

FORM 1

Home Science may seem like a totally new area to you, since there is no subject known as 'Home Science' in the Primary School Curriculum. However, you actually covered it under Science and this includes topics such as, the Human Body, Health Education, Foods and Nutrition, among others.

Just as you enjoyed learning the above topics in Science while in Primary School, I am sure you will enjoy learning Home Science as a subject on its own in Secondary School.

The following sub-topics will be covered in this topic:

1. Basic sewing tools and equipment
2. The sewing machine

Introduction

Needlework requires the use of some special tools and equipment which are categorized into two main groups:

Small and Large : needed for:-

Measuring

Cutting

Transferring pattern markings

Sewing

Pressing

Storage

Others

Objectives

By the end of the lesson you should be able to:

State factors to consider when choosing different basic sewing tools and equipment.

Describe how to use and care for basic sewing tools and equipment.

Measuring Tools

Tape measure

Measuring Gauge

Meter stick

Choice

The tape measure should:

Be clearly marked on both sides upto 150cm.

Be woven and plastic coated to avoid fraying and stretching.

Have metal ends.

Use and Care

Remove from the work while cutting out; it can be cut accidentally.

Roll up when not in use. It should:

Be firm.

Be clearly marked at right angles.

Have several measurements marked.

Used for measuring small width.

Store after use.

Meter Stick

Choice of a Meter Stick

It should be:

Made of smooth wood or plastic.

Marked clearly.

Used to measure long straight lines.

Hem Marker

Choice

Can be made from manila or cardboard.

Used for marking hem depths to ensure even size.

CUTTING OUT TOOLS

Dressmaker's shears

Pinking shears

Embroidery scissors

Buttonhole scissors

Paper scissors

Dressmaker's pins

Seam ripper

Table worktop

Dressmaker's Shears

Should be rust free (stainless steel)

Sharp

Firmly hinged

Comfortable handle with one hole large enough for 2 or more fingers

One blade should be pointed

Long blade ,at least 15cm

Oil the hinges regularly

Hold correctly

Do not chop

Wipe after use

Do not use for cutting hair, paper, thread or for snipping

Pinking Shears

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Made of rustless metal (stainless steel)

Is serrated

Used for neatening edges especially on open seams, on materials that do not fray.

Embroidery Scissors

Small

Sharp fine pointed blades

Cutting threads, snipping

Cutting buttonholes

Paper Scissors

Smaller in size than the cutting out shears

Not very sharp

Used for cutting out paper patterns.

Dressmaker's Pins

Assorted lengths

Fine and sharp

Made of stainless steel

Buy those with big heads

Store in a pin cushion or in a small box.

Avoid scattering.

Keep them dry and free from rust.

Seam Ripper

The blade should be sharp.

It should have a cover to protect the sharp point.

Used for removing unwanted stitches and cutting button holes.

Do not drop.

Store in the needlework box when not in use.

Table Top

Should be large enough for laying the pattern pieces out.

Comfortable height for the user.

Smooth and flat not to spoil the fabric.

Should not be polished.

Dust well before placing work.

Do not scratch with sharp objects such as tracing wheel.

Do not stain with carbon.

TRANSFERRING PATTERN MARKINGS

Tailor's chalk

Tracing wheel

Dressmaker's carbon paper

Pencils

Tailor's Chalk

Comes in different shapes
Buy assorted colours
Used for marking patterns
Do not drop, it will break
Store in the needle work box
Tracing Wheel

The edge should be well serrated.
The wheel should be firmly fixed.
Use carbon colour closest to that of the fabric.
Wooden handles are more durable than plastic handles.
Used for transferring pattern markings with dressmaker's carbon.
Dressmaker's Carbon Paper

Choose different colours
Should be big in size
Used with tracing wheel for transferring patterns.
Do not press hard while using tracing wheel as it will tear.
Fold and keep well.
Pencils

Choose dark strong pencils: *For drawing patterns.*

SEWING TOOLS

Needles
Sharps
Betweens
Crewels
Sharps Needle

Have round eyes
Should be fine
Eye should be smooth
Easy to thread
Assorted sizes; the higher the number the finer the needle
Use correctly
Used for ordinary sewing
Should be kept in a pin cushion
Betweens Needle

Assorted sizes; the higher the number the finer the needle.
Shorter and sharper than sharps
Fine needles

HOME SCIENCE FORM 1-4 NOTES

Also used for quilting
Crewels Needle

The eyes are oval in shape and larger
Used for embroidery

PRESSING EQUIPMENT

Irons
Ironing board

Irons

Made of non rusting material
Medium weight
Smooth sole
Pointed toe to reach fullness
If electric, should be thermostatic.
Used to press work after each stage of construction
Use right temperature for every fabric
Wipe before use
Do not drop
Occasionally clean thoroughly
Oil hinges of charcoal iron to prevent rusting

Ironing Board

Should be adjustable
Should be well padded
Should be stable on the ground
Should have a loose cover
Used to place work when pressing
Adjust to comfortable height
Remove and wash cover regularly
Fold and protect from dust when not in use
Sleeve Board

Similar to ironing board but small
Used for processing small shapes articles such as cuffs and sleeves
Pressing Cloth

Choose lint free clothes that are closely woven
Used for damping and wetting during pressing.
Wash and store after use.

STORAGE EQUIPMENT

HOME SCIENCE FORM 1-4 NOTES

Drawers
Wardrobes
Hangers
Drawers
Large enough to carry the work
Have smooth finishing
For storing all needlework
Should be lined with a clean paper or cloth
Wardrobes

Should have a smooth finish
Should be lockable
Should have a rod or nail for hanging
Used for hanging complete and incomplete garments
Clean regularly and place moth balls occasionally
Hangers

Have assorted sizes
Should be made of smooth wood plastic or metal
Should be strong and wide
Used for hanging complete or incomplete garments.
Dust occasionally to keep clean.

OTHERS

Thimble
Stiletto
Bodkin
Embroidery loop
Pressing cloth
Sleeve board

Thimble

Should fit on the middle finger.
Metal thimbles last longer, especially those made of stainless steel.
Ensure that the metal ones do not have rough edges that may damage the thread and fabrics.

Choice and Care

It is used to push the needle through the fabric.
It also protects the finger from needle pricks.
Wear on the correct finger.

Stiletto

Must be sharp
Should be thick enough to leave holes on the fabric
Should be smooth not to spoil the fabric

Used for making holes and eyelets
Do not drop as the point will become blunt
Bodkin

Eye must be large.
Point should be blunt so that it does not pierce through the work when it is in use.
Used for threading elastic cords, ribbons and tapes through casings or eyelets.
Store in the needlework box.
Embroidery Loop

Choose according to the work

Similar to ironing board but small
Used for pressing small shaped articles such as cuffs and sleeves

Choose lint free clothes that are closely woven
Used for dampening when pressing.
Wash and store after use.

Sewing Machine

A **sewing machine** is a large sewing equipment designed to make stitches. It makes sewing quicker and more efficient. It is a simple machine to operate as it is done manually at the speed of the person operating.

It is portable and easy to carry.
Balance wheel is rotated by hand.
One hand rotates the hand wheel while the other guides the material.

Hand Machine

The following video clip shows the working of a hand machine:
Treadle Machine

Feet rotate the hand wheel
Both hands are free to guide the work
Bulky and hence takes up a lot of storage space
A motor can be fixed onto it to make it electric

Treadle Machine

The following video clip shows the working of a treadle machine:

Electric Machine

Balance wheel is rotated using electricity.
Very fast because both hands are free to guide the work.
Expensive to purchase.
Some are portable and others are very bulky.
The following video clip shows the working of an electric machine:

Parts of a Sewing Machine

Choosing a sewing machine

Consider the cost in relation to the work.
Consider the machine in relation to its work, that is, do not buy a domestic machine for commercial purposes.
Buy from a reliable dealer who will be able to service and supply spare parts.
Machine should have an instruction manual.

Care of the sewing machine

Ensure servicing of machines regularly.
Store the machine while covered to avoid dust from entering.
Clean and oil it regularly.
Learners should use the machine under supervision.
Do not machine over pins to avoid breaking the needle.

Stitches

Home Science is an applied multi-disciplinary science which aims at improving the quality of life and well being of an individual, family and community.

Define Home Science.
Explain the importance of Home Science.
Relate Home Science to various career opportunities.
Classification of stitches
Stitches are classified into two groups:
Roll the mouse over the words: Permanent and Temporary for additional information.

Classify stitches.

Describe how to work out different types of stitches

Joining stitches

HOME SCIENCE FORM 1-4 NOTES

These are stitches which are used to hold two or more layers of fabric together permanently. They include:

Machine stitches
Over sewing
Faggotting

Faggotting Stitches

Neatening Stitches

These are stitches which are used to finish raw edges. They include:

Loop stitches
Button hole stitches
Machine zigzag

Buttonhole Stitches

Decorative stitches

These are embroidery stitches worked to add beauty to a garment or article. They include:

Stem stitch
Chain stitch
Satin stitch
Cross stitch
French knot
Even Tackings
Long and Short Tackings
Diagonal Tackings
Tailor Tacks

Other Disciplines in Home Science

Maternal child care
Home care
Textiles
Clothing
Health education
Consumer education

Maternal Child Care

It deals with child development from conception to childhood with special attention to the physical, emotional and social development of the child.

Home Care

HOME SCIENCE FORM 1-4 NOTES

It takes care of the individual, the home and the environment through planning, organizing and using available resources efficiently.

Tidy Room

Untidy Room

Textiles

It is the study of fibres which are made into fabrics.

A textile industry

Clothing

It deals with clothing construction and maintenance.

Health Education

It promotes health by changing people's behaviour, attitude and practices. This is done through personal hygiene, environmental hygiene and care of the sick at home.

A person washing hands after visiting the toilet

Consumer Education

It makes people aware of the available goods and services in the market, their choice and use.

Variety of liquid soaps

A bill board with some information on food

Importance of Home Science

The importance of Home Science to:

The Individual

The Family

The Community

The Individual

Makes a person to be self reliant by giving one skills to start income generating activities.

It is a foundation for further education and training.

Helps one to acquire skills to enhance quality of life by managing scarce resources.

Prepares an individual to take care of personal hygiene, food, clothing and health.

The Family

Home Science helps the family to:

Practice and administer First Aid in case of accidents and illnesses.

Maintain high standards of living.

Improve its economic status.

The Community

Skills acquired create employment opportunities.

HOME SCIENCE FORM 1-4 NOTES

Ensures a healthy community therefore reducing illness and death.
Promotes positive environmental practices.
Produces role models for the community to emulate.

CAREER OPPORTUNITIES

Home Science leads to diverse career opportunities such as:

Teacher
Interior Designer
Chef
Air Hostess
Dietician
Community Health Worker
Fashion Designer
Entrepreneur
Researcher
Textile Engineer

Teacher

Chef

This is the chief cook of a large kitchen staff. He/she is in charge of menu creation, staff management and business aspects related to the kitchen.

Air Host / Hostess

Also known as flight steward or cabin crew member. He/she ensures that passengers have a comfortable journey on the flight.

Dietician

An expert in Food and Nutrition. He/she promotes good health through proper eating; supervises the preparation of food, develops modified diets, participates in related research and educates individuals on good nutritional habits.

Community Health Worker

A member of a community who is chosen by community members to provide basic health and medical care to the community.

Fashion Designer

A Fashion Designer creates original garments as well as those that follow established fashion trends. He/she studies trends, sketches designs of clothing and accessories, selects colours and fabrics, and oversees the final product of their designs.

Entrepreneur

A person who identifies a business opportunity, assesses the risks involved, organises the necessary resources to start and run a successful business.

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Researcher

A person who tries to discover, interpret and develop methods and systems for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe.

Textile Engineer

The textile engineer specializes in the study of fibres and new textile production methods. The profession includes turning fibre into fabric and fabric into clothing and other textile products.

Interior Designer

This profession is concerned with anything that is found inside a space/room, that is, walls, windows, doors, finishes, textures, light and furnishings. The interior designer uses these elements to develop a functional, safe and aesthetically pleasing space/ room for use.

Personal Hygiene

Personal hygiene refers to the cleanliness of the body. This involves good grooming or care of different parts of the body, choice, use and care of personal items.

Cosmetics are prepared substances which are applied on the body by both men and women to enhance appearance. They include:

Lips stick

Mascara

Rouge

Body lotion

Deodorant

Petroleum jelly

Eye shadow

Nail polish

Hair colour

Hair oil

Eye Liner

By the end of the lesson, you should be able to describe factors to consider when choosing and using cosmetics correctly

Lip Stick

Lip stick is used to enhance the lips by adding colour and texture.

Mascara

Mascara is used to darken, lighten or colour eye lashes.

Rouge is used to redden the cheeks to provide a more youthful appearance and to emphasise the cheekbones.

This is used to soften and smoothen the skin.

to insert animation

*Click on the PLAY button to view where and how body lotion is used.
This is used mainly to reduce body odour which is caused by bacterial breakdown of perspiration.
Click on the PLAY button to view where and how deodorant is used.
This is used to soften and smoothen skin, especially that of children.
Click on the PLAY button to view where and how petroleum jelly is used.
It compliments the eye colour, hence draws attention to the eyes.
Click on the PLAY button to view where and how eye shadow is used.
It is applied to finger and toe nails to enhance their appearance.
Click on the PLAY button to view where and how mascara is used.
It is used to change the colour of hair to a shade regarded as more fashionable or desirable.
Click on the PLAY button to view where and how hair colour is used.
It is used to soften the scalp and give the hair a shiny look.
Click on the PLAY button to view where and how hair oil is used.
It is applied around the contours of the eye to create a variety of aesthetic illusions.
Click on the PLAY button to view where and how eye liner is used.*

Choice of Cosmetics

Choose according to your skin type and complexion.
Choose a cosmetic that provides adequate information, for example, expiry date, composition and side effects.
Avoid cosmetics that contain mercury and hydroquinone as they are harmful to the body.
Choose environmental friendly deodorants and anti-perspirant perfumes.

Use of Cosmetics

Use cosmetics sparingly.
All make-up should be removed before retiring to bed.
Do not wear cosmetic on a skin that has acne, is broken or infected.
Chipped nail varnish should be removed immediately as it is unsightly.
Keep make up fresh by reapplying it when it wears off.
Misuse of Cosmetics
Use cosmetics correctly and in the right area.
Avoid sharing cosmetics as it may be harmful to your skin.
Excessive use of make up makes one look unattractive.
Do not mix cosmetics as it may be detrimental to one's health.

Safety in the Home and First Aid

The following will be covered in this chapter:

1. Common Accidents in the Home, Causes, Prevention and Management
2. Assembling a First Aid Kit

A child falling off a bicycle

insert picture

A First Aid box

insert picture

The home is a safe haven for security and comfort. In order to maintain safety, it is important to take necessary precautions in the home.

By the end of the lesson, you should be able to:

Identify common accidents in the home and their causes.
Explain how to prevent common accidents in the home.

The common accidents in the home are:

Cuts and bruises
Burns and scalds
Fractures and sprains
Suffocation
Choking
Shock
Foreign bodies in the eyes and nose
Fainting
Nose bleeding
Drowning
Insect stings and bites
Snake bites
Poisoning

Cuts and Bruises

A cut is a slit or break on the skin caused by sharp objects such as razor blades, broken glass and knives while bruises are caused by blunt blows.

Prevention

HOME SCIENCE FORM 1-4 NOTES

Store sharp objects safely.

Use and care for knives appropriately.

Dispose off empty tins, broken bottles and other sharp objects e.g. by burying.

Keep doors of cupboards, wardrobes and drawers closed.

Household items should be kept in their appropriate places.

Management

Cuts

Clean the wound with clean water or a weak antiseptic solution.

Cover with sterile gauze or a pad of cotton wool and bandage.

For a deep cut, press onto the wound with a pad of cotton wool and bandage.

Raise the wounded part if it is a limb to reduce pain.

Seek medical attention.

Bruises

Cool the bruised part with very cold water or dab with a cloth soaked in cold water.

Raise the injured part if a limb to cut down amount of blood flowing into it so as to reduce the swelling.

Burns and scalds

Burns are caused by dry heat such as hot charcoal, metal and open flames while scalds are caused by moist heat such as steam and hot liquids.

Prevention of burns and scalds

Matches, boiling stoves, hot liquids, burning candles should be kept away from children.

Store flammable liquids away from children.

Lids covering hot foods should be opened away from the handle while cooking.

Saucepablows

direct or indirect force on bones

falls

A sprain is a tearing or stretching of ligaments. It is caused by a stretching of a joint beyond the normal level of motion.

Rooms should be tidy and well lit.

Floors should be free from spills and peels.

Arrest any bleeding that may occur.

Use a splint to hold the fracture in place.

Apply a sling.

Choking

Choking is when one is not able to breathe. Choking is caused by food or foreign objects such as seeds, bones and coins stuck in the throat or air passage making breathing difficult.

Encourage the casualty to cough

Give back slaps

Obstruction

HOME SCIENCE FORM 1-4 NOTES

Avoid putting foreign objects in the mouth. Children should not play while eating. If casualty is breathing, encourage him/her to cough as this will help to dislodge the obstruction. For babies, hold upside down by the legs and pat gently on the upper part of the back until the object pops out.

For older children and adults, hit the person sharply with the palm of the hand between the shoulder blades until the object pops out. You can also stand behind the casualty, link your hand below their naval, press the belly with strong jerks until the object pops out.

Suffocation

Suffocation occurs when there is inadequate supply of fresh air or when the wind pipe is blocked, hence preventing air from getting into the lungs.

A child wearing a polythene bag over his/her head
Dispose off polythene bags appropriately.
Cooking stoves should be used in well ventilated rooms.
Replace worn out gas tubes.

Identify the cause and act appropriately. If it's the lack of fresh air, take the person outside to an airy place. If it is due to a polythene bag getting stuck in the head, remove it. Check the airways are open and the casualty is breathing. If breathing has stopped, start artificial respiration. Take casualty to hospital for further assessment and management.

Shock

Shock is a temporary lack of supply of blood to the brain and other vital organs. It is caused by upsetting or good news and events such as electric shock, excessive injury, and illness.

Causes

Severe bleeding, either internal or external.
Loss of plasma in burns or crash injuries.
Heart failure as in acute heart attacks.
Loss of body fluid from recurrent vomiting or severe diarrhoea.
Acute abdominal emergencies, example perforation of stomach or ruptured appendix.
All electric wires should be well insulated and defective equipment repaired and replaced.
Do not touch electric switches and appliances with wet hands.

Prepare one for bad news

Lay the casualty down and deal with the injury or underlying cause of the shock.
Raise and support legs to improve the blood supply to the vital organs.
Loosen tight clothing at chest, neck, waist to reduce constriction in these areas.
Protect when necessary with a blanket or sheet.
Do not give casualty anything to drink.
Take him to hospital as soon as possible.

Foreign bodies in the ears, eyes and nose

A foreign body is anything undesirable that enters into the body such as dust, insects and seeds (common with children).

A child putting a bean in the nose and then breathing it out. People should protect their eyes when walking or working in an area where there are dust particles in the air e.g. by wearing protective gear. Keep small items such as seeds and beads away from children.

Foreign body in the eye

Advise the casualty not to rub the eye. Let the casualty sit facing the light, separate the eyelids gently with clean fingers and thumb. If foreign object can be seen, wash it out with clean water. If it is stuck on, remove with a moist swab or damp corner of clean cloth. If the object remains stuck on, bandage the eye and seek medical assistance at the nearest health facility.

Foreign body in the nose

Calm the casualty and request him/her to breathe through the mouth. Press the unaffected nostril with a finger and blow the nose to remove the object. If it does not come out, do not attempt to remove it, but seek medical assistance. For small children, seek medical assistance immediately.

Foreign body in the ear

Reassure the casualty and let him/her lie down. Flood the ear with clean water if an insect is lodged inside. If unsuccessful, refer casualty to nearest health facility.

Fainting

It occurs due to temporary loss of blood flow in the brain causing a brief loss of consciousness.

Illness such as anemia

After receiving bad or good news

Hunger

Overworking

Standing for a long time

Avoid standing for too long.

Avoid overcrowding and poorly ventilated rooms.

Break bad news calmly.

Lay the casualty down and raise the legs slightly above the level of his head.

Loosen all tight clothing.

Ensure there is plenty of fresh air.

Reassure the casualty.

Gradually, raise him into the sitting position and give sips of water, if required.

If he/she does not regain consciousness, seek medical assistance.

Nose Bleeding

HOME SCIENCE FORM 1-4 NOTES

This happens when blood comes out of the nose. It may be caused by an injury, blowing the nose forcefully and picking the nose.

Someone pinching the nose to prevent blood from coming out during nose bleeding. The head should be slightly bent.

Avoid picking the nose.

Avoid blowing the nose too hard and often where possible.

Sit the casualty down with the head forward.

Pinch the nose firmly below the bridge for 10 minutes, making the person breath through the mouth.

After 10 minutes, request the casualty to release the pressure on the nose.

Encourage the casualty to spit out any blood that flows into the mouth.

If nose bleeding persists beyond 30 minutes, seek medical attention.

Drowning

Drowning is the blockage of air passages by liquids when swimming or if one falls into water bodies such as lakes, rivers and basins. A child bending into a bucket full of water. The child then falls inside. Water storage containers must have tight fitting lids. Do not store water in open containers. All water pools around the house should be drained. Bathtubs should be unplugged after use.

Do not swim unaccompanied by a life saver.

Remove the casualty from the water as quickly as possible.

Shout for help if you cannot swim.

Once the casualty is out:

Open airways by placing casualty briefly on the side to drain out the water.

Check for breathing and blood circulation.

Start artificial respiration immediately if the casualty is not breathing.

If there is no pulse, start Cardiac Pulmonary Resuscitation.

If casualty starts breathing, put him/her in a recovery position.

If no response, continue with Cardiac Pulmonary Resuscitation until help arrives.

Insect stings and bites

Some insects such as bees, wasps and scorpions sting while others such as mosquitoes, ticks, lice and cockroaches bite.

Keep the environment clean.

Do not disturb bees and hornets.

Air beddings thoroughly and change them frequently.

Bites

Clean the affected area thoroughly with clean water.

If possible apply alcohol or alcohol mixed with iodine on affected areas except those close to the eyes.

HOME SCIENCE FORM 1-4 NOTES

Stings

Pluck the sting firmly with fine tweezers.

Apply a cold compress to relieve pain and minimize swelling.

Snake bites

Snake bites can be poisonous or non-poisonous.

Different types of snakes

Do not provoke snakes.

Clear bushes around the house

Lay the casualty down. Reassure the casualty and keep him/her calm and still.

Wash wound well and pat dry with clean swabs.

Lightly compress the limb above the wound with a roller bandage and immobilize the injury.

Clear bushes around the house

Poisoning

Poison is any substance which when taken causes harm to the body. It gets into the body through swallowing, breathing in gases (inhalation), contact through pesticides and chemicals pushed through the skin.

Baby drinking paraffin from a bottle

Man seated in an enclosed room without ventilation and there is a jiko, hence he is inhaling carbon monoxide.

Wash hands after handling pesticides.

Label medicines, insecticides and all other poisonous substances and keep them away from the reach of children.

Medicines should be taken as prescribed by the doctor.

Do not store chemicals near food

Management of poison that does not burn

If conscious, give drinks of milk or water immediately.

Induce vomiting by touching the back of the throat with fingers.

Give more drinks as you take the person to the nearest health facility.

Note: take the container that held the poison with you.

Management of poison that burns

Give casualty water to drink immediately.

Wash away poison from the skin.

Refer casualty to nearest health facility

HOME SCIENCE FORM 1-4 NOTES

Note: take the container that held the poison with you
Do not store chemicals near food.

What is First Aid?

First Aid is the immediate help given to a person who has had an accident or sudden illness before being placed under medical care. It is usually done at the place where the accident occurs. A person who gives first help uses a First Aid Kit. This is a container with items required to give the first help.

By the end of the lesson you should be able to assemble items in a First Aid Kit.

Contents of a First Aid Kit

Cotton Wool
Bandages
Disposable Gloves
Clinical Thermometer
Ointment
Petroleum Jelly
Antiseptic
Adhesive Dressings
Surgical Blades
Scissors
Tweezers
Pain Killers
Gauze
Safety Pins
Sling
Notepad and Pen
Water

Housing the Family

By the end of this lesson you should be able to:

Explain different ways of providing family shelter.
State factors to consider when providing family shelter.
Identify various types of houses.

Traditional houses are constructed using materials such as palm leaves, grass, mud and cow dung, which are not durable. Examples of traditional houses include:

Manyatta (Maasai hut)

Kikuyu hut

Borana/ Somali hut

Giriama hut

Luo hut

A Manyatta

Manyatta Hut (Maasai) - Oblong in shape. Uses poles, sticks, grass leaves which are smeared with a plaster of cow dung and mud on both walls and roof. The house has small openings for ventilation.

Kikuyu hut - Circular in shape. Constructed using poles, sticks and grass. Walls are plastered with mud and then smeared with clay.

Borana/Somali hut - The Borana /Somali people are nomads and as such their houses are constructed in a way that they can easily be dismantled and moved to new locations.

Constructed using poles, sticks and grass. Long grass is neatly woven and tied together with strings into portions.

The portions are secured in an overlapping manner onto a supporting frame in both the roof and walls of the house.

These portions can easily be rolled up and secured for ventilation.

Giriama hut - Cone shaped with no apparent difference between the wall and the roof.

Made of overlapping long grass tied using strings to a framework of poles and sticks.

Palm leaves and twigs are closely woven together to form a detachable door.

Luo hut - Round in shape. Made of poles, sticks and grass for the roof. Wall and floor are smeared with mud and cow dung and beautifully patterned. There are holes on the wall for ventilation. The floor is smeared with cow dung and mud.

Improved Traditional Houses

These are houses that are constructed by a combination of both temporary and permanent materials.

Unlike traditional houses, they are partitioned.

Modern Houses

Modern houses are more durable as they are made using strong materials like stones, cement, bricks, metal, and concrete hence making them permanent. Examples of modern houses include:

Bungalow

Mainsonette

Flats or Apartments

Bungalow

A house where all rooms and facilities are constructed on the ground floor. Comes in different shapes like L-shaped, U-shaped and rectangular shaped. House where different areas are constructed on two or more floors hence occupying less ground. Different floors are connected by stairs.

Flats or apartments

HOME SCIENCE FORM 1-4 NOTES

Housing units where one complete house is built on top of another. The compound is a common ground floor shared by all.

There are three ways of providing family shelter. These are:

Renting a house

Building a house

Buying an already built house

Advantages of building

One is able to:

Build according to taste and specifications that meet the family needs and values.

Rent it out and generate income.

Have an investment for future.

Have a feeling of permanence and stability.

Use it as security for loans.

Alter and renovate it.

Choose the type of materials to use.

Disadvantages

Expensive

If expertise is lacking the quality of work may be sub-standard.

It is involving and time consuming.

Advantages of Buying a house

The house is available for occupation as soon as the transactions are complete.

One can choose a location that he/she likes.

One can select a house design that best meets his/her family requirements.

One can use it to secure loans.

Expensive if bought through mortgage.

If mortgage is not completely paid, the house can be repossessed.

A house already built may not meet all the family requirements.

Advantages of Renting a House

The owner is responsible for maintenance.

The tenant rents a house that suits the income and family size.

The tenant may vacate the house at will.

The tenant chooses a desired location. For example, near social amenities or place of work.

Renting is expensive in the long run.

One lacks a sense of permanent land ownership.

The owner may decide to increase the rent.

One cannot modify the house to suit his/her liking.

Repairs may not be done on time as required.

Factors determining the building a House

1. Family Size

The house should take care of family members as well as different sexes and ages. This factor is considered for all the methods.

2. Cost

Choose a house within your means. One that you can afford.

3. Social Amenities

A house should be in close proximity to social amenities.

4. Security

Ensure a safe locality and hazardous free zones far from factories, industries, airport and sewages for health reasons.

5. Construction

Quality of material used in building the house should be durable. Workmanship should be of high quality.

6. Type Of Soil

The type of soil affects the cost of building e.g. black cotton soil is most difficult to manage and hence increases the cost

7. Drainage

The site should be well drained to avoid flooding which leads to dampness, pests and damage to property.

8. Orientation

The positioning of the house in relation to the sun and direction of wind should be considered.

9. Ownership

Ensure you are the legal owner of plot/land house and that all legal requirements are taken care of.

Care of the Home

Cleaning Equipment

The home should be kept clean at all times. In order to maintain the cleanliness of the home, constant removal of dirt is important.

The following equipment is necessary for the removal of dirt:

Brooms

Scrubbing brush

Cobweb brush

Carpet brush

Toilet brush

Buckets and Basins

Dustpan and hand broom

Mop and mop bucket

State factors to consider when choosing different cleaning equipment.

Choice and Care of:

Brooms and brushes
Buckets, basins and karais
Dustpans
Labour saving equipment

Brooms and Brushes

Buy for the correct purpose.
Material used should be durable.
Bristles should be firmly fixed.
The head and handle must be smooth and curved.

Care

Use for the correct purpose.
Remove loose dirt after every use and clean regularly.
Store them appropriately so that the bristles are not damaged.
Never store them when wet to avoid bad smell.

Basins, Buckets, Karais

Choose those made from durable material.
Should be light in weight.
Should be easy to clean.
Should be washed after use with warm soapy water, rinsed and dried before storage.
Store in a cool, clean and dry place.
Avoid using scouring pads and strong abrasives as they scratch the surface.

Dustpan

The edges should be smooth.
Should have a flat base.
Should be made from durable material.
Clean after every use and store appropriately.
Thoroughly clean weekly in hot soapy water, rinse and dry.
Do not bang as they lose shape.
Use for intended purpose.

Labour Saving Equipment

Choice and care of labour saving equipment

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Should be strongly constructed.
Should have all the necessary attachments.
Buy one that can be easily operated.
Make sure it has the correct voltage.
Get a manual and a certificate of warranty
Get a demonstration from the dealer.
Ensure availability of after sales service and spare parts.
Follow the manufacturer's instructions.
Occasionally empty the dust bag of the vacuum cleaner.
Replace the brushes of a carpet sweeper once worn out.
Wind the cord around the handle and keep all attachments together while not in use.
Store in a hanging position.

Types of Kitchen Equipment and their Use

Kitchen equipment is categorized into 3 main groups mainly:

Small equipment
Large equipment
Labour saving equipment/devices

By the end of the lesson you should be able to identify various kitchen equipment and their use.

SMALL KITCHEN EQUIPMENT

These are usually classified according to their functions namely:

Measuring and weighing equipment
Cutting tools
Shaping and molding
Separating tools
Lifting, mixing, turning and scooping tools
Oven/baking utensils
Pans and pots (Cooking vessels)
Measuring and Weighing Equipment

Cutting Tools

Knives
Shaping and Moulding Tools
Separating Tools
Lifting, Turning, Scooping and Mixing Tools
Spoons
Oven/ Baking Utensils
Pans and Pots
Large Kitchen Equipment
Labour Saving Devices

Measuring and Weighing Equipment

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Cutting Tools

Knives

Shaping and Moulding Tools

Separating Tools

Lifting, Turning, Scooping and Mixing Tools

Spoons

Oven/ Baking Utensils

Pans and Pots

Large Kitchen Equipment

Labour Saving Devices

Food Hygiene

Food Spoilage and Food Poisoning

Food spoilage is the deterioration of food, making it unfit for human consumption.

Food poisoning is the illness caused by eating contaminated food.

Objectives By the end of the lesson you should be able to:

Explain causes and prevention of food spoilage and food poisoning.

Identify signs and symptoms of food poisoning.

Causes of Food Poisoning

Chemical Contamination

Bacterial Contamination

Natural Poisoning

Chemical Contamination

Pesticides

Using chopping board to chop meat then:

The same chopping board is used to chop fruits before cleaning

Poorly stored maize

Maize with aflatoxins

Causes of Food Spoilage

1. Poor storage of foods
2. Chemicals present in food containers wrappers and packets
3. Keeping food for too long until it rots, wilts or withers.

Cover cooked foods to keep off bacteria, pests and pets.

Milk should not be stored together with strong smelling foods as it absorbs their smell.

Chemicals in Food

Canned Meat

Chocolate wrapper

Prolonged Storage

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Mould Bread
Rotten Meat

Food poisoning and food spoilage can be prevented by:

1. Storing harmful chemicals such as kerosene, detergents away from food.
 2. Thoroughly drying grains before storage and then storing them in a clean dry and well ventilated grain store.
 3. Not buying foods that have expired or are about to expire.
4. Washing hands, preparing, cooking and serving food in a clean environment.
5. Washing fruits and vegetables before using them.

Signs and Symptoms of Food Poisoning

Violent vomiting

High fever

Severe abdominal pain

Dizziness

Diarrhoea

General body weakness

Shivering

Methods of Cooking

What is cooking?

Cooking is a process of preparing food by applying heat.

Discuss reasons for cooking food.

Identify different methods of cooking.

State general rules for different methods of cooking.

Why do we cook food?

To improve flavour or taste of food.

To improve appearance and make it more appealing.

To kill germs and parasites hence making it safe for human consumption.

To preserve it.

To make it tender/ soft, hence easy to chew, digest and absorb.

To improve the texture.

Factors that Determine Methods of Cooking

Type of food to be cooked.

Personal taste/ preference.

Person being cooked for.

Time available.

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Cooking equipment available.
Number of people to be served.
Amount of money available.

General Rules of Cooking

There are two main categories of methods of cooking namely:

Those that use moist heat
Those that use dry heat

Moist Methods

Boiling
Stewing
Steaming
Frying
Boiling Method
Boiling is cooking food completely immersed in boiling water.

General Rules

Moist foods should be put in cold water and then heated to boil.
The water should be at the boiling temperature throughout until food is cooked.
The food should be immersed in water.
Avoid overcooking.
Suggested Foods for Boiling
Eggs, Meat, Starchy foods like Sweet Potatoes, Maize, Rice, Beans, Githeri, Bone soup

General Rules for Boiling

Most foods should be put in cold water and then heated to boil.
It should be at boiling temperature throughout until food is cooked.
Eggs
Meat
Starchy foods like sweet potatoes, maize, rice
Beans
Githeri
Bone soup

Stewing Method

Stewing is cooking food in a measured amount of liquids. Once the food has boiled it is allowed to simmer. Sufficient amount of liquid water or stock should be added for a stew of the right consistency. The saucepan or pot used should have a tight fitting lid to avoid loss of nutrients. Use gentle heat or cook slowly to avoid hardening proteins and damaging food texture and flavour.

Suggested Foods for stewing

Tough cuts of meat, fruits like pears and pineapples, vegetables like carrots and peas, smoked fish

General Rules for Stewing

Sufficient amount of liquid water should be added. Upon boiling, simmer to avoid denaturing proteins and damaging of texture and flavour of food. Tough cuts of meat Fruits like pears and pineapples. Vegetables like carrots and peas

Smoked fish

Steaming Method

This is cooking food using steam from boiled water. Steaming can be done directly or indirectly. Have water boiling prior to steaming. The steamer must have a tight fitting lid to avoid loss of steam. The temperature of the water bath must be boiling throughout.

Suggested Foods for steaming

Fish, Green vegetables, Tender cuts of meat

General Rules for Steaming

Fish

Green vegetables

Tender cuts of meat

The following is a video clip showing steaming method of cooking.

Frying Method

This is cooking food in hot fat or oil. The food can either be deep, shallow or dry fried. Use a heavy/ strong pan, which has no seam or rivets. All oils/ fats should be of good quality and of high smoking point to avoid overheating fat/oil and burning. Fill the pan until 2/3 (two thirds) of oil to avoid overflowing when deep frying. Heat the fat/ oil to the right temperature before putting in food. Do not overload the fryer as this lowers the temperature of the oil. Foods to be fried should be dry or coated to prevent splattering.

Suggested Foods for frying

Doughnuts, Fish, Chips, Chapatti, Pancakes, Eggs, Meat

Rules Rules for Frying

The deep frying oil should not be more than 2/3 (two thirds) full to avoid overflowing when deep frying. Foods to be fried should be dry or coated.

Doughnuts

Chips

Chapatti

Pancakes

•*Doughnuts*

•*Fish*

•*Chips*

•*Chapatti*

•*Pancakes*

•*Eggs*

•*Meat*

Dry Methods

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Roasting

Baking

Roasting Method

Cooking food using direct source of heat which can be done using an oven or over a charcoal fire.

Ensure frequent basting or turning of food to keep it moist and ensure even cooking.

Food to be roasted should be of good quality e.g. tender cuts of meats.

The oven or fire should be ready when beginning to roast.

Suggested Foods for roasting

Meat, Maize, Chicken, Potatoes, Arrow roots, Yams, Cassava

General Rules for Roasting

Maize

Chicken

Potatoes

Arrow roots

Yams

Cassava

Baking Method

Cooking food using hot dry air which is done in an oven.

Heat the oven before baking.

Observe the baking duration for the item being baked.

Test for readiness before removing from the oven.

Suggested Foods for baking

Potatoes, bread, cakes, fish, biscuits, pastries and pies

Click at the top to view the video clip on baking

General Rules for Baking

Potatoes

Bread

Cakes

Fish

Biscuits

Pastries

Pies

Textile Fibres

The following sub-topics will be covered under this topic:

1. Classification of Textile Fibres
2. Properties of Textile Fibres

Fibres

Fibres are classified into two main groups:

Natural

Man-made

Wool fibre

Natural Fibres

1. Animal
2. Plant
3. Mineral

Animal Fibres

1. Wool
2. Silk

Plant Fibres

1. Cotton
2. Linen

Man-made Fibres

These are fibres that are not made purely from natural raw materials. They are classified into two groups:

1. Regenerated
2. Synthetic

Regenerated Fibres

They are made from natural fibres treated with chemical substances. They include:

1. Viscose Rayon
2. Acetate Rayon

Viscose Rayon

Viscose rayon is made from cotton linters and chemicals.
Spinneret

Acetate Rayon

Acetate rayon is made from wood pulp and chemicals.

Synthetic Fibres

Synthetic fibres are made from chemicals. These chemicals are derived from coal, oil or petroleum products. The fibres are made through a process known as polymerisation where polymers are made by

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the combination of small molecules.

They include:

1. Polyamide
2. Polyester
3. Polyacrylics

Polyamide

They are made from benzene (from coal), oxygen and nitrogen (from air) and hydrogen (from water). Polyamide under the microscope

Polyester

Polyester fibres are derived from petroleum.

Polyacrylics

This is produced from acrylonitrile, a liquid produced from petroleum or natural gas.

Elastomerics

They are elastic and rubber like substances made from polyurethane.

Properties of Textile Fibres

Properties of Cotton

Cotton is produced from the cotton plant. It is one of the most popular natural fibres used to make personal and household articles.

Desirable qualities of cotton

Cotton is absorbent making it suitable for towels and undergarments. Cotton is a strong fibre and can withstand the friction required in laundry work. This makes it suitable for school uniforms, children's clothing and bed linen. Cotton can withstand mild alkalis and stain removers hence making it ideal for household linen and daily wear. Cotton can withstand high temperatures. This makes it suitable for items that need to be sterilized such as dish clothes, towels and napkins.

Cotton is a good conductor of heat thus keeps the body cool in warm weather. Cotton does not generate and hold static electricity therefore clothes do not cling to the body when worn. This makes it ideal for outdoor clothing. Cotton takes in dyes easily therefore comes in a wide variety of colours. Cotton is resistant to attack from moths.

Undesirable Properties of Cotton

Creases easily

Shrinks readily

Yellow with age

Not resistant to mildew

Lacks lustre

Flammable

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Not resistant to strong acids

Properties of Linen

Linen is produced from the stem of a flax plant.

The properties of linen are similar to those of cotton except that it:

Is crisp

Has lustre

Is stronger

Frays readily

Desirable qualities of Linen

It is used for table linen such as table cloths, napkins, mats and cushions because it is strong, hence withstands regular laundering and high temperatures.

Linen is popularly used in the kitchen because it is strong and is resistant to high temperatures.

Linen clothes are popular because they are absorbent making them suitable in hot climate.

Linen takes in dyes easily therefore comes in a wide variety of colours.

It is popularly used to make household articles like organizers, chair covers and cushions.

Undesirable Properties of Linen

Creases readily

Attacked by mildew

Properties of Wool

Wool is the hair or fur from animals such as sheep, goats or camels.

Desirable Properties of Wool

It has a natural crimp which makes it warm to wear.

Wool is resilient making it crease resistant.

Wool is non-flammable

It is absorbent

Properties of Silk

Silk is produced from the secretion of a silk worm.

Desirable Properties of Silk

Silk is a very strong fibre therefore washes and wears well, making it suitable for underwear.

Silk has a soft fine lustre therefore popularly used for evening wear.

Silk drapes well

Silk is absorbent.

Silk is resistant to mildew, fungi and moths.

It is crease resistant therefore suitable for travel wear.

Undesirable Properties of Silk

Weak when wet;

Easily damaged by high temperatures;

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Weakened by long exposure to sunlight;
Perspiration weakens it;
Easily weakened by alkalis and acids.

Properties of Mineral Fibres

Asbestos

The most commonly used mineral fibre is asbestos.

Properties of Asbestos

It is resistant to fire and most chemicals. Asbestos is commonly used to make fire fighting clothes. Asbestos cloth being resistant to heat and fires is used to make various items such as hats, gloves, belts, ropes and fire fighting uniform. Asbestos fibre is also used as insulation materials for water heaters, fridges and ovens.

Silver strands are used to make decorative clothes and items.

Gold fibres are woven into fabric for decorative purposes to make various items.

Properties of Viscose Rayon

Viscose rayon is made from wood pulp and chemicals. The properties of viscose rayon are similar to those of cotton.

Desirable Properties of Viscose Rayon

Being a filament fibre it produces a smooth and lustrous surface. It is therefore popularly used to make table cloths and napkins. Viscose is absorbent therefore cool to wear in hot climate. Viscose takes in dyes well and therefore can be produced in a wide variety of colours and designs. Viscose blends easily with other fibres and is normally blended with cotton and wool. This makes it crease resistant and strong while maintaining its high lustre.

Undesirable Properties of Viscose Rayon

Is not a strong fibre and is weaker when wet. It should therefore not be twisted, wrung or rubbed during laundry.

Scorches when exposed to heat

Develops mildew

Yellowes and rots due to prolonged exposure to light.

Properties of Synthetic Fibres

Synthetic fibres are made from chemical substances which are mainly derived from coal, oil or petroleum products. There are properties that are common to all synthetic fibres.

Desirable Properties of Synthetic Fibres

Synthetic fibres are very strong. They are therefore used to make a variety of items.

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Synthetics are smooth and have a lustrous finish.

Synthetic fabrics drape well and are popularly used to make curtains and table clothes.

Synthetic fabrics are resilient. This means they do not crease easily and are therefore good for traveling and work clothes.

Light in weight therefore good for travel.

Resistant to sunlight except nylon which yellows with prolonged exposure to sunlight.

Not attacked by moths, insects and mildew.

Undesirable Properties of Synthetic Fibres

Not absorbent

Develop static electricity making them cling to the body and attract dirt.

Damaged by chlorine bleaches

Damaged by high temperatures

Abrasion and prolonged wear causes pilling (small ball-like features) on the fabric.

FORM 2

The surrounding in which we live in, is known as the environment. It is important to keep our surroundings clean so as to prevent illnesses and the spread of diseases.

Objective

By the end of the lesson you should be able to explain the concept environmental hygiene.

Free drainage

It is a method of disposing water anywhere in the compound.

Open Drainage

It is a method of disposing water by directing it into gutters or a simple trench dug on the ground. The trench can also be well constructed with materials such as cement, plastic or metal.

An Open Drain

Concealed drainage

In this type of drainage, water is drawn away from the house through pipes and covered drains.

Definition of Drainage

Drainage is the removal of water from houses and buildings such as rain water and waste water. Stagnant water around houses and buildings is a health hazard. It is therefore important to draw it away appropriately.

Types of Drainage

Free drainage

Open drainage

Concealed

Malaria

Malaria is caused by a parasite which is spread by the anopheles mosquito.

Typhoid

Typhoid is caused by a bacteria found in urine or faeces.

Cholera

Cholera is caused by a bacteria found in contaminated water and food.

Dysentery

Dysentery is caused by protozoa (amoeba) found in human faeces.

Scabies

Scabies is caused by mites found in places where there is poor personal hygiene.

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Bilharzia

Bilharzia is caused by parasitic snails found in fresh water.

Ringworms

Ringworms are caused by fungi which affects the skin.

Tuberculosis (TB)

Tuberculosis is caused by bacteria which affects different parts of the body such as the lungs.

Introduction

Communicable diseases are those that are easily passed on from person to person or from host to person. A host refers to a carrier of disease causing organisms (germs). The common communicable diseases are:

Objectives

By the end of the lesson you should be able to:

State the common communicable diseases.

Identify causes of common communicable diseases.

Mode of transmission of dysentery, typhoid and cholera

One common transmission mode of dysentery, typhoid and cholera is through contaminated water.

Signs and symptoms

Severe abdominal pains

Fever

Nausea

Loss of appetite

Diarrhoea

Dehydration

Violent vomiting

Acute diarrhoea

Abdominal pain

Headaches

General body weakness

Prevention and Control of Dysentery, Cholera and Typhoid

Practice proper disposal of human waste

Treat water for domestic use

Observe proper hygiene practices

Ensure regular medical checkups for food handlers

Scabies is a skin disease which manifests itself in form of rashes which form blisters and sores. Itchy skin
Rashes which form blisters and sores This is a skin disease which manifests itself in form of whitish round
rings) on the infected area.

Itching of the infected areas

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Whitish round ring(s) on the infected area
Loss of hair on the infected area

Skin diseases

Some skin diseases are contracted through body contact, improper hygiene and by sharing personal items. These include:

Prevention and Control of Skin Diseases

Practice personal hygiene;

Avoid sharing personal items such as, combs, clothes and many others;

Disinfect / sterilize personal items occasionally;

Seek medical attention.

Laundry Work

Laundry work is the process of washing, drying, finishing and storing household articles and clothes so as to maintain their original state.

Washing Equipment

Washing Equipment includes, buckets, basins, a laundry brush, washing machines and boilers. A large sufuria can be used as a boiler.

Drying Equipment

Drying Equipment includes, a clothes line, pegs, drying racks, clothes horse and various types of driers.

Finishing Equipment

Finishing Equipment includes irons, a calendaring machine, an ironing table or ironing board and a sleeve board.

Storage equipment

Storage Equipment includes chest of drawers and a wardrobe, which may either be free standing or built-in, suitcases, wooden or metal boxes. There is also improvised storage equipment which may include a carton box, a string for hanging items, nails on a wooden board on the wall, hooks on the wall, organizers or a clothes stand.

Laundry Equipment

For laundry work to be effectively done you need sufficient laundry equipment. This include:

1. Washing equipment
2. Drying equipment
3. Finishing equipment
4. Storage equipment

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Soap

Soap is made from natural products such as animal fat or vegetable oil and an alkali.

Soapless detergents

Soapless detergents are made purely from chemicals such as petroleum by-products.

Detergents

By the end of the lesson you should be able to distinguish between soaps and soapless detergents.

Forms of Detergents

Laundry Agents

These are substances other than soap that aid in laundry work. They include:

Objectives

By the end of the lesson you should be able to:

Identify laundry agents.

State their uses.

Sorting

Repairing

Video clip showing a person fixing a hanging hem.

Click on the PLAY button to view the video

Soaking/steeping

Video clip showing a person soaking a white cotton table cloth in cold plain water.

Washing

Video clip showing a person washing a white cotton table cloth.

Rinsing

Video clip showing a person rinsing a white cotton table cloth in cold plain water.

Drying

Video clip showing a person drying a white cotton table cloth on the clothes line using pegs.

Finishing

Video clip showing a person ironing a white cotton table cloth.

Airing

Video clip showing a person airing a white cotton table cloth.

Storage

Video clip showing a person storing a white cotton table cloth. This can be done either by hanging or folding and then storing in a drawer.

Laundry Processes

These refers to the series of activities carried out in cleaning and maintenace of clothes. The processes include:

- Sorting
- Repairing
- Soaking/steeping
- Rinsing
- Drying
- Finishing
- Storage

Laundering Various Articles

- i. Tea-stained white cotton table cloth
- ii. Fast coloured baby's cotton bed sheet
- iii. Loose coloured lessa/khanga
- iv. Knitted woollen sweater
- v. Synthetic blouse

Describe how to launder different fabrics appropriately.

Describe how to carry out special treatment in laundry work.

Nutritional disorders are caused by insufficient or excess intake of a given nutrient(s). Some of the nutritional disorders are:-

- Kwashiorkor
- Marasmus
- Scurvy
- Goitre
- Rickets
- Osteomalacia

There are other nutritional disorders associated with lifestyles.

These include:-

- Gout
- Obesity
- Anorexia nervosa

Background Information

Definition of Terms

HOME SCIENCE FORM 1-4 NOTES

Food: This is any substance, liquid or solid that is taken into the body in order to maintain life and growth. **Food Nutrients:** These are chemical components of food that serve a variety of functions in the body. **Nutrition:** This is the process by which the body receives and uses the nutrients contained in food for different functions. These include processes such as digestion, absorption and utilization of nutrients in the body.

Balanced Diet: This is a meal that contains all the nutrients in the right proportions.

Malnutrition: This refers to inadequate or excessive intake of nutrients.

Classification of Nutrients

By the end of the topic, you should be able to:

- i) Identify the common nutritional disorders.
- ii) Identify nutritional disorders associated with life styles.

It is important for one to eat good quality food and in sufficient quantities in order to maintain good health.

Cause

Kwashiorkor is caused by lack of proteins in the diet. It usually affects children below five (5) years who stop breast-feeding early and are weaned on foods lacking in proteins.

Signs and Symptoms

Hair is thin, scanty, brown and silky.

Swelling of the belly, face, hands and feet. When one presses the swollen part, the impression of the finger remains on the skin for a while.

The skin looks pale. In extreme cases the skin peels and forms raw wounds.

Growth is retarded.

Child is dull and inactive.

Prevention

Breastfeed for as long as possible

Wean on protein-rich foods such as milk, eggs, fish, legumes and tender meat.

Marasmus

Marasmus is a deficiency disorder that is caused by total starvation over a period of time. It can also be referred to as protein energy malnutrition caused by lack of all nutrients.

Marasmus is caused by total starvation, that is, lack of all nutrients. Extreme loss of weight. The person is skinny and may weigh half of the expected weight. Hair may appear normal, but the head will look big in comparison to the rest of the body. Eyes protrude and the person is generally alert or anxious. The ribs can be clearly seen. A child looks like an elderly person because the face is wrinkled. There is no fat under the skin especially around the upper part of the arms, thighs, buttocks and belly which are wrinkled. Eat adequate balanced meals. Ensure hygienic conditions

Food:

Background Information

Definition of Terms

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- ii) Identify nutritional disorders associated with life styles.

It is important for one to eat good quality food and in sufficient quantities in order to maintain good health. These are some terms that you may come across in this topic:

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Hair may appear normal, but the head will look big in comparison to the rest of the body.

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Eyes protrude and the person is generally alert or anxious.
The ribs can be clearly seen.

A child looks like an elderly person because the face is wrinkled.
There is no fat under the skin especially around the upper part of the arms, thighs, buttocks and belly which are wrinkled.
Eat adequate balanced meals.
Ensure hygienic conditions so as to prevent worm infestation.

Scurvy is a nutritional disorder which is common among people who rarely eat fresh fruits and vegetables.

Scurvy is caused by lack of Vitamin C which is found in fresh fruits and vegetables. Vitamin C maintains the health of body mucous membranes and makes them resistant to infections.

Bleeding gums
Loose teeth
Unhealthy skin
Weak and painful joints
Anaemia may develop
Blood in the stool and urine
Slow healing of wounds
Eat foods rich in vitamin C such as citrus fruits, guavas and green leafy vegetables
Goitre is characterized by swelling of the thyroid gland which is situated at the lower front part of the neck.

This disorder is caused by a deficiency of iodine in the diet.

Enlarged thyroid gland
Hypothermia (feeling cold)
Dry and rough skin
Lack of energy and fatigue
Mother may give birth to a mentally handicapped child.
Trembling and nervousness
Bulging eyes
Take a diet rich in iodine.

Rickets

This is a condition in which the bones become weak and deformed.

Causes

Rickets is a vitamin D, Calcium and Phosphorous deficiency disorder that mainly occurs in children.
Weakness of bones which is characterized by bow-legs or knock-knees.
Poor development of teeth.
Eat a diet rich in calcium, phosphorous and vitamin D.
Expose the body to sunshine.
Eat foods fortified with Vitamin D e.g. margarine.

Osteomalacia

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Osteomalacia is the equivalent of rickets in adults.

Osteomalacia is caused by inadequate intake of calcium, phosphorous and vitamin D and it mainly occurs in adults.

Bones soften, become distorted and fracture easily.

The legs, spine, thorax and pelvis are deformed.

Pain in the bones, legs and lower part of the back.

General weakness and difficulty in climbing stairs.

In severe cases, one experiences involuntary twitching of muscles especially those of the face and hands.

Prevention

Increase intake of Calcium, Phosphorous and vitamin D.

Eat foods fortified with vitamin D

Expose the body to the sun.

Gout is a disorder associated with affluent life style.

Gout results from a high intake of roasted red meat and alcohol.

Redness and swelling of affected joints.

Very severe pain in the affected joints.

Fever, lower back pain and vomiting.

Avoid too much roasted red meat and alcohol.

Take plenty of water.

Obesity

Obesity is a condition whereby one takes in excess calories than the body requires. The excess calories are converted into fat and stored under the skin and around vital internal organs.

This condition is caused by:

Excess intake of carbohydrates and fats.

Lack of adequate exercise.

Eating junk food.

Sedentary lifestyles.

Excessive body weight.

Tiredness and shortness of breath.

Complications such as heart disease, diabetes and hypertension may arise.

Avoid junk food

Avoid excess intake of carbohydrates and fats.

Exercise regularly.

Eat a well balanced diet.

Anorexia Nervosa

Anorexia Nervosa is a psychological problem where someone gets a distorted image of oneself as being fat and unacceptable, hence refuses to eat at all.

Anorexia Nervosa is caused by refusal to take food leading to thinness. It is common among teenagers

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and young women and it is fatal.

Sudden weight loss.

Depression

Feeling overweight even when thin and underweight.

Avoidance of food.

Eat a balanced diet.

Counsel individuals to learn to accept themselves as they are.

Overlaid Seam

Video clip showing the working of an overlaid seam. This seam is also known as a lapped seam.

Double Stitched Seam

Video clip showing the working of a double stitched seam. This seam is also known as machine fell seam.

Open Seam

Video clip showing the working of an open seam. It is popular as it is a base for most seams. It is fast to work and can be used on all areas of garment construction. Click on the

French Seam

The French seam is a strong inconspicuous seam suitable for fabrics that fray a lot.

A seam is used for joining two or more pieces of fabric together neatly and securely using stitches.

Seams are divided into two:

Point the cursor on each of the categories to view the types of seams

By the end of the topic, you should be able to:

(i) Define a seam.

(ii) List commonly used seams.

(iii) Describe how to make the following seams:

Overlaid seam

Double stitched seam

Open seam

French seam

Body Measurements, Pattern Symbols and Markings

Well fitting garments are as a result of accurately taken measurements. This enhances one's appearance.

Well Fitting Clothes

Body Measurements

Before drafting or buying a pattern, it is necessary to have accurate body measurements. Ask someone to take your body measurements for accuracy and good fit. Body measurements can be divided into two categories:

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Blouse/ Shirt measurements

Skirt/ Trouser measurements

Objective

By the end of the lesson, you should be able to explain how to take body measurements accurately.

Upper arm width

This is taken round the fullest part of the arm.

Wrist measurement

This is measured around the wrist and two fingers are inserted for ease.

Bust

This is measured at the fullest part of the bust with the tape measure raised at the back and two fingers inserted at the front for ease

Waist

This is measured around the natural waist while inserting two fingers in the tape measure.

Hip Measurement

This is measured at the widest part of the hips with two fingers inserted in the tape measure.

Here the hand is placed on the waist and the measurement is taken from the shoulder to the elbow down to the wrist. This is done to avoid discomfort at the elbow when the hand is folded.

Blouse/ Shirt measurements include:

Bust

Waist

Hip

Chest width

Back width

Back length (Nape to waist)

Front length

Shoulder width

Sleeve length

Upper arm width

Wrist

Full length

This is measured from the shoulder to the desired length.

Skirt length

This is measured from the waist to the desired length.

Outer leg/trouser length

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This is measured from the waist to the desired length on the side.

Inner leg/trouser length

This is measured from the crotch to the desired length on the inner side of the leg.

Crotch depth

This is taken when one is seated on a flat hard surface for accuracy. It is measured from the waist to the surface of the seat.

Skirt/ Trouser measurements include:

Waist to hip (Skirt)

Skirt length

Crotch (for Trouser/ shorts)

Full length

Outer leg length

Inner leg length

Pattern Symbols And Markings

Pattern symbols and markings are used as a guide in garment construction.

Objectives

By the end of the lesson, you should be able to:

Identify pattern symbols and markings.

State the use of pattern symbols and markings.

Pattern Symbols And Markings.

- Identify pattern symbols and markings.
- State the use of pattern symbols and markings.

Consumer Awareness

By the end of the lesson you should be able to define the terms consumer, goods, services and consumer education.

Shopping

The video clip shows a consumer purchasing goods in a supermarket.

Shoe shining

The video clip shows a service being rendered.

Sources of consumer awareness

Information on products and services can be obtained from various sources and also through various methods. A consumer gets information from the following sources:

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Informative

This type of advertising only informs the consumer of what products or services are available. It may also enlighten consumers about new uses of products that they already know of.

Persuasive

This type of advertisement convinces the consumers to buy a particular good or service other than the one they are used to. It tells the consumers that they really need the good or service and that they should buy it.

Competitive

This type of advertisement is common where two competitors are selling the same good or service. It emphasizes that the goods or services of a particular company are of better quality than similar ones from another company.

FORM 3

In form three, you will cover the following topics: Meal planning and management refers to the process of determining the foods to be prepared, cooked and presented to the family in order to meet its nutritional needs using the available resources. In form one, you learnt the different methods of cooking food. In form two you learnt about the various food nutrients and their functions in the human body. In this chapter you will be expected to apply this knowledge in planning, preparing and cooking meals for different groups of people.

Importance of Meal Planning

It ensures that:

1. Meals are served and presented attractively.
2. Meals are balanced to meet the nutritional needs of the family members.
3. Meals are enough in quantity to satisfy the individual.
4. Meal times are enjoyable.

Objective

By the end of the lesson you should be able to

1. state the importance of meal planning.
2. Meals are balanced to meet the nutritional needs of the family members.
3. Meals are enough in quantity to satisfy the individual
4. Meal times are enjoyable

Meal planning and presentation

After preparation and cooking, food needs to be served and presented at the dining table. The art of food presentation is an important skill to a meal planner. Objective

By the end of the lesson you should be able to:

1. Plan suitable meals for special groups of people.
2. Practise meal preparation for special groups of people.
3. Present meals attractively.

Special groups of people

When planning meals for special groups of people, it is important to know their, nutritional needs in order to meet them. Some special groups of people include: Children, adolescents, the elderly, expectant and lactating mothers, invalids and vegetarians. Planning Meals for Children

When planning meals for children, ensure that:

- * The food is rich in proteins, calcium, phosphorus, iron, carbohydrates and vitamins.
- * The food is crunchy.
- * The food is served on attractive dishes.
- * The food should have vegetables.
- * Plenty of fluids should be included for example fresh fruit juice. Planning Meals for Adolescents

Adolescents are young adults undergoing rapid growth, with huge appetite; hence consume large quantities of food. They are also very active. Ensure their meals:

- * Are rich in energy-giving foods, that is carbohydrates and fats.
- * Are served in large quantities.
- * Have plenty of fresh fruits and vegetables.
- * Provide plenty of fluids

Planning Meals for Elderly

Due to advance in age, the metabolic processes have slowed down. They are less active with low appetite and some may have lost their teeth. Ensure the meals are:

- * Rich in minerals, especially calcium and phosphorus.
- * Rich in vitamins for protection.
- * Served in small quantities.
- * Easy to chew.

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- * Well seasoned.
- * Have roughage to prevent constipation and cardiovascular diseases. Planning Meals for Expectant and Lactating Mothers

An expectant mother is a woman who is pregnant, while a lactating mother is a woman who is breastfeeding. The nutritional needs of expectant and lactating mothers are the same. However, a lactating mother requires more fluids and larger quantities of food. Planning Meals for Invalids and Convalescents

An invalid is a person who is suffering from an illness. A convalescent is a person recovering from illness. When planning their meals, ensure:

- * The meal has plenty of protective foods and body building foods.
- * The food is soft and easy to digest.
- * The meal is prepared, cooked and served in a hygienic manner.
- * Food is served in small amounts at regular intervals.
- * Food is served attractively. Planning Meals for Vegetarians

A vegetarian is a person who does not eat animal flesh or their products such as milk, eggs, ghee etc. There are two types of vegetarians, Lacto vegetarians and Strict vegetarians. Click on each for more details. Points to consider when planning meals for vegetarians:

- * Mix different types of plant proteins to provide all the essential amino acids.
- * Provide a variety of proteins to avoid monotony.
- * Provide adequate amount of vegetables, fats and oils.
- * Foods should be well seasoned. Packed Meals

These are meals that are prepared, cooked, served and are eaten away from home. They can be used during picnics, while travelling, school visiting, tours and hospitals visits. Packing Materials and Equipment

Table setting

Table setting is the correct placement of table appointments required during meals. This can either be formal or informal. A formal table setting has more utensils and cutlery than the informal one in order to

cater for the many courses served during a formal occasion. Styles of Meal Service

There are many styles of meal service. In this topic four styles are discussed:

- * Blue plate
- * Family service
- * Buffet
- * Tray service

Blue Plate Service

The food is served on individual plates and given to the diners who may eat from table or anywhere they choose. Family service

In this service, the diners sit at a well set table and they serve themselves or are served from the serving dishes. Buffet service

a) In this service, the buffet table is well laid out with stacks of plates, cutlery and assortment of food systematically arranged. b) The diners queue and serve themselves or are assisted by hosts/ waiters. Tray service

A tray is used and is well set with appropriate crockery and cutlery and the food is set for one person. It is suitable for invalids. Maternal Child Health Care

As you learnt in Form 1, this is a discipline that deals with child development from conception to childhood with special attention to the physical, emotional and social development of the child. Safe Parenthood

One needs to be adequately prepared for the role of parenthood since it is an enormous responsibility.

Objective

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By the end of the lesson, you should be able to explain the importance of safe parenthood. Importance of Safe Parenthood

Safe parenthood ensures a:

1. Trouble free full term pregnancy
2. Safe delivery
3. Mother's and baby's health are safe guarded
4. Pregnant mother is free from stress related complications

Preparation for Safe Parenthood

In this lesson we shall look at the various factors that need to be considered in preparation for safe parenthood. These include:

- * Proper Nutrition
- * Proper Social and Psychological Preparation
- * Voluntary Counselling and Testing (VCT)
- * Age of parent

Objective

By the end of the lesson you should be able to discuss the needs of a pregnant mother. Proper Nutrition

Proper nutrition is important for both the mother and foetus. Lack of enough nutrients in the diet may lead to improper development of the foetus and endanger the life of the mother. Proper Social and Psychological Preparation

Emotional and social support from the family members and society are important for a healthy pregnancy. The mother must be prepared emotionally in order to adjust to the changes that will take place in her body. Voluntary Counselling and Testing (VCT) It is important for the parents-to-be, to know their HIV status by

visiting a VCT clinic. If they test positive to the virus: 1. They will be counselled

2. The mother is given medical care to prevent mother-to-child transmission. If negative, they are counselled and advised on how to maintain their negative status. Age of parent

The recommended age for parenthood is between 18-35 years.

*A girl below 18 years is not physically mature to carry the pregnancy and safely deliver the baby.

*A girl or boy below 18 years is not psychologically, socially and financially prepared for the responsibility of parenthood. On the other hand, an average mother-to-be may experience the following:

* Difficult in conception.

* Birth of deformed babies.

* Child has a high chance of getting genetic diseases.

* Mother may experience difficulty during labour. Pregnancy

Pregnancy is the period between conception and the delivery of a baby.

During this period mothers may suffer from some complications, these include:

Objective

By the end of the lesson you should be able to explain common problems in pregnancy. Oedema

This is the swelling of the face and limbs due to retention of body fluids. Varicose veins

These are veins that have become stretched, damaged and bulge on the surface of the skin. Piles/haemorrhoids

These are enlarged blood vessels that protrude at the anal region. Stretch marks

These are stripe-like appearance on the skin, especially on the legs,

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buttocks, thighs and abdomen. Backaches

The expectant mother may experience pain at the lower back as a result of pressure exerted by the growing foetus on the spine. Anaemia

This occurs when there is lack of enough iron in the body due to iron deficiency in the diet. Antenatal Care

Antenatal care is the care given to an expectant mother from the time of conception to the time she delivers. Antenatal care is also referred to as pre-natal care. Objectives

By the end of the lesson you should be able to: i) Explain the importance of antenatal care

ii) Explain the activities that take place in the antenatal clinic

iii) State the factors that affect normal foetal development. Importance of Antenatal Care

Antenatal care ensures: 1. The safety of the mother and the foetus. 2. Early detection of any pregnancy related problems so as to be managed in good time. 3. Provides education on health and nutrition to the mother. 4. Reduction of maternal-child mortality. Activities at the Antenatal clinic

As soon as a mother suspects that she is pregnant, she should report to the antenatal clinic for confirmation. In the antenatal clinic, the following activities will be carried out:

- * Checking family history
- * Checking of the mother's blood pressure
- * Urine analysis
- * Weight of the mother
- * Foetal heartbeat
- * Blood test
- * Scanning

Family History

It is important to find out more about the parents' family history in case of any hereditary disease/ condition.

Mother's Blood Pressure

It is important to monitor the mother's blood pressure especially during the third trimester so as to avoid related complications.

Click on the PLAY button to view video clip

Urine Analysis

Urine analysis is carried out to check:

- * Presence of proteins
- * Presence of sugar
- * Some STIs, such as gonorrhoea
- * Confirmation of pregnancy

Weight of Mother

It is important to monitor the weight of the mother so as to prevent serious complications such as high blood pressure and pre-eclampsia, which is a life threatening condition for both mother and baby. Foetal Heartbeat

The baby's heartbeat is monitored whenever the mother goes to the antenatal clinic.

Click on the PLAY button to view video clip

Blood test

The mother's blood is tested for:

- * Determining the mother's blood group
- * STI's diagnosis, such as syphilis
- * Haemoglobin levels
- * H.I.V

Scanning

Ultrasound scans are done to confirm that the foetus is growing well, that it is the right size for the dates or to check on the dates if the mother is unsure about them. Scanning is also done to check on any possible abnormalities that the unborn baby may have, so as to deal with them as early as possible.

Factors Affecting Normal Foetal Development

The normal foetal development can be affected by:

- * HIV and AIDS
- * Alcohol abuse and smoking
- * Drug misuse and abuse
- * Poor nutrition
- * Trauma/Stress

Click on each factor to view it. HIV and AIDS

This may cause infection to the baby. Alcohol Abuse and Smoking

This leads to underweight babies, mental retardation and miscarriages.

Drug misuse and Abuse

This may lead to poor development of the foetus and also miscarriages. Poor Nutrition

This may lead to poor physical and mental development of the foetus.

A pregnant woman eating chocolates from a box

Trauma/Stress

This may lead to miscarriages.

A stressed pregnant woman in an office

Postnatal Care

Postnatal care is the care given to the mother and baby for up to about five years after a baby is born. Both mother and child are given intense care in the first six weeks after delivery.

Mothers at a postnatal clinic

Objectives

By the end of the lesson, you should be able to: i) Define post natal care. ii) Explain the importance of post natal care. iii) Describe the activities that take place at the post natal clinic.

Importance of Postnatal Care

Postnatal care is given at home and in hospitals. Postnatal care safeguards the general health of the mother and the baby. The following are the activities that take place at the postnatal clinic:

- * The mother's uterus is thoroughly examined to ensure that the uterus and other organs are back to normal.

 - * The breasts are examined to ensure that the mother is able to breastfeed properly and advice is given accordingly.
 - * The mother is advised on good nutrition, general hygiene and methods of family planning.
 - * The mother's health, emotional, psychological and social concerns are addressed at the clinic.
 - * Pregnancy related complications, if any, are addressed.
 - * The growth of the baby is monitored.
 - * The general health of the baby is assessed and treatment given if necessary.
 - * The baby is immunized against common childhood diseases. Child Immunization
- Immunization is the introduction of a vaccine into the body to protect it against a particular disease or infection. It prepares the body to defend itself against specific diseases by stimulating the immune system to produce appropriate antibodies. Objectives

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By the end of the lesson, you should be able to define the term immunization. Importance of Immunization

It is important for children to be immunized so as to:

- * Prevent harm caused by some diseases.
- * Reduce child mortality.
- * Prevent permanent injury or disfigurement.
- * Save on money that could have been used on treatment. Objective

By the end of the lesson you should be able to explain the importance of immunization

Immunization Schedule

Immunization schedule is a programme of immunization for a country. Objective

By the end of the lesson you should be able to explain the immunization schedule. Breast Feeding

Breastfeeding is the nourishment of a baby on milk through the breast. Importance of Breastfeeding

Objective

By the end of the lesson you should be able to explain the importance of breastfeeding.

Problems Related to Breastfeeding

Many mothers are able to breastfeed successfully. However, some mothers may experience problems which may require help from health professionals, counselors and experienced breastfeeding mothers. The following are some of the problems related to breastfeeding:

- * Breast engorgement
- * Sore nipples
- * Breast abscess
- * Inability of the mother to breastfeed

- * Mother's refusal to breastfeed
- * Baby's refusal to breastfeed
- * Baby's inability to breastfeed

Objective

By the end of the lesson you should be able to state the problems related to breastfeeding.
Breast engorgement

This is the condition experienced by breastfeeding mothers when breasts become too full of milk as a result of infrequent breastfeeding. Sore nipples

This condition is as a result of cracking of the nipple. This makes breastfeeding painful.
Breast abscess

This is a complication that occurs when a cracked nipple is neglected.
The mother needs to seek immediate medical attention. Inability of the mother to breastfeed

This may be caused by:

1. Inverted nipples
2. Severe malnutrition
3. Severe illness

Mother's refusal to breastfeed

This can be as a result of ignorance and misconception. Baby's refusal to breastfeed

This can be as a result of:

1. Introducing bottle feeding too early
2. Early weaning
3. Nipple confusion-a problem that arises when a breast fed baby is given a rubber tit.

Baby's inability to breastfeed

This can be due to:

1. Cleft lip/ palate
2. Oral thrush
3. Illness

Feeding Equipment and Materials

These are items used during food preparation, cooking and feeding the baby. These equipment and materials include:

Objective

By the end of the lesson, you should be able to practice proper care of feeding equipment. Points to Observe when Caring for Baby's Feeding Equipment

1. Clean hands thoroughly with soap and clean water before handling the equipment
 2. Clean the equipment immediately after use
 3. Sterilize the equipment after cleaning
 4. Avoid handling the equipment when suffering from infectious diseases.
 5. Do not share baby's equipment with other members of the family
 6. Avoid touching the surface of the equipment which goes into the baby's mouth
2. Avoid handling the equipment when suffering from infectious diseases. Cleaning feeding equipment

Feeding equipment should be washed thoroughly, sterilized and stored

appropriately. Clean the feeding bottle using the following procedure: Sterilizing Feeding Equipment in Sterilizing Solution

Sterilizing Feeding Equipment by Boiling

Sterilizing Feeding Equipment in a Sterilizing Kit

Flour Mixtures and Raising Agents

Flour mixtures are made by using flour as the main ingredient. Other ingredients may be added with liquids determining the consistency as either stiff or dropping. Types and Functions of Raising Agents

A raising agent is air or substance which is used to make flour mixtures light. The agents include air, steam, and carbon IV oxide. Raising agents all work in the same way by raising the flour mixtures. When the agents are added into moist flour mixtures and subjected to heat, the agents become lighter and rise, stretching the gluten strands in the flour. On further heating, the flour mixture sets in an expanded form.

A cake rising in the oven as it bakes

Objective

By the end of the lesson, you should be able to explain how raising agents work. Methods of Introducing Raising Agents into Flour Mixtures

Different raising agents are introduced into flour mixtures using different methods. These are: 1. Mechanical

2. Physical

3. Biological

4. Chemical

Objective

By the end of the lesson, you should be able to explain how raising agents work.

Quizzes

Mechanical

Mechanical Methods of introducing raising agents into flour mixtures include: 1. Sieving

2. Rubbing-in

3. Creaming

4. Beating

5. Whisking

Sieving

Air as a raising agent is introduced into flour mixtures mechanically by sieving it.

Click on the PLAY button to view video clip

Rubbing in

Fat is rubbed into the sieved flour using the finger tips. It should be raised above the bowl to incorporate air. Creaming

Fat and sugar are creamed together in a bowl using a wooden spoon. A damp cloth is placed under the bowl so as to keep it steady on the work surface. Beating

Air is introduced into flour mixtures by beating using a wooden spoon. Whisking

This is introducing air into a flour mixture by whipping eggs using a rotary whisk, balloon whisk or an electric mixer. Physical

Steam raises mixtures by a physical action. Steam is produced when water in a mixture reaches boiling point. As steam forces its way up through the mixture, the gluten strands stretch and set, holding the mixture in that raised form. For steam to be effective as a raising agent, high temperature and a high proportion of liquid are necessary. Biological

In this method, yeast cells are used to produce carbon IV oxide. When yeast cells are exposed to sugar, warmth and moisture, fermentation occurs. As a result, carbon IV oxide and alcohol is produced. During cooking, the carbon IV oxide raises the flour mixture while the alcohol escapes.

Loaf of bread made using yeast

Chemical

When sodium bicarbonate or baking powder are incorporated into a moist flour mixture and subjected to heat, a chemical reaction occurs producing carbon IV oxide. Food Items Made from Different Flour Mixtures

Flour mixtures can be used to make a variety of food items. These include: pancakes, drop scones, banana fritters, cakes, pastries, chapatis, bread and bread rolls, doughnuts, mandazi, biscuits and cookies. Objective

By the end of the lesson, you should be able to explain how flour mixtures can be used to make a variety of food items. Pancakes

Pancakes are made from thin batters. They can be used as tea accompaniment. Ingredients

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- * 120g Plain Flour
- * Pinch of salt
- * 1 egg
- * 1/4 Litre (250g) milk/ water
- * 1 table spoon melted fat (Optional)
- * Fat/ oil for frying

Method

Preparation Tips

Pan cakes can be both sweet and savoury. Sweet pancakes can be sprinkled with sugar, honey, syrup, treacle sprinkled with a few drops of lemon juice, then served with tea or any other hot beverage. Savoury pan cakes can be filled with cooked minced meat, fried eggs, mushrooms, tomatoes, grated cheese and served as a snack. Drop Scones

Dropscones are made from their thick batter. They can be used as a tea accompaniment and as a snack. Ingredients

- * 200g baking flour
- * 2 tea spoons baking powder
- * 2 dessert spoons suga
- * 2 eggs
- * 250ml milk/ water
- * Pinch of salt
- * 30g margarine/ butter

Method

Cakes Mixtures

Cakes are used as desserts, for special occasions such as birthdays and accompaniments to beverages. Rubbed-in

Ingredients

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- * 200g Plain Flour
- * 2-2 1/2 level teaspoon baking flour OR
- * 200g self raising flour
- * 100g granulated sugar
- * 100g margarine / butter
- * 1/4 level teaspoon salt
- * 2 eggs
- * About 5 tablespoons milk/ water
- * A few drops of vanilla essence

Method of Baking Rubbed-in Cakes

Creamed Cakes

Ingredients

- * 200g Plain flour
- * 1/4 teaspoon salt
- * 100g butter/ margarine
- * 100g sugar
- * 2 level teaspoons baking powder
- * 2-4 tablespoons milk/ water

Method of Baking Creamed Cakes

Meat Pies

Meat pies can be made using the short crust pastry. Ingredients

- * 200g plain baking flour
- * 100g (1/2 cooking fat/ 1/2 margarine/lard)
- * 1/2 level tsp salt
- * 8 tbsp water

Filling

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- * 100g minced meat
- * 1 onion
- * pinch of salt
- * 1 bunch dhania
- * Seasoning

Oven temperature 200°C (400°F) or Gas no. 6

Time 25minutes-30minutes

Method

Preparation of the filling

As the pastry relaxes, prepare the filling as follows: Doughnuts

Doughnuts are made from yeast mixtures. Ingredients

- * 200g plain wheat flour
- * 2 tsp fine sugar
- * 2 tbsp margarine
- * 2 tsp yeast
- * 1 egg
- * 1 tbsp milk/water
- * Deep frying oil

Method

Clothing Construction Processes

In form 1 you learnt about textile fibres and their properties. You also learnt about sewing tools and equipment and stitches. This topic also builds on the following concepts learnt in form two: 1. Seams

2. Patterns and garment construction (apron) Disposal of Fullness

Disposal of fullness is also referred to as 'management of fullness' or 'control of fullness'. It is defined as the process of arranging extra allowance of fabric in garment construction. It is done to:

- * Give shape to the garment
- * Introduce style features
- * Give a good fit to the garment
- * Decorate the garment
- * Allow for growth

Objectives

By the end of the lesson, you should be able to:

- * State the reasons for disposal of fullness.
- * Describe the processes of disposal of fullness.

Methods of Disposing Fullness

In garment construction the methods of disposing fullness include: Darts

A dart can either be single or double pointed. They are usually worked on the wrong side. They are commonly used at the waist, bust and shoulders. Gathers

Gathers are made by forming ruffles on fabrics and are best worked on fine fabrics. They are worked on waists of skirts, shorts and trousers, yokes, crowns and wrists of sleeves. Gathers can be worked by hand or machine. Pleats

A pleat is formed by folding the fabric to form three layers. These layers are: Surface (1), under fold (2), base (3). The pleats are held into position by a band or seam. There are three main types of pleats.

These include:

- * Knife pleat
- * Box pleat
- * Inverted pleat

Knife pleat

A knife pleat is any single pleat with the fold facing any direction. Inverted pleats

These are made by working two pleats with the folds meeting on the right side (RS). Box Pleat

This is made by working two pleats with the folds meeting on the Wrong Side (WS) Tucks

A tuck is a fold of fabric stitched through the double fabric on the right side. There are three main types of tucks:

- * Pin tucks
- * Wider tucks
- * Shell tucks

Elasticating (Use of Elastic) Elastic is a type of rubber material that can stretch. It is used on waists of skirts, shorts, dresses, pants and slips. Elastic can be stitched directly onto the edge of an article or inserted in a casing. Pockets

A pocket is a bag like feature on a garment used for holding small items among others handkerchief, money, pen. Pockets vary in size and shape depending on their purpose and position on the garment. The different pockets are patch, in-seam, welt, bound and pocket cut as part of the garment. Objectives

By the end of the of the lesson you should be able to discuss the process of making in-seam and patch pockets. Patch Pockets

A patch pocket is a shaped piece of fabric that is stitched flat onto the right side of a garment with an opening at the top. The shapes include round, square and V-shape. Procedure of Making a Round Patch Pocket

In-Seam Pockets

In this pocket, two pocket pieces are joined to the seam turnings on the inside of the pocket mouth. They are stitched together to form a bag

which is pressed towards the front and reinforced at the top and bottom of the pocket mouth. Procedure of Working the In-seam Pocket

Interfaced Waistband

A waistband is a firm band used to finish and hold waists of skirts, trousers and shorts firmly. It is usually stiffened with interfacing to keep it flat, strong and prevent stretching. Objectives

By the end of the lesson, you should be able to prepare and attach an interfaced waistband correctly. Procedure of Making an Interfaced Waistband

Attaching the Waistband

A waistband is attached to waistline by a plain seam. Procedure of Attaching a Waistband

Openings

An opening is a gap created in a garment for easy wearing and removal. The choice of an opening will be determined by; type of garment; type of fabric; position of the opening on the garment and the type of fastening required.

Types of Openings

There are many types of openings. They include:

- * Faced slit opening
- * Bound opening
- * Continuous wrap opening
- * Front opening
- * Zipped opening
- * Fly opening

In this lesson only two of these openings are covered:

- * Faced slit opening

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- * Continuous wrap opening

Objectives

By the end of the lesson, you should be able to: 1. State the factors that determine the choice of opening

2. Describe and make a:

- * Continuous wrap opening
- * Faced slit opening

Continuous Wrap Opening

This opening can be inserted in a slit or in a seam.

Procedure of Making a Continuous Wrap Opening

Faced slit opening

This opening is made by making a slit/slash into garment and is neatened using a facing. Procedure of Making a Faced slit opening

Fastenings

Fastenings are devices used to close openings on garments and articles.

Fasteners are of various types. They include:

- * Buttons and buttonholes/ loops
- * Hooks and eyes/bars/loops
- * Zips
- * Press studs
- * Velcro tapes

The fastenings covered in this lesson are:

- * Button and hand worked loop
- * Concealed zip

Objectives

By the end of the of the lesson you should be able to:

- * Attach a button
- * Work a concealed zip and a loop

Procedure for Attaching a Button

Loops

Loops are worked at the edge of an opening to be fastened with a button.

The types of loops include:

- * Worked loops
- * Rouleau loops

Roll over each to view the photos

In this lesson, you will cover the worked loop. Procedure of Making a Worked Loop

Zip Fastening

Some methods of attaching a zip are; concealed, semi-concealed, invisible and conspicuous. In this lesson you will cover the concealed. Concealed Method

Concealed method is where the zip is not seen at all on the Right Side but one row is stitching shows down one side and across the bottom. Procedure of Attaching a Concealed Zip

Making a Skirt and a pair of Shorts

In this lesson, you are expected to apply knowledge and skills acquired so far in Form 1, 2 and 3 to make a skirt, a pair of shorts or a pair of trousers for your course work. You will need the following:

- * Pattern pieces for a skirt/ a pair of shorts
- * Fabric

HOME SCIENCE FORM 1-4 NOTES

- * Matching thread
- * Fasteners
- * Needlework tools and equipment

Objectives

By the end of the lesson, you should be able to apply the clothing construction processes to make a skirt or a pair of shorts. Order of Making a Skirt or Short

- * Prepare pattern pieces and fabric
- * Lay the pattern pieces onto fabric along the straight grain of fabric
- * Cut out pattern pieces
- * Transfer pattern markings onto fabric and remove pattern pieces from fabric
- * Dispose fullness
- * Make the pockets
- * Make the seam where the zip will be attached
- * Attach the zip
- * Make the rest of the seams
- * Prepare and fix the waistband
- * Fix the fasteners
- * Manage the hems
- * Press the completed work

Principles of Wise Buying

Buying is when a consumer exchanges money for goods and services. Wise buying is getting value for the money spent on goods and services. Common Methods of Buying Goods and Services

The methods used for buying goods and services include:

- * Cash buying
- * Credit buying
- * Others may include electronic money transfer. Objectives

By the end of the lesson, you should be able to state the advantages and disadvantages of common methods of buying. Cash Buying

This is when a consumer exchanges goods or services for money.

Advantages

- * Consumers may get a discount on the buying price of goods or services
- * It prevents consumers from overspending
- * Discourages impulse buying
- * Enables one to follow their budget

Disadvantages

- * Consumers can only obtain the goods and services when they have the money
- * Not suitable for expensive items such as cars due to the risk of carrying the money

Credit Buying

This is where goods and services are obtained with the promise to pay at a later date. Under credit buying, we have:

- * Hire purchase
- * Non-installment credit
- * Credit cards

Hire Purchase

Hire purchase is also referred to as installment credit. In hire purchase, the consumer obtains a good, pays the agreed installment and may pay a deposit for it.

Advantages

- * The consumer enjoys the use of the good before completing payment.
- * The consumer is given a guarantee and therefore receives other services like repair and maintenance before completion of payment.

HOME SCIENCE FORM 1-4 NOTES

- * The consumer obtains items that would otherwise take too long to save for.
- * The consumer does not strain financially as they pay in manageable amounts according to their income.
- * It encourages the consumer to plan income expenditure.

Disadvantages

- * It is more costly than cash due to the interest charged.
- * Families may overspend due to buying many items.
- * One does not get any discount on items.
- * In case of default in payment no refund given. Credit Cards

This is a method where a consumer uses a prescribed card from a financial institution to buy goods and services and payment is made from consumer's account.

Advantages

- * The consumer accesses goods or services during emergency
- * They are not bulky hence easy to carry
- * They are fairly safe
- * Can be used at all times
- * Some credit cards may give cash

Disadvantages

- * They may lead to overspending
- * They may lead to impulse buying
- * There is high interest rates charged hence expensive
- * The card may not be used to obtain some goods and services such as vegetables from an open air market

Non-installment credit

This is where a consumer obtains goods and services with a promise to pay later with no interest charged.

Advantages

- * One does not have to pay for goods and services immediately.
- * It eases financial pressure as it gives the consumer time to organize

him/herself.

- * Does not attract any interest

Disadvantages

- * Failure to pay may lead to denial of services
- * It does not allow for bargain in payments
- * One may over commit their income

Making a Budget

A budget is a plan for spending the available income to an individual or family. This is done by listing expenses which vary from individual to individual and family to family. There are two types of expenses: Roll over each for more information

Fixed expenses

Fixed expenses refer to expenditure on goods and services that must be paid for on regular basis. They include:

- * House rent
- * Electricity
- * School fees
- * Savings
- * Hire purchase
- * Water

Flexible expenses

Flexible expenses refer to expenditure on goods and services that must be bought on regular basis but the time and money spent can be varied. They include:

- * Food
- * Clothing
- * Medical care
- * Transport
- * Emergency

FORM 4

Care of the Sick at Home

Care of the sick at home is also known as home based care. This is the attention given to the sick while under the confinement of the home.

Consumer Protection

Objectives

By the end of the lesson, you should be able to:

1. Explain the rights of a consumer
2. Discuss agencies dealing with consumer protection

Rights of a Consumer

The following are some of the rights of a consumer:

- * The right to safety in the use of goods and services
- * The right to the correct quantities of goods
- * The right to adequate and correct information
- * Right to be involved/represented when decisions involving the consumer are being made
- * Right to obtain a valid receipt for goods and services for the goods and services purchased
- * Right to get satisfaction from the goods and services.
- * Right to seek legal redress when their rights are violated.
- * Right to be served.
- * The right to be heard
- * The right to compensation in case of unsatisfactory goods and services
- * Legal redress if their rights are infringed upon

Right to safety in the use of goods and services

This is a right protecting a consumer from any physical or mental harm as a result of the use of goods and services. If information on its side effects are not highlighted, then the consumer can seek legal redress. Right to receive the correct quantities of goods

HOME SCIENCE FORM 1-4 NOTES

A consumer has a right to receive the correct quantities of goods that they pay for cheating can be done through use of faulty weighing machine or weighing out of sight. Right to adequate and correct information

It is important for consumer to be given correct and enough information so as to make informed choices when purchasing and utilizing goods and services.

Manufactures should provide both positive and negative information about the product. The Right to be involved/ represented when decisions involving the consumers are made

By involving the consumer in decision making, manufactures are assured of continued good will and patronage. The Right to obtain a receipt for goods and services purchased

A valid receipt obtained at the point of sale is proof of purchases. It can also be used to seek legal redress in case the goods are sub-standard. Right to get satisfaction from goods and services

Consumers should get their money's worth for goods purchased or services rendered should this fail consumers should seek redress from the manufacturer /service provider, government or consumer protection agencies. Right to be heard

The consumer's ideas and opinions should be respected. Agencies Dealing with Consumer Protection

Consumers are protected by a number of agencies, some of which they may not be aware of. These agencies are:

- * Government controlled, for example, Price control Department and the weights and measures Department

- * Non-Governmental Organisations (NGOs) for example, The Kenya Consumer Association(KCA)

- * Purely voluntary, for example, The Kenya Consumer Association (KCA) The Kenya Bureau of Standards (KEBS)

The Kenya Bureau of Standards protects the consumer by ensuring that goods manufactured or sold in the country are of standard quality. Functions

- * To set standards for new goods.

- * To certify that goods sold in the country or those exported meet the required standards by use of standardization marks.

- * To act on consumer complaints by taking relevant actions on the complains

HOME SCIENCE FORM 1-4 NOTES

* To ensure that labels on consumer products indicate the correct ingredients and their amount in the product.

* To monitor in order to ensure that manufactured goods meet the required specifications. The Kenya Consumer Association (KCA) This is both a voluntary and non-governmental organization changed mainly with consumer Education through dissemination of information through mass media. Functions

* To educate consumers on matters of interest to them.

* To work with other organizations to ensure goods and services in the market are of high standards and quality.

* To cooperate with other organizations that deal with consumer education and awareness, for example, universities research institutions and public law Institute.

* To guard against dumping of harmful and worthless goods in the market. It also controls counterfeit goods. Weights and Measures Department

This is a department in the ministry of Trade, which ensures that weights and measures are standardized to avoid consumer exploitation. Functions

Weights and measures officers are posted in counties and districts to perform the following duties:

1. They pay impromptu visits to any shop weights and measurements of all machines used in trade.
2. They ascertain the accuracy of the machines and stamp. The stamp contains the court of ARMS, YEAR AND MONTH OF INSPECTION. This is done yearly. Defaulters are prosecuted.
3. They check machines yearly and stamp.
4. They check pre-packed goods such as sugar, flour and others for correct weight and labels. The Price Control Department

This is a government department under the ministry of Trade. It empowers the minister concerned to fix the maximum prices or service charges on basic goods and services.

Functions

Ensures that for goods sold invoices or receipts are issued and they should include the following features:

HOME SCIENCE FORM 1-4 NOTES

- * Name and address of seller
- * Date of sale
- * Exact description of goods
- * Quantity of the goods sold
- * Price charged. Trade Descriptions Act - Chapter 505

It is an Act of Parliament charged with the following functions:

- * Prohibits misleading description of goods services accommodation and facilities provided in the course of trade.
- * Gives the inspectors the right to obtain information about a product from a manufacturer or a trader without prior notice.
- * Empowers the inspectors to prosecute defaulters. Foods and Drugs Act

This protects the consumers against use of harmful ingredients used in foods and drugs. It requires that products have labels showing clearly the ingredients used and the expiry dates. Public Health Act

This Act safeguards the health of consumers. Public health inspectors visit such places as hotels, shops, food outlets and markets to ensure they meet health requirements before and after licensing. Premises that fall short of the required health standards are closed and operators prosecuted. Foods and Drugs Act

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This Act safeguards the health of consumers. Public health inspectors visit such places as hotels, shops, food outlets and markets to ensure they meet health requirements before and after licensing. Premises that fall short of the required health standards are closed and operators prosecuted. Reasons for Caring for the Sick at Home

Objectives

By the end of the lesson, you should be able to

state the reasons for taking care of the sick at home. Needs of the Sick at Home

HOME SCIENCE FORM 1-4 NOTES

The sick at home have various needs such as:

- * Physical needs
- * Nutritional needs
- * Emotional needs
- * Social needs
- * Spiritual needs

Objective

By the end of the lesson you should be able to identify the various needs of the sick at home.

Physical needs

The physical needs of the sick at home may be met by ensuring the following:

- * Clean room, clean clothes and body, clean bedding
- * Well ventilated room
- * Appropriate furniture
- * Physical exercises
- * Administering drugs as prescribed by the doctor
- * Changing position for a bed ridden patient to avoid bed sores

Nutritional needs

The patient should be provided with a balanced diet. This includes:

- * Plenty of proteins
- * Plenty of vegetables and fruits
- * Small amounts of carbohydrates
- * Little or no fats
- * A lot of fluids

Emotional needs

This is giving hope and encouragement to the patient. This can be shown through; hugging; giving flowers, gifts, cards; counselling; and engaging them in conversation. Social needs

Sick people feel lonely and would appreciate the company of loved ones.

However the number of visitors should be limited to give the patient time

to rest. Spiritual Needs

Most people believe in a supernatural being upon whom they rely on in times of need. In sickness every patient should be allowed to exercise their faith. This can be achieved through:

- * Prayers
- * Visit from spiritual leaders
- * Reading of the Holy Book
- * Meditation

Ventilation

This is the mechanism of allowing in fresh air in a room or space while getting rid of stale air.

Reasons for adequate ventilation

Objectives

- By the end of the lesson, you should be able to:
1. Define ventilation
 2. Discuss reasons for sufficient ventilation in a room

Dangers of poor ventilation

When a room is poorly ventilated, the following may arise:

1. Suffocation
2. Drowsiness
3. Fainting
4. Discomfort
5. Easy transmission of communicable diseases

Objective

By the end of the lesson, you should be able to state the dangers of poor ventilation. Methods of ventilating a room

There are two main methods of ventilating a room. These are:

1. Natural ventilation
2. Mechanical/ artificial ventilation

Natural

Windows

Doors

Vents

Chimney

Wind-driven fan

Mechanical/ Artificial Methods

These include different types of fans. Fuels in the Home

A fuel is a material that is burnt to produce energy in form of heat, light and motion. The fuels include:- firewood, charcoal, paraffin, electricity, gas, biogas, solar among others.

Quizzes

Precautions to take while handling fuels in the Home

Objectives

By the end of the lesson, you should be able to explain the precautions to take when handling and storing fuels in the home

Ways of Conserving Fuel

Fuel conservation is the economical use of fuel in the home. Fuels can be conserved using the following ways:

1. Light the cooker just when ready to use.
2. Ensuring all cooking equipment is in good working order.
3. Use of clean equipment

Clean cooker

Unclean cooker

4. The base of the pans and pots should be well fitting on the surface of the cooking unit.
 5. Use fuel saving devices
 6. Cover the food during cooking with a well fitting lid.
 7. Make multiple use of fuel energy such as steaming while boiling.
- Objective By the end of the lesson, you should be able to explain different ways of conserving fuel.

Lighting in the Home

Light is radiant energy that enables us to see. Sources of light
Sources of light are either natural or artificial.

Objective

By the end of the lesson, you should be able to identify sources of light. Natural Lighting

The main sources of natural light is the sun. Other sources include the moon and the stars. Natural light gets into a room through openings such as doors, windows and skylights.

Artificial lighting

Sources of artificial light include: Lamps, torches, candles, among others. Methods of lighting

Different methods of lighting are used in the home. They include:-

1. Direct lighting
2. Semi direct
3. Indirect lighting
4. Decorative

Objective

By the end of the lesson, you should be able to identify the methods of lighting used in the home. Direct Lighting

Direct lighting is when light is focused on a point where it is required for a specific purpose.

Semi Direct Lighting

Semi Direct Lighting is where light is distributed in all directions. In-direct lighting In-direct lighting is where the source of light is hidden and the light is directed onto a surface such as a wall or ceiling. The light is then deflected and distributed to the whole room. Decorative Lighting

Decorative Lighting is light that is used to bring out the beauty of room and accessories. Coloured bulbs or lampshades may be used to create a desired mood.

Lighting fixtures/fittings

Lighting fixtures/fittings are devices used for holding bulbs and may also be decorative. They can be mounted on ceilings or walls, pendants or placed on tables or floors.

Objective

By the end of the lesson you should be able to identify various lighting fixtures/fittings

Furnishing the Home

This is the art of choosing, arranging and maintaining furnishings in the home. Colour is an important aspect in furnishing.

Colour

Colour is an element of design which can only be seen in the presence of light

Objectives

By the end of the lesson you should be to: 1. State the characteristics of colour. 2. Explain how to obtain different categories of colour. Characteristics of colour

There are three main characteristics of colour. These are:

- * Hue
- * Value
- * Intensity

Hue

Hue is the name of a colour. Value

Value is the degree of lightness or darkness of a colour. The lighter values are known as tints while the darker values are known as shades. To get tints white is added to the hue while black is added to get shades. Intensity

Intensity is the brightness or dullness of a colour. Colour Wheel

A colour wheel is the arrangement of colour in a circle showing their relationship. Colours are classified into three groups namely:

1. Primary Colours
2. Secondary Colours
3. Tertiary Colours

Objectives

By the end of the lesson, you should be able to:

1. Classify colours
2. Use the colours to correctly create a colour wheel. Primary colours

Primary colours are basic colours and cannot be produced by mixing other colours. These are:

1. Red
2. Blue
3. Yellow

Secondary Colours

Secondary colours are obtained by mixing two primary colours. They are:

1. Orange
2. Green
3. Violet

Orange

Orange is obtained by mixing red and yellow.

Green

Green is obtained by mixing yellow and blue.

Violet/ purple

Violet/purple is obtained by mixing red and blue.

Tertiary Colours

Tertiary Colours are obtained by mixing a primary and a secondary colour.

These include: Creating a Colour Wheel

Click on the play button to view

Colour scheme

Colour scheme is the overall effect of the colour used on all the surfaces in a room or space. There are many types of colour schemes however in this topic we shall discuss the following:

1. Monochromatic
2. Analogous
3. Complementary
4. Triad

Objective

By the end of the lesson, you should be able to describe types of colour schemes. Monochromatic colour scheme

This is whereby one colour is used together with its tints and shades. Analogous colour scheme

This is the use of two or three colours that lie next to each other on the colour wheel. Complementary colour scheme

This is combining of colours that are opposite each other on the colour wheel which creates a contrasting harmony. Complementary colour schemes include:

1. Single complementary
2. Split complementary
3. Double complementary

Single complementary

This is the use of one colour and the directly opposite it on the colour wheel. Split complementary

This is the use of a colour and two other colours on either side of its complement on the colour wheel. For example, green, red-violet and red-orange. Double complementary

This is a colour scheme that uses four colours. Two colours and their complements. Triad colour scheme

This is the use of three colours which are at equal distance from each other on the colour wheel. Furnishing the House

Furnishings can be classified into two:

1. Hard furnishings
2. Soft furnishings

Objectives

By the end of the lesson, you should be able to:

1. Classify furnishings
2. Select furnishings for various rooms

Hard furnishings

Case goods

These are pieces of furniture that are not padded. Upholstered furniture

These are furniture that are partially or wholly padded and covered with materials such as fabric, leather and poly vinyl chloride (PVC). Furniture for different rooms

Different rooms require different pieces of furniture depending on their use. The rooms are:

Click on each to view

Soft furnishing

Soft furnishings are items made from fabric and other materials. They are both functional and decorative. They include:

1. Curtains and blinds
2. Cushions and Pillows
3. Carpets and floor rugs
4. Bedcovers
5. Loose covers and table clothes

Objectives

By the end of the lesson, you should be able to:

1. Identify soft furnishings used in the home
2. State the use of soft furnishings

Curtains and blinds

They are used on windows and doors. They filter excess light, provide privacy and enhance the appearance of a room. Cushions and Pillows

They provide comfort by supporting the body while sitting or sleeping. Carpets and floor rugs

They are used on the floor for warmth, reduce noise, improve appearance of the floor and protect it from damage. Bedcovers

Protects the beddings against dirt and enhances the beauty of the bedroom. Loose covers and table clothes

They are used for easy maintenance and protection of the furniture against dirt, enhance appearance and beauty of room, hide defects on furniture.

Accessories

Accessories are items used in the home for functional and aesthetic value. They include:

- * Wall hangings
- * Clocks
- * Aquarium
- * Pictures
- * Curvings
- * Trophies
- * Lamps
- * Mirrors
- * Lampshades
- * Sea shells and corals

Objectives

By the end of the lesson, you should be able to:

1. Define accessories
2. Identify various accessories used in the home

Flower Arrangement

A flower arrangement is the art of selecting and arranging flowers to come up with a pleasant effect. Some of the commonly used flowers and plant parts are roses, carnations, gladioli, chrysanthemums, statice, arum lilies, madonna lilies, delphiniums, watsomia, leaves, Twigs, Seeds- both dry and fresh, synthetic flowers

Objectives

By the end of the lesson, you should be able to:

1. Choose flowers and plant materials to be used in flower arrangements
2. Create suitable flower arrangements to suit different occasions

Equipment used in flower arrangemet

For successful flower arrangements, the following equipment are required: scissors, secateurs, knife, wire netting, flower vase, basins, bucket, plain thin wire, oasis, dust sheet/ newspapers. Objectives

By the end of the lesson, you should be able to identify the equipment used in flower arrangements. Making a Flower Arrangement

Now that we have flowers and equipment, let us make a flower arrangement.

1. Place the wire mesh/ pin holder in the vase.
2. Fill the vase three-quarter way with water.
3. Place the tallest stem of foliage. fill in with shorter stems.
4. Avoid overcrowding the flowers so that each. individual flower can stand out clearly.
5. Occassionally, stand back to view the arrangement and confirm that the desired shape is being achieved. Shapes of flower arrangement

Food Preservation

This is the process of treating food to stop or slow down food decay and deterioration.

Causes of Food Decay

Food spoilage and decay is brought about by:

- * Bacteria
- * Fungi
- * Enzymes
- * Oxidation

Objectives

By the end of the lesson, you should be able to:

- i) Define food preservation
- ii) Identify the agents of food decay and spoilage

Bacteria

These are single celled micro-organisms that multiply rapidly under warm and moist conditions.

Fungi

These include the yeasts and moulds. They thrive under warm, moist conditions.

Enzymes

They are organic catalysts that speed up rate of reaction. They are responsible for the ripening of fruits and decay of fruits, vegetables and meat. Oxidation

This is a reaction in which oxygen is added to a substance. This brings about change especially in colour.

Objectives

By the end of the lesson, you should be able to:

- i) Classify methods of food preservation
- ii) Describe the methods used in food preservation

Traditional Methods

Salting

This is the use of high concentration of salt which draws water from the food. This makes the conditions unfavourable for the thriving of micro-organisms.

Salted Meat

Smoking

This is a method of using smoke from burning firewood. The food is placed on a rack above the fireplace. The heat partly dries the food and the smoke coats it providing a protective layer. Examples of food which is smoked include fish, meat and maize on the cob.

Smoking Fish

Sun Drying

Drying removes moisture from food, hence depriving micro-organisms the moisture required for survival. The food is spread on a surface under direct sunshine and is occasionally turned for complete drying e.g. grains, omena/ dagaa, meat, and some tubers.

Sun drying fish

Fermentation

This is the process of using yeast or healthy bacteria. Yeast ferments to produce alcohol while the healthy bacteria for example in milk chage the lactose into lactic acid, making the conditions unsuitable for the harmful micro-organisms. Examples of food which are fermented are porridge and milk.

Fermented porridge

Modern methods

Refrigeration and Freezing

This involves the use of low temperatures which slow down or inactivated the action of micro-organisms. In refrigeration the food is chilled while in freezing, there is formation of ice which solidifies the food. Canning and Bottling

HOME SCIENCE FORM 1-4 NOTES

The food to be canned/ bottled is heated to kill micro-organisms and drive out air out of the jar/can. The food is then sealed and a vacuum is created as it cools. The vacuum prevents the re-entry of air, which may contain micro-organisms. Pasteurization

This is the process of heating food e.g. milk to a specific high temperature for a definite length of time (in seconds). It is then cooled immediately for storage. The high temperature destroy the micro-organisms. Use of Additives

These are either natural or chemical substances added to food to destroy or inhibit the action of micro-organisms. They include, sugar, v inegar, benzoic acid, s sulphur dioxide and carbon IV oxide.

Irradiation

This is the exposure of food to gamma rays radiation. The treatment kills moulds, bacteria and insects. It also reduces the ripening and spoilage of fruits. Some of foods that are irradiated spices and condiments. Convenience Foods

These are foods that are either partially or wholly prepared by the manufacturer. The food is either ready to eat or requires very little preparation before eating.

Ready to eat pizza

A block of uncooked instant noodles

Objectives

By the end of the lesson you should be able:

- (i) State the advantages for using convenience food
- (ii) State the limitations for using convenience foods.

Examples of Convenience Foods

Partially prepared

- * Cake mix
- * Fish fillets

HOME SCIENCE FORM 1-4 NOTES

- * Coffee, cocoa
- * Shredded vegetables
- * Pastries

Wholly prepared

- * cakes
- * sodas
- * bread
- * popcorn
- * ready to drink juices

Clothing Construction Processes

This topic builds on the clothing construction concepts covered in form 1, 2 and 3. It is important to understand the clothing construction processes in order to come up with garments that are well fitting. In this topic we shall cover the following:

- * Collars
- * Cuffs
- * Set- in sleeves
- * Facing and Interfacing
- * Construction of a shirt

Collars

Collars are features that are fitted at the neckline to add style and appeal to the garment. There are many types of collars which include: Objectives

By the end of the lesson, you should be able to:

1. Identify different types of collars
2. Prepare and attach collars correctly

Procedure of Preparing a Shirt Collar

Attaching the Collar

Collars are attached using the following methods:

1. Self neatening
2. Using a facing

3. Using a cross-way strip
4. Using a band

In this topic, we shall cover two methods:

1. Self neatening method
2. Using a cross-way strip

Attaching the shirt collar using the self neatening method

1. With the raw edges level, fitting lines, centre back and notches matching, place the right side of under collar on the right side of garment leaving the upper collar free, pin and tack along the fitting line
2. Remove the pins and machine along the tacking
3. Remove the tacking, trim the seam allowance to 6mm and snip
4. Trim the seam allowance of the upper collar to 1cm. fold along the fitting line to the wrong side
5. Pin and tack ensuring the raw edges are enclosed
6. Remove the pins and hem in position
7. Remove the tacking and press

Attaching a peter pan collar using the cross-way strip

Sleeves

A sleeve is a part of a garment that is attached at the armhole and covers all or part of the arm. Sleeves can either be set-in or cut as part of the garment. In this topic, we shall only cover the set-in sleeves.

Objectives

By the end of the lesson, you should be able to: 1. Identify different types of sleeves. 2. Prepare and set-in sleeves correctly. Types of sleeves

Click for more information

Preparation of a set-in sleeve

The following is a pattern of a sleeve showing the pattern markings: The procedure of preparing a set-in sleeve

Setting in a sleeve

When setting in a sleeve, ensure the left sleeve is attached to the left armhole while the right sleeve is attached to the right armhole. The following is the procedure of setting in a sleeve.

Cuffs

A cuff is a method of finishing the lower edge of a sleeve. There are two main types of cuffs:

- * Shaped
- * Straight

Objective

By the end of the lesson, you should be able to prepare and attach a cuff correctly. Preparation of a straight cuff with an interfacing

Procedure of attaching the cuff

Facings

A facing is a piece of fabric used to finish raw edges at open areas of a garment. They are applied on the wrong side or right side of the garment. Facings have a decorative effect when a contrasting colour of fabric is used on the right side. They are used on the following sections of a garment:

- * Neckline
- * Pocket mouth
- * Armhole
- * Front and back opening
- * Waistline of skirts, trousers
- * Lower edges of trousers, skirts, shirts, sleeve

Objectives

By the end of the lesson, you should be able to:

1. Identify types of facings

2. Prepare facings
3. State functions of facings

Types of facings

There are three types of facings:

- * Straight facings
- * Crossway Facing
- * Shaped Facings

Straight facings

The facing is cut on the straight grain of fabric and the section to be faced is straight. For example, the top of a pocket at a square neckline at the hem edge of a straight skirt or at front and back openings on shirts and blouses. Crossway Facings

The facing is cut on true bias. It can be used on both straight and curved edges but is particularly suitable for curved edges as it stretches to lie flat. Shaped facings

The facing is cut the same shape as the edge to be finished. They are usually wider than the straight and the crossway facings. Seam allowance is included when cutting out. Procedure of working facings

Objective

By the end of the lesson, you should be able to apply the clothing construction processes to make a shirt. Problems of the Consumer

Previously, we learnt that consumers have to make a choice between a need and a want. In addition, they are faced with challenge, in identifying purchasing and using goods and services. These challenges make up the problems that face a consumer. These are:

1. Scarcity of resources
2. Inflation
3. Lack of Information
4. Lack of awareness of consumer rights

Objective

By the end of the lesson you should be able to discuss problems affecting the consumer. Scarcity of resources

Sometimes resources such as money, goods, time, energy and services may be limited.

Inflation

This is the rise of prices of goods and services. This results to the purchase of fewer goods/services with the same amount of money that one would have previously used. Lack of Information

A consumer needs the right information about goods and services in order to be a wise buyer. When the consumer lacks information, he/she may buy goods and services of low quality, hence does not get value for his or her money. Lack of awareness of consumer rights

Many consumers are ignorant about their rights and responsibilities about choice, use and maintenance of goods and services. This may lead to exploitation. Some of the rights include:

- * The right to be heard
- * The right to compensation in case of unsatisfactory goods and services
- * Legal redress if their rights are infringed upon