosquito nets
- Using insecticides

6. Bilharzia

It's caused by parasitic worms. Infection is due to the skin coming in contact with water that's contaminated with the snails carrying schistosoma live

Water may be contaminated when infected people having schistosoma eggs urinate/.defecate in it. This will hatch grow and then snails present in the water. The parasite will leave the snail to the water and slay for 48 hours.

NB: It can penetrate the skin of those who swim/bathe in this water. Worms grow in blood vessels producing eggs some eggs will be passed out through urine/stool from bladder or intestines

Prevention
- Not swimming/washing in contaminated water ie avoid river water, ponds and dams
- Boiling water for use and drinking

Types of parasites that cause this
- Schistosoma nansoni- lives in intestines
- Schistosoma haematobion – lives in bladder

Signs and symptoms
- Diarrhea
- Blood in stool
- Pain during passing of stool
- Abdominal discomfort or pain
- Pain during passing of urine
- Cutting pain in urethra
- Blood in urine

7. Tuberculosis

Caused by bacteria tubercle bacillus

Affects animals and worms passed from one person to another through coughing and sneezing.

NB: Drinking infected milk causes TB of glands, bones and intestines.

Bacteria enters body through:

Contact with the victim

Breathing in contaminated dust

Breathing in air from the victim

Signs and symptoms
- Heavy cough
- Sputum with blood
- Brain, kidney, liver affected
- Chest pain

- Dehydration due to urinating

Prevention
- Not living in an overcrowded area
- Proper feeding
- Boiling cow's milk
- Isolating victim from the rest
- BCG vaccine after birth
- Mechanical check up
- High standards of hygiene

8. Scabies

It's a skin disease. It's associated with dirt caused by a parasite called itch nite
It enters in the skin and lays eggs that hatch baby parasites are the ones that cause eruptions.
Spreads from one person to another.
Attacks moist and sharp areas of body eg between toes and fingers

Signs and symptoms

Itching that is severe at night

Prevention

Maintaining high standards of personal hygiene

9. Hookworm

Can be due to walking without shoes. They move to intestinal and live from foot.
They weaken the victim and can cause anaemia since the suck a lot of blood

Signs and symptoms
- Fatigue because of anaemia
- Uncomfortable feeling in abdomen
- Eating too much without weight gain
- Quickly feeling hungry
- Dizziness

Prevention
- Putting on shoes
- Washing hands before handling food
- Deworming

10. Threadworm

Common in children
Are tiny white worms seen in feaces/around anus

Signs and symptoms
- Excessive appetite
- Big abdomen
- Area around anus itchy
- Worms in stool

Prevention
- Anal area to be cleared properly after removal of stool
- Keeping nails short and clean
- Sterilizing night clothes

- High standards of hygiene when handling food

11. Roundworms
Eggs taken in by eating contaminated food, drinking contaminated water, iodine in the intestines, sometimes bile duct, liver and trachea
NB: Drinking water should be from a clean source and must be boiled

Signs and symptoms
- Abdominal pains
- Diarrhea
- Constipation
- Convulsions
- Enuresis (bed wetting) in children

12. Tapeworm
Both in adults and children due to eating infected beef/pork that have been undercooked
Heat destroys it if foods are cooked properly
It's white and flat and has a head and small segments that break and are passed in the feaces.

Signs and symptoms
- Excessive appetite
- Mild abdominal colic
- Segments in stool

Prevention
- Cooking meat and pork well
- Washing hands thoroughly
- Inspection of meat by veterinary officials

13. Pinworm
Common in places where there are no latrines. It lives in human intestines, it's fully developed in hooks and lays eggs.

Signs and symptoms
- Distended stomach
- Excessive appetite
- Area around anus itchy

Prevention
- Using pit latrines/toilets
- Washing hands thoroughly and warming water
- Cooking food properly
- Boiling drinking water

Drainage
Types

1. Free drainage
Water is thrown away without any proper plan. Common in the rural
Disadvantages
- Encourages breeding of mosquitoes from swampy and damp surroundings
- Causes soil erosion
- Causes bad smells that attract flies and pests
- Makes surrounding unsightly

- Makes area slippery

2. Open drainage

Has open drainage called gutters for draining water. The gutters are normally on the roof fixed to collect rain water

Concrete ones land water from each holding to main gutters by roadside that carry water out

This can be made by digging a narrow drainage system that is not connected

Advantages

- Are easy to contract and can be made without expensive fittings
- Are easy to clean and maintain

Disadvantages

- Get flooded when it rains heavily so its dangerous
- Unsightly and smelly if not cleaned
- Can be a breeding place for pests

Care of open drainages

- Should be shallow for easy cleaning
- Should be kept clear of rubbish for water to flow freely
- Disinfecting regularly

3. Concealed drainage system

Is the best for removal of water from kitchen, bathroom and water closed

i) Used where there is piped water supply waste water is through pipes land to the concealed drains eg disposal of waste water from kitchen and bathroom.

ii) Disposal of sewage – waste from water closet

iii) Inspection chamber – its meeting point for 2/more drams carrying dirty water bathroom, kitchen, toilet. It's concrete pity is covered with air tight iron cover that can be lifted up for inspection

iv) Sewer – it's a very large pipe where sewage from various houses goes to. Runs underground and goes out of town to sewage works

v) Sewage works – it's where sewage is treated making it harmless, bacteria is destroyed. Sludge (solid water) is separated from effluent (liquid) processed then sold as fertilizer
Liquid is treated then flows to rivers or used for irrigation.

Septic tanks

If house is not connected to main sewer then the wastes will be drained into these tanks

It has two pits below ground. Sewage drains into 1st pit, solid wastes sink to bottom and liquid is removed by local authority.

Liquid flows to next pit and is drained into ground

Cesspool (pit)

Are concrete tanks built underground used where there are no sewers.

Should be emptied regularly by local authority

Sewage pit

It's a hole filled with big stones and is covered with a slab of corrugated iron then soil

Waste water is drained into it and soaks in the surrounding soil. Used where there are no public drainages

Should be away from the house and well

Advantages

- Are hygienic content not exposed

- Are not unsightly

Disadvantages
- Only used in places with piped water supply
- Expensive to install
- Careless using makes maintenance expensive

Care of concealed drainage system

1. The sink
- Ensure water in the bend is clean by allowing water to run through
- Put disinfection down to keep off bacteria
- Put grease solvents down sink to prevent blockage
- Unscrew cleaning eye occasionally to clean the bend
- If there is a blockage: remove any pieces of food
  Fill bottom with water and use a rubber puncher to unblock
  For hot detergent water through to melt grease

2. The water closet
- Flushing after use
- Cleaning and disinfecting daily
- Not throwing newspaper, pads into the toilet

3. Drains
- Removing litter (leaves regularly
- Keeping trays clear of any solids
- Pouring hot water and grease solvent eg soda down drawn to clear and prevent bad smells
- Checking at inspection chamber to ensure they are clear of solids frequently.

Repair of clothes and household articles
- Clothes are kept neat and in good repair to retain their smartness
- To prevent repair of clothes, they should be given good care during washing, wearing and storing and after buying

Buying clothes
- Clothes should always be examined and areas found weak examined coz ready made clothes are produced in a mass
- Tightening all buttons to prevent loss
- Strengthening other fastening
- Strengthening helms, seams and base of openings
- Attaching hanging loop on skirt waists and jackets
- Widening opening to prevent straining them

Wearing clothes
- Don’t wear/remove clothes without unbuttoning to avoid straining them
- Pulling socks and stretching them on palm and sliding foot through
- Cutting toe nails to avoid tearing them
- Avoiding hooking household articles these creates holes on them

Washing
- Not hanging on hedges can easily be torn
- Taking care to weak fabrics eg by not rubbing when wet
- Repairing before washing to prevent torn part from elongating

Storing clothes
Methods
- Hanging
- Folding and storing

Methods of repairing clothes
- Patching
- Darning

Factors that determine methods/choice
- Size of tear – big hole suits in a patch because its storage
- Washability – a patch can stand frequent washing more than a darn
- Fabric – patching suits thin fabric and vice versa to darn

Darning
- It creates a new piece of fabric within a hole,
- It suits repair of small holes and thin sections of knitted and woven fabric,

Equipment needed
i) fine darning needle
ii) matching thread in colour and thickness

Rules for darning
- don't pull the fabric while darning,
- use matching thread (colour and thickness),
- a loop of thread should hang at each end to allow room for shrinkage,
- the darn should be irregular to distribute strain of new thread,
- should be darned on w.s.,
- stitches should be as short at possible to make the darn fine,

Darning a hole in woven fabric
- trim edges of hole,
- darn from outside for the thin area round the hole to be reinforced,
- arrange strands to be over and under edge of hole,

Diagram

- when darn in complete in first direction turn work and darn across opposite direction till hole is filled.

Diagram

Darning a hole in knitted
- should be from w.s.,
- should begin from outside hole to inside,
- catch free loops on cut edges to parent laddering,

Machine darning
Advantages
- it is very quick,
  N/B:- it is done on article whose appearance doesn't matter,
- Done on e.g nightwears and household linen,
- Builds small tearing,
- A backing may be added on underside of hole to add strength,

Method

i)	remove press foot for fabric to be handled with ease,
ii)	strength the material on the embroidery loop for w.s. to be on top,
iii)	place loop (embroidery run) under needle flat side of lood on r.w,
iv)	slowly stitch moving fabric forwards backwards side to side till hole is covered,

Diagram

Types
- tears caused by an accident,
- a clear tear has warp and weft edges,
- fishborn stitches are used to hold edges together before darning,
- it is worked on w.s,
- a thread is fastened the needle passed under one side then the other to draw edges then the other to draw edges together,
- thread is then reinforced

Hedge tear
Are triangular on straight threads. Darn can be confined closely to cut.

Method
Plan darn extending 6mm beyond cut.

Draw edges together with fishborn trichering before beginning to darn.
Darn beyond cut 6mm to 1cm depending on cut and type of fabric, continue during 6mm to 1cm beyond cut thread hanging.

- Darn in a similar may from other end, darn across corner till stitches are level with first darning.
- Darning at the corner helps keep the grain of fabric strong and symmetrical.

Diagram

Across cut darn
- It is cut not on straight grain,
- It is a clean slit that is cut on cross,
- Darning is done in the direction of weft and warp threads.

Diagram

Method
- hold edges together with fishbone stitches,
- darn 6mm away from end of cut warpwrist,
- turn work darn weftwise,

Diagram

Straight cut darn
- it is cut on straight thread and has no worn area surrounding,
- darning is done on r.s,

Procedure
- begin with a few rows of darning stitches beyond cuts end.

Diagram

PATCHING
Done when a large area is worn thin and its too big for a darn,
Advantages; it is quick and strong,
Best when done by machine,
Can be functional/decorative.

General rule for patching
1) should be inconspicuous unless of decorative,
2) should be strong,
3) should match the article in texture, weave and colour,
4) the warp thread of patch & garment should match & patterns on printed material should match,
5) if near a hole/tear the patch should be sewn first then hem/ream fixed,
6) should be square/oblong.

Types of patches
i) print patch
ii) calico patch

i) print patch
- it is for repairing printed material.
- if is put on the r.s of garment

Method
i) cut patch large enough to cover all worn area plus 1cm seam allowance,
ii) fold seam allowance to w.s untie corners to reduce bulb press flat,
Diagram

iii) match grain and design, pin tack patch w.s to r.s of garment.
Diagram

iv) remove pins machine it in position,
v) trim worn out ones leaving 2cm turning,
vi) neat raw eagles using loop stitches

ii) Calico patch
Used for bed and table linen,
- Its strong and flat so easy to launder,
- Old pieces of actual fabric should be used for patch to match/ should be one that is near in colour, texture and material,
- It is placed on w.s of fabric,
- Should be oblong/square for grain to be easily matched,
- If new patch is to be used the fabric should be washed and ironed to allow it to shrink,

Method
a) cut patch large enough to cover the hole and worn out area around plus 1cm seam allowance,
b) place warp threads of patch to warps of work,
c) fold turning r.s entire corners ,
d) pin patch to w.s of work,
e) tack it in position hem all round or machine close to edges,

f) trim worn out areas within 1cm,
g) crease patch diagonally skip all four corners to 5cm of edge of patch,
diagram

- crease along straight of fabric corner to corner,
- trim torn materials along fold,
- snip into corners, turn under edges pin back hem,
  diagram

- remove backing press,
- machine close to edge,
  diagram

OTHER RENOVATIONS

Hanging hems

- strong and appropriate stitches should be used to avoid opening up of hem and before fixing them edges should be well neatened,
- seams that open to the hem should be strengthened before fixing hem by edge stitching/loop-stitching.

Gaping seams

Causes

- garment being too light,
- making seams with very large stitches; to avoid this clothes should be of the right size and seams should be strengthened,

To repair

- unpicking all weak stitches along seamline,
- a row of strong stitches along seam is made,
- hem must be removed before stitching a seam that opens at hem,
- appropriate stitches to be used hen fixing the hem,
- seam should be pressed flat,
- raw edges should be neatened if necessary,

Replacement of buttons

Reasons for replacing

i) when one is lost and one is not able to get a similar one,
ii) when one needs other types of buttons on his/her garment,

Points to consider

- buttons should match fabric/contrast if for decorative purpose

How to replace

- remove the remaining ones,
- place new buttons at same position of old,
- attach correctly on double fabric,

Diagram

- neat on w.s.

Buttonhole repair
Wear out because of pressure on them if garment is tight
Diagram

N/B:-
- buttons should not be strained because repair interferes with garments beauty,
- if button hole opens up then a decorative method should be used for repair,

Repair of belts and loops
- the two wear out because of strain on them,
- they strain and open up so the correct size should be worn,

Diagram;

- sometimes they crack and split on sides so a strong piece of same fabric should be added on w.s to strengthen,
- firm row of stitch to strengthen can be worked. this can be for beauty too.

Loops/belts carriers
- are for holding belts,
- loops may get loose and come off because of strain,
- strain can be due to using wider belts than loops,
- incase they come off should be stitched immediately.

FORM THREE HOMESCIENCE NOTES

Importance of meat planning

i) for meals to be enjoyed by everyone,

ii) to save time, energy and money,

Why meals should be served attractively

i) to create interest and promote appetite,

ii) to increase enjoyment

Factors to consider in meal planning

i) balanced diet, meals should confirm all food nutrients in correct amount,

ii) i.e proteins to build the body and replace worn out tissues,

iii) carbohydrate to provide energy and heat to the body,

iv) fats and oils – fuel/energy giving,

v) vitamins to protect the body,

vi) roughages – a broom that removes waste products from the body,

vii) water to prevent dehydration and aid digestion

MEAL PLANNING AND MANAGEMENT

What is a meal?

It is food/nourishment/dishes prepared to be taken at a particular time. Three meals should be taken per day;

Breakfast

Lunch (mid day meal)

Supper (evening meal)

- Breakfast provides the basic requirements for the day. It is always important to have all the three meals.

Importance of meal planning

i) it ensures meals are adequate/enough for family members and meets individual preferences.

ii) ensures that meals are balanced to meet dietary requirements of all family members e.g children, elderly, adolescents and sick,

iii) Ensures meals are presented and served attractively to stimulate appetite and enjoyment.

Factors to consider when planning meals

i) Nutritional balance

Meals should have all food nutrient in required amounts and proportions, i.e proteins, carbohydrates, fats and oils, vitamins, mineral salts, water and roughage.

ii) Individual requirements

Points to consider

a) Body size
   - Food required to maintain body processes
   - Men need more energy than women because they are heavily built,
   - Children need less food than adults because they are small in body.

b) Age

- Growing babies, children and adolescents require body building, protective and energy foods,
- Elderly need more proteins and protective food than carbohydrates.

c) State of health

- sick people have a low metabolic rate so need less energy,
- they need more protective and body building foods for recovery and for protecting against diseases,

d) Occupational/occasion
   - people with occupations requiring mainly mental activity need little energy giving foods e.g office workers while manual workers need more of this.

e) Sex/gender
   - women need more iron than men because they loose blood during menstruation and delivery,
   - calcium and protein to be shared between the two.

f) Climate
   - serve cold foods during hot weather and vise versa.
   - it should be hot during cold weather because people tend to eat more during this weather to meet increased demands for energy to keep warm,

g) Money available
   - the budget of food should be within what one can afford,

h) Foods in season
   - should be ones in season because they are more available, cheaper and fresh.

i) Time available
- it determines - type of foods and
                - no of dishes

N/B:- convenient; foods some times are used if time if limited.

j) Fuel
   - it influences efficiency and cost of cooking

k) Facilities available;
   e.g - food preparation facilities
   - cooking facilities,
   - serving and storage facilities,
   - time and labour saving device that save on time and energy during preparation and cooking.

l) Occasion
   - should suit occasion,
   - e.g - birthdays
   - weddings
   - anniversaries
   - graduation parties

   These occasions need dishes that are a variety and style of presentation.

m) Providing variety
   i) Colour
   - should be interesting colour combinations
   - use 3l more to break monotony,
   - use garnishing to bring in a milling colour e.g green, red/yellow and make meal attractive,

ii) Texture
- e.g crispy, crunchy, and tender

iii) Flavours
e.g salt, sweet, plain, flat/aromatics,

iv) Satiety value
- Provide enough food to satisfy everybody

Knowledge and skills
The work should have knowledge on nature, value of food,
Conservation of nutrients during preparation and cooking,

Individual likes and dislikes
This should be considered because;
- Dislike can reduce flow of digestive juices in severe,
- It reduces enjoyment,
- Causes indigestion,

N/B:- favourite dishes shouldn't be served frequently because they become monotonous.

Types of meals
- A meal has one/more causes,
- May have an appetizer, main course and dessert,
- An appetizer is a small amount of food/drink that stimulates appetite,
- A main course is a dish that has a protein food, a carbohydrate and vegetable,
- A dessert is a sweet dish served as last course of a meal

Examples of meals
One course meal
- Has a protein food, a carbohydrates and a vegetable,
- Has a starter and main course or main course dessert,

Three course mal
Has a starter, main course and a dessert

Formal dinner
Has six/more courses;

Course (i) e.g appetizer (eggs and mayonnaise)
Course (ii) cream of vegetable soup and croutons
Course (iii) fried fish fillet,
Course (iv) roast leg of lamb, baked potatoes, glazed carrots and fried spinach,
Course (v) fruit salad
Course (vi) banana custard pudding, tea/coffee may be served after the meal away from D.T e.g in living room
Cold beverages (appetizer) may also be served before dinner.

FOOD PRESENTATION
Its service of prepared food ready to eat well cooked and attractively presented food;

(i) interesting
(ii) stimulates appetite

It involves
Food service
i.e plating/dishing out food
i) ..
ii) decoration and garnishing
iii)clean and appropriate dishes/plates

FOOD SERVICE
- It is presentation of food at table,

Points to observe when serving meals
- room should be clean and well ventilated,
- table should have a well laundered tablecloth if table is highly polished, mats should be used to protect surface,
- table should be set attractively and appropriately,
- clean dishes to be used,
- use large serving for food to be arranged well,
- dishes should be free of smudges,
- foods to be served on time,
- hot foods to be served hot in hot dishes, cold to be cold when served.

STYLES OF MEAL SERVICE

i) Plate service
Food is served on plates then passed to members

ii) Family table service
- Dishes are placed on the table in dishes,
- table is set for members
- househelp/host serves dish
- members serve themselves

iii) Buffet service
- It is used to entertain a large number of people,
- food is put in dishes/food warmers and placed on table,
- cutlery and plates are placed where serving starts,
- guests serve themselves eat while standing or sitting at set table,
- foods should be easy to eat with no cutlery / just forks and knife

TABLE SETTING FOR AN INFORMAL MEAL
It is a meal with 3 simple courses e.g soup, main dish and dessert.

TABLE SETTING FOR A FORMAL MEAL
It is a meal with a large variety of dishes,
It requires extra cutlery and table setting is more elaborate.
GARNISHING AND DECORATNG FOOD
This is done to make food colourful attractive and interesting.
N/B:- colour and design have to harmonise some may be cooked others and raw,

Raw garnishes
Advantages
- they give fresh colour and flavour
- they provide vitamin C, e.g are carrots, tomatoes, pepper lettuce and palsey,

Cooked garnishes
Used on hot dishes,
N/B:- (i) they should be hot e.g grilled meat garnished with grilled tomatoes,
(ii) cold ones should be used on cold dishes e.g cakes garnished with cherries,

Preparation of garnishes and decorations
Garnishes
- pulses – dropped/springs and should be fresh,
- water cress used in leaves/bunches,

Lettuce
- vegetables e.g cucumber, mushroom, beetroot, carrots, green pepper, celery to be cut into lubes, strips/balls,
- eggs sliced, grated/wedged,
- onions cut into rings, slices/flowers,

Decorations
- chocolate – grated and coloured sugar,
- jelly crystals and coloured sugar,
- wrapped screen,
- glace cherries chopped/sliced,
- nuts chopped/whole,
- tiny piped on cakes/sprinkling/dusting on sweet dishes and cakes,
- desiccated coloured coconut sprinkled on dishes
- crystallized fruits/chocolate drops,

Flavouring food
Achieved in 3 ways;
- developing material flavours of food e.g by frying with onion/garlic,
- mixing different ingredients to introducing their flavours into foods,
- adding flavourings to food with no flavour, e.g herbs, spices and essences.

1) Herbs
E.g
i) Gharlic
used in salads, soups and stews,

ii) persley
is a garnish as well as flavouring chopped/used whole,

iii) bay leaves - for savouring drinks
- and sweet ones

iv) bougret barni – it is a bunch of leaves, gives flavour to foods cooked in stock/water,
e.g soups and stews,
Has different herbs and spices that are tied together in a cloth interlooks with food and is removed when food is ready

Fine hers
e.g fresh chopped parsley
used in stews/other savoury dishes ,

Mixed herbs
Are a variety of aromatic dried and crushed leaves,
Flavours savery and sweet dishes used separately/mixed when cooking.

2) Spices

Are a variety of aromatic seasoning. From roots, flowers and seeds of plants; e.g

- summin seeds,
  for flavouring curries, pilau, samosas and pastries,
- Cloves
  are buds of a plant,
  for sweet and savoury dishes
- Cardomons
  Seeds in a pod,
  Are for flavouring sweet dishes curries and sauces,
- Celery seeds
  Are for celery plant,
  For soups, stews and sauces,
- Cinnamon
  Are of cinnamon plant,
  Used to flavour sweets dishes, cakes and puddings
- Chilles
  Seeds of chilly plant,
  For curries and stews
- All spice
  Aromatic being
  For stews, gravies and puddings,

3) Essences

Extracted sometimes from alcohol or synthetic substances.
N/B:- not as good as natural ones, they are cheap
e.g
i) fruit essences e.g lemon, orange, pineapple,
ii) vanilla e.g synthetic vanilla,
iii)other essences e.g rum, pepper mint and auction.

4) Other food additives

e.g - beef extracts
- colourings,
- flavoured salts e.g onion, salts and celery salts.

MEALS FOR SPECIAL GROUPS OF PEOPLE
Meals for children
Points to consider when planning and serving meals for children

- should be given a lot of energy giving foods; why?
  because they play a lot/are more active
- diet should be balanced but with plenty of energy foods,

- plenty of calcium and phosphorous for strong bone and teeth formation e.g milk and meat are rich sources,
  plenty of iron is also needed e.g eggs, meat, liver and green vegetables.
- Foods provided should be plenty variety for child to choose,
- Should have cruchy and crisply foods that need a lot of chewing to strengthen teeth and bones, e.g toasted bread, husk maize, sugar cane and raw carrots,
  i.e texture should be varied.
- should be served in small servings and on correct plates/bowls,
  N/B: large servings discourage them,
- present food attractively to create appetite,
- serve particularly at regular intervals,
- shouldn't be highly seasoned, flavoured/sweetened,
- avoid snacks between meals apart from milk and fruits
- fluids e.g clean boiled water and fresh juices should be given to;
  i) help in digestion
  ii) to replace fluids lost during play
- fruits and veges to be given to prevent constipation since they give roughage.

Suggested suitable dishes for children

shepherd's pie
cream soups
meat stew
fish
chips
boiled vegetables
boiled rice
mashed potatoes
vegetable salads
fruits salad
fruits and jellies
milk puddings

Meals for adolescents

N/B:- the stage is characterized by;

i) rapid growth,
ii) changes in the body that are rapid,
iii) healthy appetite
iv) consume large amounts of food

Points to consider when planning and serving meals for adolescents

- balancing i.e giving plenty of proteins, mineral salts e.g iron, calcium, phosphorous and vitamin C,

N/B:- - need more iron to replace lost iron during menstruation
- more of energy rich foods e.g fatty ones to reduce the amount of food consumed e.g bread, and butter, rice, starch and vegetables.

- should give enough food since they have a healthy appetite,
- meals to be given at regular intervals and serving should be attractive,
- should have plenty of vegetables (green) and fresh fruits to given roughage,
- give plenty of fluids to replace liquid lost during physical activities.

Suitable dishes

Hamburgers
Fish
Chips
Roast meat (chicken)
Fresh fruits
Boiled rice
Boiled potatoes
Fried/stewed fish

Meals for invalids
An invalid is a sick person
N/B:- should always have good diet,

Types: i) those following doctors dietary orders
ii) diabetes and gout cases,
iii) those following doctors general advice i.e only a few foods are restricted

Points to consider when planning and serving meals for invalids
i) Balanced
having body building and protective foods in plenty
ii) Follow doctors orders strictly; e.g giving plenty of fluids if ordered,
iii) Meals to be served punctually and at regular intervals,
iv) They should be prepared and served under hygiene condition () to protect patient from further infections,
v) Meals to be served attractively to create appetite e.g garnishing,
vi) Serving in small helpings and encouraging 2nd ones,
vii) Food to be presented on a tray large enough to hold dishes,
viii) Should have a centerpiece/flower to create appetite,
ix) Foods to be soft and easy to digest;
N/B:- reheated fatty foods shouldn't be given because they are hard to digest, methods that make food easy to digest should be ones to be used e.g
- steaming
- boiling
- stewing

x. strong flavoured foods and smelling ones to be avoided,
N/B:- don't over season
xi. hot fluids to be served hot and cold served cold
xii. patient should be in comfortable sitting position when having meals,
xiii. clear left overs and utensils immediately patient is through with the meal

Suggested suitable dishes for invalids
- meals (rinsed) stew,
- chicken/beef,
- mashed potatoes,
- boiled rice,
- milk puddings,

- fruit salads
- jellies
- steamed fish
- steamed puddings
- baked fish
- poached fish
- eggs

CONVALESCENT FOODS
A convalescent is a person recovering from illness.

Points to consider: refer to invalid though
i) amount served should be slightly larger
ii) should be plenty of energy giving foods because they are now active
iii) using a variety of cooking methods e.g frying, roasting and grilling
iv) the person can join others at table,

Suitable dishes
- poached eggs
- boiled eggs
- omellettes
- scrambled
- fruit juices
- soups
- porridge
- jellies
- milk puddings
- baked and steamed puddings
- beef stewed/roasted
- fish (stewed, boiled, poached/steamed)
- fruit foods,
- fruit salads/whole fruits

MEALS FOR ELDERLY
Diet is affected by physiological changes in the body; e.g
i) decreased level of acidity of gastric juice,
ii) reduced rate of absorption
iii) loosing teeth that prevent them from eating hard foods
iv) how metabolic rate
v) sense of taste and smell reduced hence low appetite
vi) physical activity reduced

Points to consider when planning and serving meals for elderly person
- body building foods and protective ones to be normal amounts
- less energy foods
- should be soft foods palatable and easy to chew
- should be what they are willing to eat
- should be rich in calcium, phosphorous, iron, iodine and Vitamin A, B, C & D,
- serving to be in small amounts at equal intervals,
- foods to be served attractively in attractive dishes to create appetite
- seasoning to be done well

Suitable dishes
- Baked fish
- Steamed dishes
- Steamed & baked puddings
- Boiled eggs
- Boiled rice
- Boiled potatoes
- Casseroles of chicken
- Liver
- Shepherds pie
- Dengu
- Chapattis
- Ugali

MANUAL WORKERS

Are people involved in heavy work. They spend a lot of body energy and muscles are very much exercised therefore diet should provide enough calories and proteins in strengthen muscles.

Points to consider when planning and serving meals for manual workers

i) Balanced; more energy giving foods e.g carbohydrates and fats,
ii) should have Vitamin B foods to facilitate energy released,
iii) amount should be enough,
iv) should be well flavoured,
v) let it be of fluids in plenty to replace that lost in sweating

Suggested suitable dishes for manual workers

- stews
- roast meat
- ugali
- chapattis
- boiled rice
- irio
- fruit salads
- fied meat
- fish
- vegetable salads

PACKED MEALS

People who needed packed meals

i) workers who don't obtain food at work,
ii) school going children
iii) travelers
iv) picnic goers
v) children on school tours

Points to consider when planning packed meals

i) Balanced
ii) include water/nutritious drink because the meals are normally dry, e.g soup, porridge, tea, coffee, milk & fruit juice,
iii) let family meal cater for packed meals e.g preparing supper that can be packed next day for lunch,

iv) pack seasonings;
v) should be easy to pack and eat without cutlery,
vi) know how the meal will be carried to ensure correct packing
vii) pack cold foods when hot and vice versa
viii) include a crispy food e.g raw carrot for cleaning teeth

Equipment needed

- polythene bag,
- plastic containers e.g lunch boxes
- aluminium foil
- crease proof paper/clinging film
- bottles and flasks

Points to consider when packing foods

i) pack food separately
ii) soups and hot drinks to be in flasks,
iii) sandwiches to be wrapped in alluminium foil greaseproof paper/clinging ones or use sandwich boxes
iv) hot foods to be in flasks/small plastic containers,
v) fruit juices to be plastic bottles,
vi) salads to be in polythene bags/plastic containers,
vii) all packed foods to be in a bag or plastic bucket,
viii) pack cutlery serviettes disposable plates, cups tumblers

Suitable dishes

- soups,
- fruit juices
- liquids
- meat and vegetable salads
- sausage rolls
- fish pasties
- pies
- scotch eggs
- whole fruits/fruit salads
- irio, sukumawiki, githeri, sweet potatoes and rice
- sandwiches, cakes, scones, samosas, mandazi

MATERNAL CHILD HEALTH CARE

Safe parenthood

Importance

- it ensures trouble free full term pregnancy,
- safe childbirth
- good health to mother/baby

Ways of achieving safe parenthood

- mother should meet the nutritional needs,
- social preparation of mother
- psychological preparation of mother,
- voluntary counselling and testing (VCT) for HIV,
- correct age of parents.

Nutritional needs

- it is for (i) health of mother
  (ii) growth
  (iii) development of foetus

N/B:- - foetus takes all nutrients required from mother even in mother has too little.
- if calcium for mother is too little and its drawn by foetus then she will have weak bones.

Social preparation

- it gives peace of mind for mother so that she is mentally prepared to stand the expected discomforts and prevent miscarriage that is normally as a result o excessive hormone production

Psychological preparation of expectant mother

- it is for positive mental attitude towards pregnancy,
  N/B:- excessive worrying increases production of hormones that may lead to;
  : miscarriage
  : depression to mother

Voluntary counselling and testing (VCT) in HIV

If done they will be able to take care of themselves.
(i) Counselling of mother can be done;
(a) mother can be given great care during birth not to infect the baby,
(b) mother is able to get an anti-retroviral drug, it prevents transmission of the virus to the baby on delivery within 72 hours.

Age of parent

- too young mother risks her life and baby's,
- too old risk getting abnormal children especially if getting them for the first time
- N/B:- recommended age is 18-35 years.

PREGNANCY

Signs of pregnancy:
i) stopping menstruation
ii) nausea/morning sickness 3-4 months
iii) desire to pus urine frequently,
iv) graving for certain foods and ditching others
v) enlarged breasts
vi) tender nipples
vii) enlarged abdomen
viii) dark-line on abdomen from navel downwards,
ix) moving of foetus at approximately 5 months
x) skin complexion changes smoother, lighter/opposite
xi) heartburn
xii) frequent constipation
xiii) backache
xiv) mild uterine contractions.

Common problems during pregnancy
i.e danger signs/disorders

- tiredness feeling and breathlessness caused by anaemia/lack of enough iron,
  N/B:- Baby may be big/may be twins
- fake mild labour 8^{th} – 9^{th} month, because of pressure of baby,

- vaginal bleeding (threat of miscarriage)
- oedema on feet not dangerous
- the one on hands and face is dangerous because it means there is poor blood circulation or coxaemia (poisoning as a result of bacteria toxins in blood)
- severe persistence of abdominal pain (a sign of threat of miscarriage)
- swelling of varicose veins (twisted and painful veins on legs) due to standing for long at early months there will be; (i) blood circulation interference (ii) excessive blood loss in case of bursting
- high blood pressure
  mother's life and foetus will be in danger because it can lead to a miscarriage,
- severe vomiting (excessive) beyond 4 months ,
  mother can't be healthy same to baby, it denies them nourishment
- dizziness/blackout:- it can be due to lack of iron in blood (toxaemia)
- amniotic fluid appearing; cam lead to a miscarriage/childbirth
- piles/haemorrhoids; i.e varicose veins in anus, could be because of constipation
  are painful though disappear after pregnancy,
- leg cramps;
  consult a doctor,
  mother should eat foods rich in calcium
- heartburn
  not so serious though cause discomfort

N/B:- mother should know foods that cause it and avoid and should eat light meals frequently.

Needs of expectant mothers

Nutritional needs

a) the mother needs diet having all nutrients for the two of them,
   she has special nutritional demands i.e need extra of some nutrients.
   i) if a good diet is not provided and mother has frequent births the babies will be small in size
   ii) mother will experience exhaustion
   iii) mother will be sickly and anaemia

b) N/B:- mother needs extra food requirements for
   i) growth of foetus,
   ii) because of various changes in the body

   Amount of nutrients required depends on
   i) individuals
   ii) stage of pregnancy

c) Mother needs extra intake of;
   - protein
   - roughage
   - calcium

Extra nutrients needed

a) extra iron

Because i) during the last month of pregnancy, foetus stores enough iron to last for 6 months
ii) for proper formation of haemoglobin

iii) to prevent anaemia
iv) to cater for mother and foetus

Sources - beans
- dark green vegetables
- eggs
- lean meat (pork and liver)

b) calcium

i) for proper bone formation of foetus bones and teeth
ii) to cater for mother and foetus or else foetus will draw it from mothers teeth and bones.

Sources - milk
- cheese
- eggs
- unrefined cereals
- legumes
- durable bones

c) proteins

needed for growth of foetus
for maintenance of mother requirements.
e.g - meat
- fish
- poultry
- termites
- pulses, (beans, peas, greengrams/nuts)

d) calories

- for proper development of foetus,
- for her to be able to increase weight of about 10-12kg during whole period of pregnancy,

N/B:- - should avoid too much fat because
i) it slows down digestion
ii) causes constipation, nausea and heartburn

Protective foods

- should be provided everyday and enough
- should be bright yellow ones i.e fruits and vegetables,
- should be at regular intervals for regular bowel movements; why?
- to avoid constipation that can lead to piles (haemorrhoids)

N/B:-

- there will be craving but mother can provide other foods
- should take plenty of water for digestion if not having oedema,
- should not take alcohol because it slows low foetal growth.

Physical needs

- getting enough sleep at night and at least 1 hour at daytime,
- work normally though should not life heavy loads/suffer fatigue,
- exercises e.g walking,
- putting on free dresses and well fitting, low healed shoes because they are comfortable,
- bathing daily, brushing teeth cleaning hair, wearing clean clothes
- resting feet on a low stool (foot rest) to prevent swelling

Emotional needs

- needs a peaceful environment i.e no quarrels and anxiety;

why:- shouting too much and quarreling worries and disturbs foetus

- needs confidence and positive mental attitude i.e should accept her condition and be ready for birth of baby,
- should be proud of her condition to cope with physical changes on her body,
  N/B:- should not tie waist to hide the pregnancy because it interferes with blood circulation.
- needs a happy atmosphere so needs entertainment e.g preparing to celebrate birth of baby despite the sex/disability factors,
- should be mentally healthy e.g illnesses like HIV/AIDS can cause too much worrying that can lead to a miscarriage.

Social needs (role of the family)

Needs support from all members if even if they don't accept the pregnancy.

N/B:-

- mother should never be exposed to pressure/frustration at home and at work it cause emotional reasons,
- should make sure that while in hospital someone will take care of the other children and home,
- not getting bad remarks about the condition
- should be assigned to do light duties and not heavy,
- informing the young children about baby's arrival and told to accept the situation,

ANTENATAL CARE

It is care given to an expectant mother from conception time to delivery.

- It is important because it ensures safety of mother and foetus.

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FORM THREE HOMESCIENCE NOTES

Importance of meat planning

for meals to be enjoyed by everyone,
to save time, energy and money,

Why meals should be served attractively
to create interest and promote appetite,
to increase enjoyment

Factors to consider in meal planning

balanced diet, meals should confirm all food nutrients in correct amount,
i.e proteins to build the body and replace worn out tissues,
carbohydrate to provide energy and heat to the body,
fats and oils – fuel/energy giving,
vitamins to protect the body,
roughages – a broom that removes waste products from the body,
water to prevent dehydration and aid digestion

MEAL PLANNING AND MANAGEMENT

What is a meal?

It is food/nourishment/dishes prepared to be taken at a particular time. Three meals should be taken per day;
Breakfast
Lunch (mid day meal)
Supper (evening meal)

- Breakfast provides the basic requirements for the day. It is always important to have all the three meals.

Importance of meal planning

i) it ensures meals are adequate/enough for family members and meets individual preferences.
ii) ensures that meals are balanced to meet dietary requirements of all family members e.g children, elderly, adolescents and sick,
iii) Ensures meals are presented and served attractively to stimulate appetite and enjoyment.

Factors to consider when planning meals

i) Nutritional balance

Meals should have all food nutrient in required amounts and proportions, i.e proteins, carbohydrates, fats and oils, vitamins, mineral salts, water and roughage.

ii) Individual requirements

Points to consider

a) Body size
   - Food required to maintain body processes
   - Men need more energy than women because they are heavily built,
   - Children need less food than adults because they are small in body.

b) Age
- Growing babies, children and adolescents require body building, protective and energy foods,
- Elderly need more proteins and protective food than carbohydrates.

n) State of health

- sick people have a low metabolic rate so need less energy,
- they need more protective and body building foods for recovery and for protecting against diseases,

o) Occupational/occasion
- people with occupations requiring mainly mental activity need little energy giving foods e.g office workers while manual workers need more of this.

p) Sex/gender
- women need more iron than men because they loose blood during menstruation and delivery,
- calcium and protein to be shared between the two.

q) Climate
- serve cold foods during hot weather and vise versa.
- it should be hot during cold weather because people tend to eat more during this weather to meet increased demands for energy to keep warm,

r) Money available
- the budget of food should be within what one can afford,

s) Foods in season
- should be ones in season because they are more available, cheaper and fresh.

t) Time available
- it determines - type of foods and
- no of dishes

N/B:- convenient; foods some times are used if time if limited.

u) Fuel
- it influences efficiency and cost of cooking

v) Facilities available;
e.g - food preparation facilities
- cooking facilities,
- serving and storage facilities,
- time and labour saving device that save on time and energy during preparation and cooking.

w) Occasion
- should suit occasion,
- e.g - birthdays
- weddings
- anniversaries
- graduation parties

These occasions need dishes that are a variety and style of presentation.

x) Providing variety
Colour
- should be interesting colour combinations
- use 3l more to break monotony,
- use garnishing to bring in a milling colour e.g green, red/yellow and make meal attractive,

Texture
- e.g crispy, crunchy, and tender

Flavours
e.g salt, sweet, plain, flat/aromatics,

Satiety value
- Provide enough food to satisfy everybody

Knowledge and skills
The work should have knowledge on nature, value of food,
Conservation of nutrients during preparation and cooking,

Individual likes and dislikes
This should be considered because;
- Dislike can reduce flow of digestive juices in severe,
- It reduces enjoyment,
- Causes indigestion,

N/B:- favourite dishes shouldn't be served frequently because they become monotonous.

Types of meals
- A meal has one/more causes,
- May have an appetizer, main course and dessert,
- An appetizer is a small amount of food/drink that stimulates appetite,
- A main course is a dish that has a protein food, a carbohydrate and vegetable,
- A dessert is a sweet dish served as last course of a meal

Examples of meals
One course meal
- Has a protein food, a carbohydrates and a vegetable,
- Has a starter and main course or main course dessert,

Three course mal
Has a starter, main course and a dessert

Formal dinner
Has six/more courses;

Course (i) e.g appetizer (eggs and mayonnaise)
Course (ii) cream of vegetable soup and croutons
Course (iii) fried fish fillet,
Course (iv) roast leg of lamb, baked potatoes, glazed carrots and fried spinach,
Course (v) fruit salad
Course (vi) banana custard pudding, tea/coffee may be served after the meal away from D.T e.g in living room

Cold beverages (appetizer) may also be served before dinner.

FOOD PRESENTATION

Its service of prepared food ready to eat well cooked and attractively presented food;
(iii) interesting
(iv) stimulates appetite

It involves
Food service
i.e plating/dishing out food
i) ..
ii) decoration and garnishing
iii)clean and appropriate dishes/plates

FOOD SERVICE
- It is presentation of food at table,

Points to observe when serving meals
- room should be clean and well ventilated,
- table should have a well laundered tablecloth if table is highly polished, mats should be used to protect surface,
- table should be set attractively and appropriately,
- clean dishes to be used,
- use large serving for food to be arranged well,
- dishes should be free of smudges,
- foods to be served on time,
- hot foods to be served hot in hot dishes, cold to be cold when served.

STYLES OF MEAL SERVICE
i) Plate service
Food is served on plates then passed to members

ii) Family table service
- Dishes are placed on the table in dishes,
- table is set for members
- househelp/host serves dish
- members serve themselves

iii) Buffet service
- It is used to entertain a large number of people,
- food is put in dishes/food warmers and placed on table,
- cutlery and plates are placed where serving starts,
- guests serve themselves eat while standing or sitting at set table,
- foods should be easy to eat with no cutlery / just forks and knife

TABLE SETTING FOR AN INFORMAL MEAL
It is a meal with 3 simple courses e.g soup, main dish and dessert.
TABLE SETTING FOR A FORMAL MEAL
It is a meal with a large variety of dishes,
It requires extra cutlery and table setting is more elaborate.

GARNISHING AND DECORATNG FOOD
This is done to make food colourful attractive and interesting.
N/B:- colour and design have to harmonise some may be cooked others and raw,

Raw garnishes
Advantages
- they give fresh colour and flavour
- they provide vitamin C, e.g are carrots, tomatoes, pepper lettuce and palsey,

Cooked garnishes
Used on hot dishes,
N/B:- (i) they should be hot e.g grilled meat garnished with grilled tomatoes,
(ii) cold ones should be used on cold dishes e.g cakes garnished with cherries,

Preparation of garnishes and decorations
Garnishes
- pulses – dropped/springs and should be fresh,
- water cress used in leaves/bunches,

Lettuce
- vegetables e.g cucumber, mushroom, beetroot, carrots, green pepper, celery to be cut into lubes, strips/balls,
- eggs sliced, grated/wedged,
- onions cut into rings, slices/flowers,

Decorations
- chocolate – grated and coloured sugar,
- jelly crystals and coloured sugar,
- wrapped screen,
- glace cherries chopped/sliced,
- nuts chopped/whole,
- tiny piped on cakes/sprinkling/dusting on sweet dishes and cakes,
- desiccated coloured coconut sprinkled on dishes
- crystallized fruits/chocolate drops,

Flavouring food
Achieved in 3 ways;
- developing material flavours of food e.g by frying with onion/garlic,
- mixing different ingredients to introducing their flavours into foods,
- adding flavourings to food with no flavour, e.g herbs, spices and essences.

Herbs
E.g
i) Gharlic
used in salads, soups and stews,

ii) persley
is a garnish as well as flavouring chopped/used whole,

iii) bay leaves - for savouring drinks
- and sweet ones

iv) bougret barni – it is a bunch of leaves, gives flavour to foods cooked in stock/water, e.g soups and stews,

Has different herbs and spices that are tied together in a cloth interlooks with food and is removed when food is ready

Fine hers
e.g fresh chopped parsley
used in stews/other savoury dishes ,

Mixed herbs
Are a variety of aromatic dried and crushed leaves,
Flavours savery and sweet dishes used separately/mixed whe cooking.

Spices
Are a variety of aromatic seasoning. From roots, flowers and seeds of plants; e.g
- summin seeds,
  for flavouring curries, pilau, samosas and pastries,
- Cloves
  are buds of a plant,
  for sweet and savoury dishes
- Cardomons
  Seeds in a pod,
  Are for flavouring sweet dishes curries and sauces,
- Celery seeds
  Are for celery plant,
  For soups, stews and sauces,
- Cinnamon
  Are of cinnamon plant,
  Used to flavour sweets dishes, cakes and puddings
- Chilles
  Seeds of chilly plant,
  For curries and stews
- All spice
  Aromatic being
  For stews, gravies and puddings,

Essences
Extracted sometimes from alcohol or synthetic substances.
N/B:- not as good as natural ones, they are cheap
e.g
i) fruit essences e.g lemon, orange, pineapple,
ii) vanilla e.g synthetic vanilla,
iii)other essences e.g rum, pepper mint and auction.

Other food additives
e.g - beef extracts
- colourings,
- flavoured salts e.g onion, salts and celery salts.

MEALS FOR SPECIAL GROUPS OF PEOPLE
Meals for children
Points to consider when planning and serving meals for children

- should be given a lot of energy giving foods; why?
  because they play a lot/are more active
- diet should be balanced but with plenty of energy foods,
- plenty of calcium and phosphorous for strong bone and teeth formation e.g milk and meat are rich sources,
  plenty of iron is also needed e.g eggs, meat, liver and green vegetables.
- Foods provided should be plenty variety for child to choose,
- Should have cruchy and crisply foods that need a lot of chewing to strengthen teeth and bones, e.g toasted bread, husk maize, sugar cane and raw carrots,
  i.e texture should be varied.
- should be served in small servings and on correct plates/bowls,
  N/B: large servings discourage them,
- present food attractively to create appetite,
- serve particularly at regular intervals,
- shouldn't be highly seasoned, flavoured/sweetened,
- avoid snacks between meals apart from milk and fruits
- fluids e.g clean boiled water and fresh juices should be given to;
  i) help in digestion
  ii) to replace fluids lost during play
- fruits and veges to be given to prevent constipation since they give roughage.

Suggested suitable dishes for children

shepherd's pie
cream soups
meat stew
fish
chips
boiled vegetables
boiled rice
mashed potatoes
vegetable salads
fruits salad
fruits and jellies
milk puddings

Meals for adolescents

N/B:- the stage is characterized by;

i) rapid growth,
ii) changes in the body that are rapid,
iii) healthy appetite
iv) consume large amounts of food

Points to consider when planning and serving meals for adolescents

- balancing i.e giving plenty of proteins, mineral salts e.g iron, calcium, phosphorous and vitamin C,

N/B:- - need more iron to replace lost iron during menstruation
- more of energy rich foods e.g fatty ones to reduce the amount of food consumed e.g bread, and butter, rice, starch and vegetables.

- should give enough food since they have a healthy appetite,
- meals to be given at regular intervals and serving should be attractive,
- should have plenty of vegetables (green) and fresh fruits to given roughage,

- give plenty of fluids to replace liquid lost during physical activities.

Suitable dishes
Hamburgers
Fish
Chips
Roast meat (chicken)
Fresh fruits
Boiled rice
Boiled potatoes
Fried/stewed fish

Meals for invalids
An invalid is a sick person
N/B:- should always have good diet,

Types: i) those following doctors dietary orders
ii) diabetes and gout cases,
iii) those following doctors general advice i.e only a few foods are restricted

Points to consider when planning and serving meals for invalids
i) Balanced
having body building and protective foods in plenty
ii) Follow doctors orders strictly; e.g giving plenty of fluids if ordered,
iii) Meals to be served punctually and at regular intervals,
iv) They should be prepared and served under hygiene condition () to protect patient from further infections,
v) Meals to be served attractively to create appetite e.g garnishing,
vi) Serving in small helpings and encouraging 2nd ones,
vii) Food to be presented on a tray large enough to hold dishes,
viii) Should have a centerpiece/flower to create appetite,
ix) Foods to be soft and easy to digest;
N/B:- reheated fatty foods shouldn't be given because they are hard to digest, methods that make food easy to digest should be ones to be used e.g
- steaming
- boiling
- stewing

x. strong flavoured foods and smelling ones to be avoided,
N/B:- don't over season
xi. hot fluids to be served hot and cold served cold
xiv. patient should be in comfortable sitting position when having meals,
xv. clear left overs and utensils immediately patient is through with the meal

Suggested suitable dishes for invalids
- meals (rinsed) stew,
- chicken/beef,

- mashed potatoes,
- boiled rice,
- milk puddings,
- fruit salads
- jellies
- steamed fish
- steamed puddings
- baked fish
- poached fish
- eggs

CONVALESCENT FOODS
A convalescent is a person recovering from illness.

Points to consider: refer to invalid though
i) amount served should be slightly larger
ii) should be plenty of energy giving foods because they are now active
iii) using a variety of cooking methods e.g frying, roasting and grilling
iv) the person can join others at table,

Suitable dishes
- poached eggs
- boiled eggs
- omellettes
- scrambled
- fruit juices
- soups
- porridge
- jellies
- milk puddings
- baked and steamed puddings
- beef stewed/roasted
- fish (stewed, boiled, poached/steamed)
- fruit foods,
- fruit salads/whole fruits

MEALS FOR ELDERLY
Diet is affected by physiological changes in the body; e.g
i) decreased level of acidity of gastric juice,
ii) reduced rate of absorption
iii) loosing teeth that prevent them from eating hard foods
iv) how metabolic rate
v) sense of taste and smell reduced hence low appetite
vi) physical activity reduced

Points to consider when planning and serving meals for elderly person
- body building foods and protective ones to be normal amounts
- less energy foods
- should be soft foods palatable and easy to chew
- should be what they are willing to eat
- should be rich in calcium, phosphorous, iron, iodine and Vitamin A, B, C & D,

- serving to be in small amounts at equal intervals,
- foods to be served attractively in attractive dishes to create appetite
- seasoning to be done well

Suitable dishes
- Baked fish
- Steamed dishes
- Steamed & baked puddings
- Boiled eggs
- Boiled rice
- Boiled potatoes
- Casseroles of chicken
- Liver
- Shepherds pie
- Dengu
- Chapattis
- Ugali

MANUAL WORKERS
Are people involved in heavy work. They spend a lot of body energy and muscles are very much exercised therefore diet should provide enough calories and proteins in strengthen muscles.

Points to consider when planning and serving meals for manual workers
i) Balanced; more energy giving foods e.g carbohydrates and fats,
ii) should have Vitamin B foods to facilitate energy released,
iii) amount should be enough,
iv) should be well flavoured,
v) let it be of fluids in plenty to replace that lost in sweating

Suggested suitable dishes for manual workers
- stews
- roast meat
- ugali
- chapattis
- boiled rice
- irio
- fruit salads
- fied meat
- fish
- vegetable salads

PACKED MEALS
People who needed packed meals
i) workers who don't obtain food at work,
ii) school going children
iii) travelers
iv) picnic goers
v) children on school tours

Points to consider when planning packed meals
i) Balanced

ii) include water/nutritious drink because the meals are normally dry, e.g soup, porridge, tea, coffee, milk & fruit juice,
iii) let family meal cater for packed meals e.g preparing supper that can be packed next day for lunch,
iv) pack seasonings;
v) should be easy to pack and eat without cutlery,
vi) know how the meal will be carried to ensure correct packing
vii) pack cold foods when hot and vice versa
viii) include a crispy food e.g raw carrot for cleaning teeth

Equipment needed

- polythene bag,
- plastic containers e.g lunch boxes
- aluminium foil
- crease proof paper/clinging film
- bottles and flasks

Points to consider when packing foods

i) pack food separately
ii) soups and hot drinks to be in flasks,
iii) sandwiches to be wrapped in alluminium foil greaseproof paper/clinging ones or use sandwich boxes
iv) hot foods to be in flasks/small plastic containers,
v) fruit juices to be plastic bottles,
vi) salads to be in polythene bags/plastic containers,
vii) all packed foods to be in a bag or plastic bucket,
viii) pack cutlery serviettes disposable plates, cups tumblers

Suitable dishes

- soups,
- fruit juices
- liquids
- meat and vegetable salads
- sausage rolls
- fish pasties
- pies
- scotch eggs
- whole fruits/fruit salads
- irio, sukumawiki, githeri, sweet potatoes and rice
- sandwiches, cakes, scones, samosas, mandazi

MATERNAL CHILD HEALTH CARE

Safe parenthood

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- it ensures trouble free full term pregnancy,
- safe childbirth
- good health to mother/baby

Ways of achieving safe parenthood

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i.e danger signs/disorders

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- the one on hands and face is dangerous because it means there is poor blood circulation or coxaemia (poisoning as a result of bacteria toxins in blood)
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- roughage
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- eggs
- lean meat (pork and liver)

b) calcium

i) for proper bone formation of foetus bones and teeth
ii) to cater for mother and foetus or else foetus will draw it from mothers teeth and bones.

Sources
- milk
- cheese
- eggs
- unrefined cereals
- legumes
- durable bones

c) proteins

needed for growth of foetus
for maintenance of mother requirements.

e.g
- meat
- fish
- poultry
- termites
- pulses, (beans, peas, greengrams/nuts)

d) calories
- for proper development of foetus,
- for her to be able to increase weight of about 10-12kg during whole period of pregnancy,

N/B:-
- should avoid too much fat because
i) it slows down digestion
ii) causes constipation, nausea and heartburn

Protective foods
- should be provided everyday and enough
- should be bright yellow ones i.e fruits and vegetables,
- should be at regular intervals for regular bowel movements; why?
- to avoid constipation that can lead to piles (haemorrhoids)

N/B:-
- there will be craving but mother can provide other foods
- should take plenty of water for digestion if not having oedema,
- should not take alcohol because it slows low foetal growth.

Physical needs
- getting enough sleep at night and at least 1 hour at daytime,
- work normally though should not life heavy loads/suffer fatigue,
- exercises e.g walking,
- putting on free dresses and well fitting, low healed shoes because they are comfortable,
- bathing daily, brushing teeth cleaning hair, wearing clean clothes
- resting feet on a low stool (foot rest) to prevent swelling

Emotional needs
- needs a peaceful environment i.e no quarrels and anxiety;

why:- shouting too much and quarreling worries and disturbs foetus
- needs confidence and positive mental attitude i.e should accept her condition and be ready for birth of baby,
- should be proud of her condition to cope with physical changes on her body,
  N/B:- should not tie waist to hide the pregnancy because it interferes with blood circulation.
- needs a happy atmosphere so needs entertainment e.g preparing to celebrate birth of baby despite the sex/disability factors,
- should be mentally healthy e.g illnesses like HIV/AIDS can cause too much worrying that can lead to a miscarriage.

Social needs (role of the family)
Needs support from all members if even if they don't accept the pregnancy.

N/B:-
- mother should never be exposed to pressure/frustration at home and at work it cause emotional reasons,
- should make sure that while in hospital someone will take care of the other children and home,
- not getting bad remarks about the condition
- should be assigned to do light duties and not heavy,
- informing the young children about baby's arrival and told to accept the situation,

ANTENATAL CARE
It is care given to an expectant mother from conception time to delivery.
- It is important because it ensures safety of mother and foetus.

-

Sodium bicarbonate and acid phosphate

The 2 are added to flour during manufacture to make it sef raising. When heated because will be produced to raise the mixture so no need of using a raising agent.

Biological method of producing because;

- it is produced by yeast biological a minute living plant of fungus type,
- under favourable conditions its cells grow and multiply. In the process it gives out because and alcohol through fermentation process.
- because will raise the mixture alcohol will escape

Conditions suitable to for growth of yeast

i) Food

i.e sugar in flour

N/B: should not be too much since it makes yeast sells rapture retard fermentation process.

ii) Warmth

All ingredients should be warmed to 25^0C and held their throughout mixing and proving process.

N/B:- should never be hot because hot temperatures kill yeast

N/B:- to yet right temp $^1/_3$ of liquid in recipe should be boiled and mixed to remaining liquid that is cold.

Should be cold temperature because it retards its growth

N/B:- Drought should be avoided they have a cooling effect on mixture

iii) Liquid

e.g water/milk

its form the solution in which fermentation process takes place.

Rules for making flour mixtures

i) good quality ingredients to be used,
ii) ingredients to be weighted correctly,
iii) correct equipment and utensils should be used during preparation and cooking method given in recipe in the following accurately

- cooking temperature and duration of cooking should be observed,
- testily for readiness the baked items before taking out of oven,

FOOD ITEMS MADE FROM DIFFERENT FLOUR MIXTURES (EXAMPLES OF FM)

i) Balters

It is a mixture of flour and an egg to which some liquid has been added to make it flour,

- N/B- mixture should be eaten well to trap air,
  Mixture becomes light because air and steam expand when it is heated.
- It should be allowed to stand covered grains absorb liquid before cooking,

Types

- Trim/pancreas batter
- Coating/thick batter

General rules for making balters

- Dry ingredients should be sieved together to mix well and incorporate air,
- Only ½ amount of liquid should be added together with egg to form a thick mixture that can be beaten in entrap air and avoid lumps,
- Mixture should be beaten well 5-10 minutes using a wooden spoon to incorporate air,
- Remaining liquid should be added to get the right consistency when surface is filled with air bubbles
- Bowl should be covered and left standing for sometime
- Food to be coated must be dry before dipping in batter in prevent altering consistency
- Heat oil to right temperature to avoid it being absorbed by food or burning of batter before food is cooked.

Balter recipes
Assignment pg 82-84

ii) Doughs
e.g pastries

Rules on pastry making
(f) Ingredients to be weighted accurately
(g) Trap as much air as possible
e.g by (i) sifting flour and salt together
(ii) rubbing in fat very lightly into flour and salt mixture
(h) Keep pastry as cool as possible during preparation why:
For gases to expand as much as possible to give a light pastry,

Ways of ensuring pastry remain cold
- Using flour kept in a cool, dry place,
- Using refrigerated fat/one kept in a cool place
- Use of finger tips to rub in fat because they are the coolest parts of hand
- Using a pastry knife/spatula to mix; they are cooler than fingers,
- Rinsing hands in cold water before handling pastry
- Not over handling pastry,
- Using a rolling pin and palette knife to lift and shape pastry
- Relaxing it in a cool place between rollings and before cooking
- Use a mixture of laid and margarine to get better results
- Roll on a lightly floured board using light, short forward strokes
- Bake in a fairly hot oven
- Add all measured liquids at once to give an even texture

General points to successful results in pastry making
a) dampen edges of pastry to help fix it to rim of baking dish when lining with pastry,
b) dampen edges of shaped pastries e.g pie (e.g Cornish pastures to help seal them)
c) glace pastry just before baking after shaping and relaxing.

Assig:
Pg. 85
Short crust pastry method
Uses of short crust pastry
- pastries e.g Cornish pastries,
- tarts e.g jam tarts and bakewell tarts,
- tartlets e.g bakewell tartlets

- sweet and savoury flans e.g banana flan, cheese flan
- turnover e.g pineapple turnover, goose berry turnover

assign:
pg 86-87 ; variation of short crust pastry

Common faults and causes
Hard and tough pastry
a) melting of fat during rubbing in
- fat not enough
- water a lot
- too heavy pastry rolling
- over kneading
- too slow cooking

too short and crumbly pastry
- fat a lot
- water too little

pastry rough/flaky in appearance
- insufficient rubbing of fat
- uneven water mixing
- a lot of flour for rolling

Shrunken cooked pastry
- pastry stretched during rotting and shaping
- insufficient relaxing

CAKE MAKING
Methods
- rubbing in method
- creaming method

Cake making can be plain/rich.
N/B:- rich cakes have a high fat proportion to flour and are made by creaming method.
- Plain ones have a lot fat proportion to flour and are made by rubbing in method,

1) Eggs: for aerating mixture
2) Flour: main ingredients that provides gluten
3) sugar: sweetens and softens cake
4) Fat: shortens a cakes i.e shorten gluten strands
make it rich and
prevents it from drying
improves flavour of cake e.g margarine and butter

5) Liquids: e.g water, milk, eggs
Bind ingredients together
they give steam that helps cake rise
6) Fruits: to improve flavour
To add nutrients
in large amounts they preserve cake
and help keep cake moist e.g lemon mind

7) Nuts: to improve flavours and add nutrients
8) Flavouring: give desired flavour to cake;
N/B: essences are volatile and normally dry the cake
rest of lemon is oily so keeps cake moist

Preparation of ingredients

a) Dry ingredients
Sieving e.g cocoa, salt and flour sieved

b) Fruits and nuts
Chopping large ones,
Blanching of nuts with a hard skin
Cleaning dried fruits and drying them before use because wet ones normally alter proportion of liquid and spoil mixture consistence

c) Lemon/orange ones
Washing and drying fruit
Grating rind finely removing only the yellow the white (pulp) gives a butter taster.

d) Prunes
Washing and steaming till soft (approx 10 minutes)
Removing stones and cutting into small pieces

e) Dates
Removing stones cutting into small pieces

f) Substances, raisin, currents, mixed peel and cherries cleaning, checking for stalk and dust and drying appropriately

Preparation of cake tins

(iii)Small cakes

- greasing patty tins,
- dredging with flour
- shaking off any extra flour

N/B: if using paper cases avoid greasing

(iv)Large cakes plain and sandwich ones

Grease and line bottom of tin with a grease proof paper/grease and dredge with plain flour.

(v) Rich fruit cakes

- when tin completely with greased grease proof paper,
- a double thickness brown paper to be tied round the tin to prevent cake burning since they take long to bake
- assign diagms pg. 90

To test whether a cake is cooked

- it should be well risen and brown,
- slightly shrunk from tin sides,
- firm to touch all over
- no bubbling sound produced
- smell cooked
- a sliver (thin knitting needles comes out clean when inserted into the middle of cake)

N/B:- The test if done when the five points have been fulfilled

It shouldn't be done too early it will cause cake sink in the middle

Cooling cakes
- should be cooled on a wire rack to allow free air circulation round cake so making steam escape
- large cakes should cool a little in the tins to prevent breaking though shouldn't be left in them for too long to prevent them having a heavy texture

RUBBED IN MIXTURES
Fat is always rubbed into flour till a mixture looks like bread crumbs before adding other ingredients.
Assign pg. 91-93

COMMON FAULTS AND THEIR CAUSE
Heavy texture
- baking powder not enough
- oven too cool
- fat to flour not proportional
- liquid a lot
- fat becoming oily during rubbing in

Dry texture
- raising agent a lot
- over cooking
- liquid too little

Course open texture
- raising agent a lot
- temperature too high
- insufficient mixing

Cake sunk in middle
- insufficient cooking
- raising agent a lot
- opening over door before cake is set so cold air comes in
- mixture too soft
- oven too cool

Large holes in middle
- insufficient rubbing in
- mixture transferred to tin in small portions so traps air between them

Buns burnt underneath
- cake too low in oven

Buns spread in tin
- water a lot
- oven too cool

Large cake rising to a peak in the middle
- cake too high in oven
- too hot at just first oven then turned down later

Uneven rising

- insufficient ingredient mixing,
- not pre heating oven to correct temperature before putting cake

Fruits sinking to bottom
- too high mixture
- wet fruits added
- too cool oven so mixture doesn't set quickly to support fruits

Uses of rubbed in mixtures
(i) Small cakes
e.g chocolate buns, coconut buns, coffee buns, ginger buns, lemon buns, rock buns

(2) Large cakes
Chocolate cake
Coconut cake

CREAMED CAKE MIXTURES
Fat and sugar are creamed together to trap air.

Points to note when making them
- butter and margarine are the best because;
  a) they are easy to cream
  b) they have a good flavour
- N/B:- fine sugar is more suitable than coarse its easy to cream
- eggs used should be fresh
- flour should be soft and dry
- weight of fat and sugar should be equal and flour double amount of fat/sugar
- amount of baking powder will depend on number of eggs and their size
  i.e the more the eggs the less the amount of baking powder

Oven temperatures and cooking times
- small cakes 190^0C (375^0F) Gas No. 5 20-25 minutes
- large cakes with little/no fluids 150^0C (350^0F) Gas No. 4 1-3 hours depending on size cakes being baked for more than 1 hour temperature should be reduced after one hour to 170^0C (325^0F) Gas No. 2 for next 1½ hours, reduced further to 150^0C (300^0F) Gas No. 2 rest of cooking time till ready.

Position of oven
- small cakes $^1/_3$ way up in oven,
- large with little/no fruits ½ way up
- fruit cakes with high fruits proportion one rack below middle of oven

Assign
Method of making creamed cake mixtures; pg 96 – 97

Common faults and their causes
Heavy and close texture
- insufficient creaming of fat and sugar
- insufficient creaming during addition of eggs
- raising agent not enough
- liquid a lot
- too slow oven
- too hot oven so mixture forms a crust before air expands,

- insufficient cooking

Cooking risen to a peak and cracked
- oven too hot
- cake too high in oven

Fruits have settled to bottom of cake
- wet fruits used
- too light mixture

Open and coarse texture
- baking powder a lot
- wrong fat to sugar or flour to liquid proportion
- insufficient creaming
- oven too hot

Dry and crumbly texture
- baking powder a lot
- cooking temperature too slow
- curdled mixture

Sinking in the middle
- creasing overdone
- baking powder a lot so gluten over stretches
- opening of oven door before cake sets so allows cold air to come in

Large holes in cake
- inadequate flour mixing so not evenly distributed
- putting mixture in tin a little at a time so air pockets form,

BREAD/DOUGHNUT MAKING

Made using CO_2 from yeast as a raising agent.

N/B:- Yeast is a living organism so needs (i) food for growth
(ii) warmth for growth
(iii) moisture " "

- works best at 25^0C (80^0F) that should be maintained through out process of handling the mixture

N/B:- All equipment should be warm same to ingredients.
- Yeast will produce CO_2 and alcohol under these conditions.
- CO_2 will raise the dough
- Alcohol will give the flavour to the mixture

Ingredients used in yeast mixtures

(1) Flour

Wheat flour used has high gluten content, that softens and stretches during fermentation.
- Kneading is done in (i) divided gluten strands (ii) spread them evenly through mixture and holds CO_2 produced during fermentation.

(2) Salt

- It flavours bread
- it prevents yeast from working too fast that can cause production of coarse textrose

N/B:- It should never be mixed directly because it tends to draw moisture from yeast hence kills it. Instead it should be mixed in flour and liquid.

(3) Sugar
It is essential for fermentation because it provides it with food
- should be in excess because it will slow down yeast action.

N/B:- amount should be weighted accurately

(4) Liquid
-e.g water, milk/mixture of water and milk
N/B:- Shouldn't be too hot should be lukewarm

(5) Fat
(i) it improves their keeping qualities
(ii) it improves flavour
(iii) adds nutritive value to product.
N/B:- Should not be excess it slows down action of yeast.

Precautions to take when preparing yeast mixtures
(i) Avoid too much sugar because it raptures yeast hence retard fermentation process.
(ii) Avoid too high temperatures they kill the yeast cells
(iii) All ingredients should be warmed to 25^0C and held there through out mixing and pouring process
(iv) Avoid cold temperature it retards growth. Avoid drought they cause a cooling effect,
(v) Salt shouldn't be put direct in yeast it tends to draw water from yeast hence kill it. Instead mix with flour and liquid
(vi) Fat shouldn't be excess it retard/slows down yeast action

Assign pg 100 – 102

Common faults and their causes in creamed mixtures
A heavy a close dough with little or increase in bulk after the rising.
- too hot liquid so kills yeast

A well risen loaf but with a wrinkled surface
(iv) over proved dough so gluten over stretches and collapses,
(v) too cool oven at initial stage
(vi) too long period of time between mixing and cooling

Burnt on underside and uncooked top
- too low in oven
- too light baking sheet not lined

uneven rising
- pouring unevenly
- ingredients mixed inadequately

Strong flavour of soda and brown specks on scones
- flour not sifted with raising agent
- high bicarbonate of soda to creaming of tar proportion

Spreading of scones and loss of shape

- liquid a lot
- fat for greasing tin a lot
- raising agent a lot
- poor shaping

BISCUIT MIXTURES

Cakes and biscuits are classified according to method usd for making.
Difference between biscuits mixtures and cake;
Mixture is in proportion of liquid used in baking.

Guidelines on biscuit making

(ii) fine sugar should b used because it gives better results than granulated ones. Coarse crystals normally give a specked appearance to product.
(iii) Mixture should be well kneaded to a stiff dough
(iv) Biscuits with low fat and sugar content should be baked in lightly greased baking tins but those with high fat and sugar content in baking sheets lined with grease proof paper
(v) They should be cooled on a wire tray for moisture to escape hence give a crispy and dry products
(vi) Should be stored in air tight tins to retain crispness.
(vii) Use temperature 170^0C (325^0F) Gas No. 3.

N/B:-

- cinnamon biscuits are sandwiched with jam and dredge with icing sugar
- chocolate biscuits with chocolate butter icing and coated with chocolate glace icing,
- assign pg 106 – 107

Method of making biscuit by creaming

Assign pg 107

PRINCIPLES OF WISE BUYING

Buying is exchanging goods/services for money by a consumer.

Ways of obtaining information used to enable a consumer wisely are:

(i) advertisement
(ii) acquaintances, friends and associates
(iii) by window shopping before buying any item

Principles of wise buying

(i) set goals/priorities of things one wants and limit of money to spend
(ii) prepare a budget to meet set goals and priorities. It will also help control and facilitate expenditure
(iii) before buying any item, consider its suitability in relation to its intended use,
(iv) it should be durable for consumer to be able to determine wear and tear of an item
(v) it should be versatile for it to serve more than one purpose, e.g a table that can be used for study as well as food services
(vi) price should match its quality. always window shop to compare prices for similar items
(vii) always have a shopping list to: (i) ensure no important item is forgotten and (ii) unnecessary ones are not bought (ii) to control impulse buying
(viii) item must be attractive in colour and design (overall appearance should be attractive)
(ix) Learn to interpret and use advertisements wisely e.g being careful when choosing persuasively/deceptively advertised goods

FACTORS INFLUENCING CONSUMER BUYING

i) Income

When income is low only basic needs will be catered for e.g food, shelter and clothing. Reduction – Increase reduces/improves purchasing power of a household.

ii) Price fluctuation

Prices of some items vary depending on time of year e.g fruits and vegetables, so it affects allocation of income

iii) Substitute products

- are products with same use as others available in market e.g margarine and butter.
- Butter is more expensive so a consumer chooses the affordable product.

iv) Complementary product

- are ones that one needs to use together with other products e.g sugar and tea
- if one needs ones product it creates need for the other. One can't be used without the other.

v) Time and energy

- if one has limited time and energy it affects shopping. She may not have time to compare prices and get best value of her money.

vi) Family set up (the stage in family life cycle)

- a family with babies/young children has different needs from that of grown ups.
- This influences type of items bought and amount of money spent on them.

vii) Rural/urban set up

- different set ups affect family and individual needs depending on what is available in certain areas e.g fruits and vegetables are cheaper in rural areas.

viii) Inflation

- it is where prices increase while income is same,
- increase in price reduces purchasing power of a person (inflation)

ix) Customs and traditions

They involve spending of money e.g feasts, graduations, Christmas and burials.

x) Need to define a certain self image

One has a desire to lice above her means to portray a certain status so influenced to spend above her means.

COMMON METHODS OF BUYING GOODS AND SERVICES

(a) Credit buying

Forms of this

- Hire purchase
- Use of Credit cards
- Use simple non-installment credit

Goods are obtained and payment done later;

Types

(i) Installment (Hire purchase)

(ii) Non-installment Credit

(i) Hire purchase (Installment)
- it is where goods are obtained after paying a certain percentage of cost price as deposit, then balance paid later through equal installments over a period of time.

Advantages:
i) consumer gets immediate use of article
ii) consumer acquires item after paying deposit
iii) consumer is able to acquire other services e.g repair and maintenance after payment
iv) buying of a durable item becomes an immediate saving for family
v) one can buy items which she/he wouldn't have managed to buy on cash

Disadvantages
vi) final cost price is higher than buying at cash because interest is charged
vii) can lead to family overspending by buying many items using the method
viii) item if not durable may wear out before final payments are done.

(ii) Use of Credit cards
The consumer uses a card to buy goods and services
Payment is from consumer's bank account.
Advantages
iii) services/goods can be acquired in case of emergency
iv) used at any time, day or night
v) some give cash credit

Disadvantages
iii) lead to over spending
iv) leads to impulse buying a consumer can buy unnecessary items
v) consumer fails to follow her prepared budget
vi) it can't be used to obtain some services e.g vegetables from market
vii) high interest charged when one isn't able to pay for the goods

(iii) Simple non installment credit
It is where one gets goods and services for a period of time then pays up when the bill arrives. E.g water and electricity bills at month end/consumer picking items from shop then pay after sometime.

Advantages
vii) consumer don't pay for goods/services immediately
viii) consumer has enough time to budget for payments
ix) has not interest charged

Disadvantages
iii) services are withdrawn if one doesn't pay
iv) payment sometimes not negotiable

(b) Cash buying
It is where money is paid in full as one obtains goods/services;

Advantages
iii) buyer sometimes gets a discount on buying price
iv) prevents over spending

v) prevents impulse buying
vi) one is able to follow a budget strictly

Disadvantages
viii) one is unable to buy an item unless she has all the money,
ix) it is not safe to carry large amounts of money for items that need a lot of cash e.g a car,
x) takes too long/is difficult to buy some items e.g a house etc.

MAKING A BUDGET
Def: of a budget
It is a detailed plan of expenditure for a certain period of time
also means money management

Importance of budgeting
v) A budget promotes wise purchasing priorities are drawn and one knows what to buy and what to spend within a certain period of time.
vi) prevent impulse buying because essential items are given priority
vii) families/individuals are able to live within their means only by what they afford,
viii) the family is able to set priorities on their present and future need and their importance at each stage of family life
ix) one is able to save
x) provides a basis of analyzing family needs
xi) family members are psychologically satisfied because their needs are catered for to their satisfaction.
xii) A family is able to estimate all their financial needs and look for other methods of supplementing income

STEPS IN PREPARING A BUDGET
There is no specific formula for making a budget because different individual family needs are unique and specific.
N/B:- The best budget is one that meets the individuals family's financial goals, in order of priority.

Gridlines/steps to follow
5) **Family financial goals (present and future)**
   - estimate short term and long term goals of the family in order of importance

   N/B:- short term goals are items/services needed after a short period of time week/month e.g clothes and household items e.g utensils, sofa set etc.
   Long term are those needed over a long period of time year/several years e.g car, house, university education for children

6) **Available cash income**
Estimate available income from various sources over a given time e.g month.

7) **List all expense, fixed and flexible**
   - these are the committed and unchangeable ones e.g car loan repayment, mortgage, house rent, hire purchase or debt payment.
   - Flexible ones are varied and sometimes include day to day requirements.

   e.gs of fixed expenses
   - Bills (water, electricity, telephone)
   - Rent

- Loan repayment
- School fees
- Salaries
- Insurances
- Medical cover
- Taxes
- Savings

e.g of flexible ones
- Food
- Medical
- Transport
- Clothes
- Household supplies
- Entertainments

8) Estimate money to be spent on listed items
N/B:- Available records can be used/approximate an appropriate figure.

9) Set some money aside for emergency

10) Set aside money for future no matter how little e.g through
(i) savings account
(ii) premium bonds
(iii) investing in a co-operative society

Factors that affect a well made budget

i) Loss of income; makes a family live on credit/savings
ii) increase income makes a family accomplish needs comfortably and leads to adjustment of a budget
iii) goals changing (personal/family goals)
iv) not being committed/following the budget
v) inflation; it reduces purchasing power of a family by increasing monetary value of goods and services.

CLOTHING CONSTRUCTION PROCESSES

Management of fullness.

This is also referred to as disposal of fullness,

Extra fabric is arranged for the following reasons. It is arrangement of excess fabric in various.

i) to get a good fit from garment
ii) shape the garment
iii) provide fashion feature
iv) decorate the garment

Methods of controlling fullness

i) dark
ii) pleats
iii) tucles
iv) gathers
v) easing
vi) smocking
vii) shirring
viii) use of elastic

Factors that determine choice include;

i) the type of garment
ii) type of fabric
iii) position

PLEATS

Are for (i) managing fullness
(ii) decorating garment

Pleat is made by making folds forming layers of fabric i.e surface, under fold and base.

Points to put in mind while making pleats

(i) raw edges of the 3 layers should match to get even width
(ii) should be pressed flat

Diagram

N/B:- - pleats can be pressed/left unpressed
- may hand freely/stitched
- width varies depending on style and desired effect

(iii) Fabric allowance/required should be three times width of pleats.
e.g of width is 3cm them fabric allowance should 9cm.

N/B:- They can be close to one another or at intervals depending on style/effect desired.

Disadvantages

They don't provide extra fullness but are attractive

Types
(i) Knife pleats
(ii) Box pleats
(iii) Inverted pleats

KNIFE PLEATS
Are pleats arranged to lie facing same direction.

Procedure of making
(i) Use thread marking/tailor's chalk to mark position of pleats,
(ii) Fold for surface to be on top underfold in the middle and base at bottom,
(iii)Baste and press to prepare for attaching.

Diagram

It is where a pair of knife pleats face away from each other.
2 base layers meet on w.s of work.

Making the box pleat
(i) mark position of pleats on r.s.
(ii) make 2 knife pleats to face away other meeting at centre of box w.s.
(iii)baste and press ready to be attached.

Diagram

INVERTED PLEATS
Are the reverse of box pleats.
2 folds of knife pleats face and meet at a point on r.s forming a box on w.s.

Making procedure
(i) mark position as for box pleats
(ii) two knife pleats should face each other and meeting at centre on base
(iii)baste and press ready to attach

Diagram

TUSKS
It is a double fold of fabric with entire length and through double fabric,
N/B: They must always be with stitches through full length,

Are mainly decorative though functional
Used on bodice and skirts,
Allowance of fabric is twice size of complete tuck,
e.g 3cm tuck = 6cm fabric width
size varies depending on
(i) effect desired
(ii) style of garment

Types
(i) pin tucks
(ii) wide tucks
(iii)shell tucks

diagram

(a) pin tucks
are tiny tucks having width between one to three millimeters.

Procedure
- mark position
- fold fabric appropriately
- hold with temporary stitches chose to fold on r.s and press
- each tuck should be stitched close to fold on r.s
- remove temporary stitches, press

N/B: a) they should have an even width
b) should be evenly distributed
c) should be evenly stitched

Diagram

(b) wide tucks
Are tucks with width above
Width is based on tucks they are used and effect desired.
Procedure
- mark position and width
- fold fabric appropriately on first one,
- hold with temporary stitches; do this for all

- press and machine; N/BL should be spaced and stitched,
- remove tacking, press appropriately towards one direction – on stitching line forming
- can be at back of skirts.

Diagram

(c) Shell tucks
Are functional and decorative
Used on light weight and soft fabrics

Procedure
Working shell tucks
- mark position
  if not at edge/make a narrow hem at edge,
  tuck and press hem
- secure with a double stitch
  make few running stitches, slip needle through fabric between thickness of hem,
  over sew one over sewing stitch over hem
  pull tightly to fold hence form the shell.
- Repeat this through entire length and remove tacking.

Diagram

GATHERS
- Are made by forming raffles on fabrics
- Effective on fine fabrics,
- Are functional and decorative.
- Used at waist of skirts, shorts and trousers,
- Can also be at yokes of blouses wrist of sleeves,

Working gathers
Methods
(a) by hand
(b) by machine

Procedure
- start by a firm knot to thread,
- work first row of running above fitting line along gathered,
- let the thread hand at end of stitches,
- work second line 6mm and leave thread hanging at the end,
- draw threads ends together required size is gotten,
- wind threads round a piece figure 8 in order to sew.

Diagram

Machine gathering
Adjust machine stitches to longest stitch
Gather as in hand gathering

Easing
- it is like gathers though very little gathers are needed,
- there are no gathers / ruffles formed,
- it is not decorative but it functional,
- suitable for jackets and shirt sleeves and yokes

Procedure
- two rows of running stitches are worked i.e on to fit and 6mm above FL,
- thread hangs at both ends

Diagram

(i) pull the hanging threads to required width,
distribute fullness and no gathers/pleats should form.

Shirring
It is decorative and functional,
- done at waist of skirts, dresses, trouser, cuffs, buttons parts of tracks of dress.

Procedure
- work several rows of running stitch apart on the whole area fullness,
- pull to required width secure; N/B: shirring stitches are peculiar
- distribute shrinks evenly,
- a piece of fire fabric cut should be used as from w.s,

Why:
(i) to prevent threads breaking
(ii) to hold shrinks in position
- fold over edges of backing press hem to edges of shirred area,

Diagram

Elastic shirring

It is done by machine having elastic thread in the bobbin.

Smocking
- It is a decorative method of fullness
- It is worked before constructing garment,
- Fabric normally 3-4 times finished width of smocking

Used as: (i) bodice front
(ii) back yokes of some dress
(iii) children's dresses

Different smocking effects
4) honey combs
5) cable
6) diamond

Working procedure
- Transfer of markings of smocking to w.s of fabric,
- Pick dot/decks using tummy stitches,
- make knots at beginning of every row of stitches,
- remove thread hanging at the end of row,
- pull threads together, draw till folds/ridges are formed on r.s.
- reinforce/secure hanging threads at end to make ridges,
- ridges should be aligned to ensure evenness,
- work decorative stitches e.g honey comb, cable/diamond on ridges

Diagram

Elasticating
It is a simple method of controlling fullness used on children's garments, lingeries, skirts, shorts, trousers and jackets.

Working elasticating
- make hem,
- tack machine close to fold and hem
- stitch close to hem and form a casing by folding,
- insert elastic into casing using a safety pin/bodkin,
- serve it at both ends by stitching

If elastic is more than 2cm make two rows if topstitching over elastic.
N/B: Length of band should be ¾ size of the area.
Look at Darts first.

POCKETS
Can be functional and decorative
- sometimes used to emphasize /introduce fashion features,
- size and shape varies depending on purpose and position,

Factors that determine choice
Type of garment
Type of fabric used
Position on garment
Effect desired.

Types
INSEAM POCKETS
It is set into the seam especially side seam of skirts dresses shorts, sports jackets and robes.

Working in seam pockets
(i) mark its position on garment
(ii) r.s facing notches, fitting lines and raw edges matching pin and tack upper pocket section to garment front section and lower to garment back section,
(iii) remove pins and machine them to garment leaving 6mm at each end,
(iv) understitch edge of opening to get smooth finish,
(v) complete seam of garment above and below pocket notches and pockets pieces should match.
(vi) Join pocket bags by machining,
(vii) Press it towards front of garment.
(viii) Slip garment seam allowance below pocket.
(ix) Press seam open,
(x) Reinforce upper and lower edges of pocket mouth on r.s of garment
(xi) Press completed pocket

Diagram

PATCH POCKETS
Are attached on r.s of garment e.g sand, foot, below waist on jeans and shirts at left hand of chest.

Working a square pocket
(i) press seam allowance of pocket low,
(ii) prepare hem tack in place,
(iii) fix using right stitches,
(iv) press seam allowance of lower edge to w.s,
(v) place it on garment in position,
(vi) tack sides and lower edge leave mouth opening
(vii) machine close to fold,
(viii) strengthen corners stitching back along machine stitches 1.25cm – 2cm by a triangle of machine stitches.

Diagram

Working a round pocket
(i) press seam allowance of pocket to w.s,
(ii) turn and finish top hem of pocket,
(iii) trim and slip seam allowance round close to stitching line
(iv) attach on garment i.e pin, tack and stitch in position strengthen corner.

Diagram

INTERFACED WAISTBAND
It provides style features and it holds garment to body.

- length should be size of waist plus 2.5cm to 4cm to hold fastener,
- width varies according to style and effect desired,
- should be cut on lengthwise grain for it to maintain its size,
- should be interfaced to make it firm

Making of waistband
1. cut on straight grain according to pattern,
pieces should be 2 times width of waistband plus seam allowance sides,
length and size of waist plus extension for fastenings.
2. Cut interfacing equal to width and length of waistband,
3. Attach it to w.s of band,
4. Stiffening cover seam allowance
5. r.s facing tack and baste waistband machine both ends.

Diagram

6. Trim turning cut off diagonally at printed ends,
7. Trim and zip

Diagram

8. Turn it to r.s to press along foldline.

9. Complete skirt/trouser seams plus openings.

Attaching of waistband
- place it on garment r.s facing,
- there should be no space between bust and zip tape, both sides should be even in width
- working should be on w.s of garment when finding 2nd side (underside) of band. Fold the face edge of band along fold line.
- Turn seam allowance,
- Place folded edge just above machine stitches and hem,
- Attach hooks and bars/ buttons and buttonhole,
- Press work
  This can be worked in reverse i.e placing in w.s turned to r.s and up stitched by machine.

Openings and fastenings
Are for the following purposes;
- to allow putting on garments
- taking off the garments
- decorating garments,
- introducing style feature,

They can be created on seamline/slashed through fabric

Factors that determine choice
- type of garment
- type of fabric
- position of opening
- size of opening
- effect desired
- type of fastening to be used.

Type of openings
(i) Coatmos wrap opening,
(ii) Faced ship opening
(iii) Bend opening
(iv) Panel opening
(v) Front opening
(vi) Zipped opening
(vii) Fly opening

(i) Continous wrap opening
A continous strip of fabric is used to bend 2 slashed edges.

Used on:
- sleeves
- back opening on children's clothes
- neck opening on sweat shirts and T-shirts,

Working a continous wrap opening
1. slash at position of opening
2. cut a strip twice length of opening,
3. may be of different colour/may be on grain for decoration

4. pull apart edges to be on a straight line,

Diagram

5. place strip to opening r.s together with edges matching

Diagram

6. pin tuck, stitch 6mm from edge tapering towards base of opening, same width from starting point to end.

Diagram

7. remove running press
8. neaten free edge just above stitching hem in each stitch (machine) at a line/machine it in position,
9. shouldn't have stitches showing on r.s

Diagram

10. Fold back finished strip to w.s of garment. Free edge should protrude to form an underwrap Other side should be flat to form overwrap. Top stitch base to strengthen/reinforce.

N/B: opening of men close left over right and women right over left.

Diagram

FACED SLIT OPENING
Has a piece of fabric applied round opening giving a facing that neatens the edge.

Suits (i) front and back necks
(ii) cuffs

Ways of decoratively making it
1. Turning it to r.s and edgestig especially with a different colour of thread. Turning facing to w.s stitching from r.s.
2. Using different colours of facing and turning it to r.s.,
3. Turning to r.s catching it down with decorative stitches,
4. Shaping outer edge using on r.s.
5. Fixing a zip between facing and garment,
6. Edge stitching it then closing with loop and button,

Working a faced slit opening
(i) mark its position and needed length on garment using a line of stitches on straight grain,
(ii) press on strip crease, along working on r.s.

Diagram

(iii) cut facing length of opening plus 5cm – 6cm at least,

N/B: it varies depending on position and desired effect,

Diagram

(iv) mark as on garment and crease the marking,
(v) neaten raw edges but leave neck edge, shoulders,
(vi) match r.s of facing and garment and marked lines
(vii) tack baste through facing and garment,
(viii) machine/backstitch close to marked position,
- begin from neck line tape towards base of opening
- strengthen base by making one/two stitches across,
- continue to other sides and enforce with double back stitch,
- slash through line of tacking between 2 rows of stitching carefully into corners as in the diagram.

Diagram

(ix)turn facing to w.s knife edge stitched lines carefully not to damage the edges of opening,

Diagram

(x) press the opening
Diagram

(xi)

BOUND OPENING
It is procedure is like continous wrap opening.
N/B: different binding for bound and cut on bias,
Its is decorative when binding is of a contrasting colour/checked/stripped fabric

FRONT OPENING
Can be cut in one with bodice from/separately with an extension to shoulder.

Diagram

Types
(xii) Fold type
(xiii) Shaped reverse front facing,

(i) Fold type
- it is cut in one with front bodice, for reverse facing extends into shoulder
- mark centre front and foldline, notches should match,
- neatening facings edge.

Diagram

(ii) turn back facing for r.s to match,
(iii) tack neck edges maintaining the cone,
(iv) machine along facings then remove them
(v) snip turnings at neck edge
(vi) sandwich colour between facing and garment and tack through the thickness if its absent turn facing along foldline to w.s.

diagram

(ii) Shaped reverse front facing

- facings are cut separately to shape of front blouse/shirt,
- for reverse front facing extends to shoulder

Diagram

Making:

- cut front facings and interfacings,
- iron on interfacing should be without seam allowance,
- mark centre front and stitching line on garment and facing,
- neaten edge of facings
- iron interfacing in w.s of facing/tack/bast.

Diagram

- place right sides of facing and garment together, match fitting lines with lines and notches,
- tack facing in position on f.l.
- machine on F.L,
- if tacked remove tacking trim close to stitching line strip curves reverse prints,
- turn facing to w.s knife edge
- press

MAKING THE FLY SEAMING WITH A ZIPPER FASTENER

(i) Fold underlying along centre and fold line, tack and press,
(ii) Place r.s or at w,s of folded part of underlay zipper. N/B: teeth should be close to fold, top edge should match with garment section

Diagram

(iii) Place zip guard under zip, tack through whole thickness,
Should be close to fold so as to hold zipper tape between underlay and grid,
(iv) Place garment front left and r.s together with w.s out, matching r.w edges and notches pin and tack seam below zip,
(v) Remove pins machine upto base of zip,
(vi) Snip seam allowance at base of zip
(vii) Pin tack machine left side of zipper, tape to facing of overlay. remove tacking,
(viii) Fold overlays facing along F.L to w.s of garment,
(ix) Press and tack lying on front section,
(x) Top stitch from below base of zip to waist
(xi) Neaten raw edges of facing and guard,
(xii) Press

Diagram

Diagram

N/B:
Attachment of zip on garment lady's garment begins from left and stops on r.s.

Diagram

Making a fly opening with bottom and buttonhole

(i) interface grand both right and left pieces of garment,
neaten raw edges
(ii) mark and make buttonhole on guard of garments left side for men's garment
N/B: r.s for ladies

Diagram

(iii) fold garment section facing and guard of left side forming a knife pleats at c.f.
(iv) press back through the three,
(v) top stitch holding three layers of fabric, begin with bottom to waist,

Diagram

(vi) w.s out, tack right and left sides together match it, notches raw edges and machine from crotch to base of guard/facing,
(vii) remove tacking, press from r.s,
(viii) sew on buttons right handside guard,

N/B: they should be opposite buttonholes on left

Diagram

FASTENINGS

Are devices for closing openings on garments.

- mainly functional but can also be decorative.

Examples

- button and buttonhole loops,
- hooks and eyes/bars/loops,
- zips
- loops with cord,
- ties,
- Velcro tape,
- press studs

Choice of fasterners

(i) type of fabric - should suit the fabric e.g fraying fabrics loops and buttons,
(ii) uses of garment
e.g children's clothes require those that are safe and comfortable e.g ties, hook eyes, loops and small buttons and press studs.
(iii) ones interest and type of garment
(iv) should be sewn on double fabric;
Why: (i) for support
(ii) for strength
(v) should be sufficiently distributed and evenly spaced for them not to gape.
(vi) should be sewn on after opening been made and press sewn bound button holes and fabric loops,
(vii) should be aligned/opposite for opening to be flat when closed,

Button hole and buttons

Types (i) hand made
(ii) machine made
(iii) bound button holes

Can be vertical/horizontal depending on direction of strain.

- vertical suit loosely fitting garments.
- Horizontal are worked on tight fitting garment, cuff, struck of collars and waistbands.

Points to note when making button holes

(i) N/B: Size of button hole is determined by size of button,
(ii) Width should be diameter of button plus 3mm,
(iii) Button shouldn't protrude beyond opening. At least ½ width of button should be allowed between buttonhole and edge of opening,
(iv) Vertical button holes should be lie on C.F line and horizontal should extend 3mm beyond C.F line

Hand worked button hole

Procedure

- mark length of button hole at the back of tacking parallel to opening
- mark button hole each along thread of fabric, use tailors chalk running stitches,
- work running stitches each side of mark 2 – 3mm from mark,
- cut following marked line and work it before next is cut,
- begin from farthest end left to right twisting needle point and forming knots along slit,
- work round end making seven/nine overcastting stitches,

round end should face c.f.

Diagram

- work square end putting needle through knot of first stitch and draw button hole together and 3 stitches across width of button hole forming a bar,
- work button hole stitches over the base, knots being towards slit,

Diagram

- fasten off on w.s and press,

vertical lines can have 2 round ends or 2 square ones,

Machine made button hole

Procedure

- mark position of buttonhole with tacking thread/tailor's chalk,
- set right stitches

stitch length depends on weight of fabric

- take one stitch to left
- adjust with of stitches to previous setting and stitch to finish on outer edge,
- readjust width of stitches for easy working on other stitches on reverse,

- remove from machine and finish off,
- cut with a pair of scissors between 2 runs of stitching.

BUTTONS

N/B:

- patterns of buttons should be well planned alongside buttonholes for proper alignment,
- if commercial patterns, position of button is normally indicated on pattern,
- should match fabric in colour and weight though if decorative can contrast,
- buttons without a shark should be worked with a thread shark for

(a) overlap to lie flat

(b) to prevent button from breaking

Sewing on buttons

(i) begin with 2 backstitch on mark where buttons are to be put, should be on r.s of garment,

(ii) pass needle up through hole on buttonhole and down through opposite hole, push needle through to w.s of work refer to a

(iii) to make a shank stitch should be left loose by placing match stick or pin across top of button then stitches are made over it,

(iv) stitch severally through the hole till button is strongly sewn,

(v) pass thread to r.s of fabric between button and fabric.

(vi) remove matchstick wound thread severally tightly round stitches forming a shank refer to diagram

To sew on hook

(i) mark position of hook, hold in place by working several stitches round top of hook through fabric,

(ii) bring thread to base of hook work buttonhole stitch round both loops
reinforce ends securely on w.s.

Diagram

To sew on one edge

(iii)

Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
HOUSE MACHINE
XXXXXXXXXXXXXXXXXXXXXXXXXXX

-

FORM FOUR HOMESCIENCE NOTES

CARE OF THE SICK AT HOME

This is also called home nursing
Nursing is the act of looking after individuals by helping them do what they would otherwise do for themselves if they could.

A sick person in a patient who might feel insecure and require support of those around them.
N/B: care takers need to be clam and confident to gain trust from patients.

Reasons for caring for the sick

- to enable her continue recovering at home after being discharged from hospital.
- To help a person who is not too ill to be admitted to hospital,
- Hospital beds may be fully occupied so incases like STDs/HIV patients are nursed at home to relieve the hospitals,
- Some people are never able to afford hospital charges,
- Hospitals are sometimes understaffed so patient don't get good care so some people prefer to take care of their sick,

Meeting physical needs at home

Importance of meeting physical needs of a sick person at home are;

- keep patient clean,
- patient cloth should be clean
- keep their beddings clean, dry and smooth,
- ventilation of the patients room,
- always be kept fresh to prevent infections,
- should be kept warm if weather is hot patient should be in clothing ,
- grooming the sick all the rime e.g hair styling, manicure or pedicure to give the patient confident,
- cleaning the room being used for patient to be in a comfortable surrounding,
  NB: it shouldn't be overcrowded to keep it free from pests,
- giving physical exercises if possible,
- bed ridden patients to be checked of bed sores,
  NB: to prevent these sores (i) massage hip and back muscles
  (ii) change positions frequently
  (iii) ensure beddings are dry
- administering medicines prescribed,
- being alert incase of serious changes that require the doctor,
  call doctor or take patient to hospital

Symptoms that may require doctor's attention

- breathing difficulties
- unconsciousness
- vomiting that last more than 1 hour,
- fever that last more than 2 days depending on ways of bringing it down,
- severe backache or pain in any body part,
- deterioration of prevailing situation.

Meeting emotional needs of the sick

patient needs emotional support because:

- reduces both physical and mental agony

meeting these needs;

- assure the sick that all is well,

- involving them in interesting activities to reduce boredom,
- watching television, knitting and listening to music,
- avoiding worrying issues with her in their presence
- keep flowers in room to cheer them up.

Meeting the nutritional needs of the sick
Good nutrition helps in promoting recovery.

Ways of meeting these needs;
- adhering to the diet prescribed by the doctor,
- giving a balanced diet unless the doctor has prescribed a special diet i.e proteins, carbohydrates and vitamins. Food rich in roughage should be provided e.g fruits and veges and whole meals to prevent constipation,
- giving plenty of fluids,
- serving meals attractively and in small quantities to help patient maintain appetite,
- serving food in clean and sterilized utensils to prevent spread of infections,
- it should be tender for easy chewing and swallowing,
- one easily digestable/steamed but not fried.
- ensuring presence of loved ones and close friends to make them happy,
- not isolating the sick to avoid making them feel unwanted,
- keeping away people not liked by the sick since their presence depresses them and so may retard the healing,

Meeting the spiritual needs of the sick at home
Ways of meeting needs
- inviting spiritual intervention it causes one feel better,

NB: patients wishes should always be respected.

Measures to prevent spread of infections
- the care taken should be clean i.e having clean protective clothing e.g gloves and a mask when attending to the sick,
- soaking the garments used by sick in disinfectant before washing,
- any repairs should be before laundry but after disinfecting
- clothes of the sick to be washed separately and disinfected by boiling/by strong disinfection,
- drying washed clothes outdoors because of fresh air and to expose in sun that can disinfect them,
- washing feeding equipment separately and disinfecting,
- protective clothing of the care taken to washed and disinfected separately from family wash,
- care taken to wash his/her hands frequently and the water should have a disinfectant,
- sick should be given tissue and handkerchief if possible since they are easy to dispose off,
- handling any blood/fluid stains while wearing gloves because they may have germs,
- patient should always be clean
- not allowing children and pets in the room of the sick,

VENTILATION
It is a process of introducing and circulating fresh air in a room in order to get rid of undesirable gases and replace fresh air.
Reasons for sufficient ventilation in the room
(i) to prevent humidity that on high concentration of moisture in the air that causes a stuffy feeling that causes drowsiness,
(ii) to remove excess/surplus heat from people and machinery that makes working atmosphere uncomfortable.

(iii) to allow free circulation of air hence reduce bacteria and viruses concentration and prevent spread of airborne diseases e.g influenza (common cold) and T.B.,
(iv) to remove odours that develop when people are crowded,
(v) to get rid of pollution in a room e.g smoke, aerosol, sprays, dust, gases e.g CO_2, Co and starch from decayed matter.

Dangers of poor ventilation in a room

(i) Suffocation and fainting
Occurs when people are overcrowded in a room. They use up all fresh air. May also be as a result of burning fuels e.g charcoal/coal in a poorly ventilated room. Overcrowded people uses up all the air in the room then released carbon dioxide gas that causes fainting, suffocation and death.

(ii) Drowsiness
It is as a result of much humidity in the air/ O_2 not being enough for breathing
Discomfort
Occurs because of a room being excessively not due to heat from people and machinery. It can also be due to bad smells on excessive humidity that make it feel stuffy and uncomfortable.

(iii) Easy transmission of communicable diseases
The room that has poor ventilation has a high bacteria and virus concentration that can be passed from one person to another.

Ways of ventilating a room

(a) natural means
(b) mechanical means

NATURAL MEANS

e.g (i) use of windows
(ii) chimneys
(iii) vents
(iv) doors

(i) Using windows to ventilate the room

They may be wooden, glass and metal.
The design of windows used include:

(a) Louver windows
They open simultaneously. They let in fresh air and prevent raindrops from entering.

(b) Fanlight windows:
- Are small windows normally fixed high up on walls of toilets, bathrooms and stores,
- Thy open towards outside,
- Are supported by a catch at centre
- May be left open at night if fitted with burglar proof bars.

Diagram

(c) Vertically pivotal windows
- they open vertically,
- half of window open towards the inside the other half towards outside,
- can be modified to open towards outside only,

diagram

(d) horizontally pivoted windows
- they open horizontally
- half of it opens towards outside
- the other half towards inside

diagram

(e) Gliding windows
Open by gliding from side-side

(ii) Using doors to ventilate a room
- may be from wood, glass/metal
- they are of various types
  e.g - single shuttered
  - double shuttered
  - gliding or sliding doors

Diagram

How windows and doors are used for ventilation
(a) Adjacent method
- Two/more windows are placed on adjacent walls,
- They allow fresh air to move in slowly to replace stale one so refreshen the room,

(b) Cross method
- ventilation devices e.g windows and doors are placed opposite;

NB:- they should not be directly opposite because they allow a lot of air to rush in and out, that causes of doors and windows,

MECHANICAL VENTILATION
e.g (i) fans
(ii) air conditioners

The two supplement the natural means of ventilation

Fans
- they are normally fitted with rotary blades,
- operated by electricity
- when set into rotation they set air inside the room into current,
- they keep air in the room in motion therefore achieving ventilation,

Types:
(i) free standing
(ii) table top
(iii)ceiling
(iv)wall mounted

they only keep air in a room in motion so never remove stale air and replace it with fresh one; so they should always be used with other natural methods of ventilation.

Air conditioners
- Are used in large building that have poor position for natural ventilation,
- This device absorb stale air form inside of a room and replace it with fresh cooled air,

NB:
- They are fitted through a wall for part it can be inside and the other out,
- They are more expensive to install and run than fans so not commonly used in homes.

FUELS IN THE HOME
Fuel is any material used for producing heat/energy.

Uses of heat:
(i) cooking
(ii) heating
(iii) lighting

(iii) lighting

Types of fuel
(i) Wood
(ii) Charcoal
(iii) Gas
(iv) Paraffin
(v) Electricity
(vi) Biogas
(vii) Solar energy
(viii) Coal
(ix) Saw dust
(x) Coffee husks
(xi) Maize cobs
(xii) Farm produce straws
(xiii) Wood shavings

Wood
Use
- cooking
- heating
- lighting
- security
- abrasive (wood ash)
- preservative for grains and poles

Advantages
- it is readily available in rural areas,
- relatively cheap,
- doesn't require expensive equipment to use,

Disadvantages

- hard to collect during rainy season,
- it is bulky so a lot of storage space,
- can cause desertification incase of excessive tree cutting,
- it produces soot and smoke if not dry especially that blackens cooking utensils and ceilings,

Precautions to take when using wood
- should be dry to avoid too much smoke that irritates eyes and respiratory system,
- should be cut into reasonable sizes for convenience and avoiding accidents,
- should not be ones that flickers because it can cause fires and burns,
- shouldn't be from trees, shrubs and other places that are poisonous
- should be stored in a dry place

Charcoal
Uses
- cooking
- heating
- ironing
- for making charcoal coolers

Advantages
- it can be used in many ways e.g cooking, heating and an abrasive
- if good it doesn't produce smoke,
- its ash can be used as an abrasive

Disadvantages
- can lead to desertification if trees are cut down excessively,
- can also lead to air pollution,

NB: it has become unavailable and expensive
- it is not clean in use and storage
- it produces smoke and blackens utensils if not well burnt,
- it can cause suffocation and death if used in a non ventilated room due to co-production,
- it is not readily available in some areas,

Precautions to take when using charcoal
- should be used in a well ventilated room,
- should be stored in a dry place
- don't dispose burning charcoal where it can cause fire e.g on dry vegetation or near inflammable material,

Gas
Uses
- used for heating, cooking, lighting and ironing

Advantages
- its clean in use,
- its portable
- it is quick to light and easy to use

Disadvantages
- its poisonous and can explode if heating,
- if left to leak can explode when lit and can cause poisoning
- it has not gauge to show when its finishing,

- expensive
- not always available

Precautions to take when using gas
- not lighting in case of any smell in the room, it should be checked and fault rectified and any escaped gas should be allowed to escape first,
  all equipment should be serviced regularly to avoid leakage,
- turning off when it is not in use to avoid accident,
- using in a well ventilated room
- placing cylinders in a lockable place

Paraffin
- used for cooking, heating lighting refrigerators,
- also used as a solvent for grease stains removal,

Advantages
- fairly affordable
- readily available,
- it is quick to light and easy to use,
- can be stored easily

Disadvantages
- can cause fire if used carelessly,
- produces soot that blacken equipment,
- has unpleasant smell

Precautions to take when using paraffin
- shouldn't be stored in soda bottles because children may take it and be poisoned,
- should be stored away from foodstuff,
- containers to be labelled to avoid wrong use,
- should be kept away from children and open fires,
- the containers having paraffin should have fitting lids to avoid spillage that can cause accidents,

Electricity
- used for lighting, heating, cooking and ironing and run household equipment and appliances e.g T.V, washing machines, vacuum cleaners and cookers,

Advantages
- its clean and quick in use,
- doesn't require storage space,

Disadvantages
- not available regularly
- expensive to install, use and maintain,
- appliances are costly

Precautions to take when using electricity
- wires to be well insulated to avoid accidents,
- not overloading sockets,
- maintain in equipment skills,
- not allowing children to poke sockets with objects like metallic ones,
- putting off when not in use,

- not handling switches with wet hands to prevent shock,

Biogas
- Its obtained by decomposing organic waste e.g animal during in a specially constructed unit,
- when this waste decomposes it produces biogas (methane gas) its then passed through pipes to prints of use,

Uses
- heating
- cooking
- lighting
- ironing

Advantages
- clean
- Cheap to produce and sustain with continued availability of animal waste
- It is easy to produce in rural areas because animals/organic waste is plenty

Disadvantages
- Cost of installing production unit is expensive though once installed it becomes negligible,
- If gas leaks it can explode and cause fires and burns when ignited,
- Has a bad smell so must be in a well ventilated room,

Precautions to take when using
- not lighting in case of any smell in the room, it should be checked and fault rectified and any escaped gas should be allowed to escape first,
  all equipment should be serviced regularly to avoid leakage,
- turning off when it is not in use to avoid accident,
- using in a well ventilated room
- placing cylinders in a lockable place

Solar energy
its from sun, used for lighting, heating and drying, may also be converted to electrical energy through solar panels, which absorb sunlight and convert it to electricity. The electricity is stored in solar batteries that may be used for lighting, heating, cooking and running machines and appliances,
Advantages
- its can be renewed and is readily available,
- it is cheap to produce and no cost apart from installation,
- it is clean and quick to use,
- doesn't need much storage space,
- it can be produced even in rural areas where there is not electricity

Disadvantages
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