HOME SCIENCE FORM 1 NOTES

FOR FORM 2, 3, 4 NOTES, SMS OR WHATSAPP: **0723981225**

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 matched 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

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Wipe after use
Do not use for cutting hair, paper, thread or for snipping
Pinking Shears

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

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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

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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
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

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Pressing Cloth

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

STORAGE EQUIPMENT

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:

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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.

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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

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

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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

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.

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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.
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

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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.

Researcher
A person who tries to discover, interprete 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.

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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 vanish 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.

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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

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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

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 stream 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.

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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

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.

Identity 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 breath 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 seed 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

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.

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

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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

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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
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

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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 loose shape.
Use for intended purpose.

Labour Saving Equipment

Choice and care of labour saving equipment
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

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

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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
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.
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

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Dry Methods

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

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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 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 polyunethane.
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
Yellows with age
Not resistant to mildew
Lacks lustre
Flammable
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

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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;
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.

HOME SCIENCE FORM 1 NOTES

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
Yellows 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.
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.

HOME SCIENCE FORM 1 NOTES

FOR FORM 2, 3, 4 NOTES, SMS OR WHATSAPP: **0797689741**