

# HOME SCIENCE FORM 4 NOTES

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BY SIR OBIERO AMOS  
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amosobiero7@gmail.com

## 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

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

- \* 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:

- \* 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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## 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

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 change 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

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, vinegar, benzoic acid, 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
- \* 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