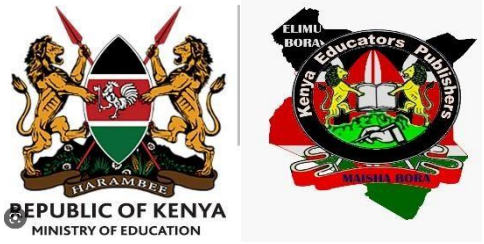
GRADE 7 JSS SIMPLIFIED NOTES

HOME SCIENCE

THE PDF COMPRISES PART OF A SIMPLIFIED VERSION OF THE NOTES FOR J.S.S.



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COMPLETE SIMPLIFIED HOME SCIENCE NOTES

FOR JUNIOR SECONDARY SCHOOLS (GRADE 7)

About the book:

Education is a key for a country's development, but it becomes a hindrance when it is unequally distributed. This big problem of disparity in Education system can be solved through technology. Hence it's high time we embrace technology in Education sooner than later.

Teachers will therefore use the book in their laptops to teach and even give students notes to read online after revision.

Acknowledgment:

We would like to acknowledge K.L.B for using some of their examples and illustration. We would also like to acknowledge K.N.E.C for using their Examiners to prepare some revision questions at the end of each strand/topic.

BELOW IS A SAMPLE OF THE SIMPLIFIED VERSION OF THE NOTES FOR HOME SCIENCE GRADE 7 (JSS)

Table of contents

1 FOODS AND NUTRITION

Food Nutrients

Welcome to Junior Secondary School. In the previous grades, we learnt about food nutrients and their importance to our health, growth and development.

In this grade, we will learn how to conserve nutrients during food preparation and cooking. We will also learn about food enrichment, fortification, supplementation of nutrients and their role in nutrition.

Role of Home Science Education in contemporary life

Home Science is a learning area that promotes personal and family development in order to improve the quality of life. Through Home Science Education, we acquire knowledge, skills, attitudes and values in areas such as good grooming, foods and nutrition, consumer education, clothing construction and caring for the family. Home Science Education enables people to join different careers and open businesses.

Activity 1

1. Read what Juma is saying about how Home Science Education has improved his quality of life.

1. Through Home Science, I learnt how to repair and maintain my clothes. This makes me neat and presentable.
2. I learnt how to cook food using various methods like dry-fat frying and deep frying. I enjoy making meals at home.
3. I use an improvised oven to bake cakes at home. I taught my father and my siblings how to bake.
4. When I grow up, I want to become a chef and open a big restaurant near our home, to enable me earn money to meet my family's needs.
5. Playing and exercising keeps me healthy.

2. Note down how the skills and knowledge gained through Home Science help you to improve:
   a) your life
   b) the lives of your family members
   c) the community.

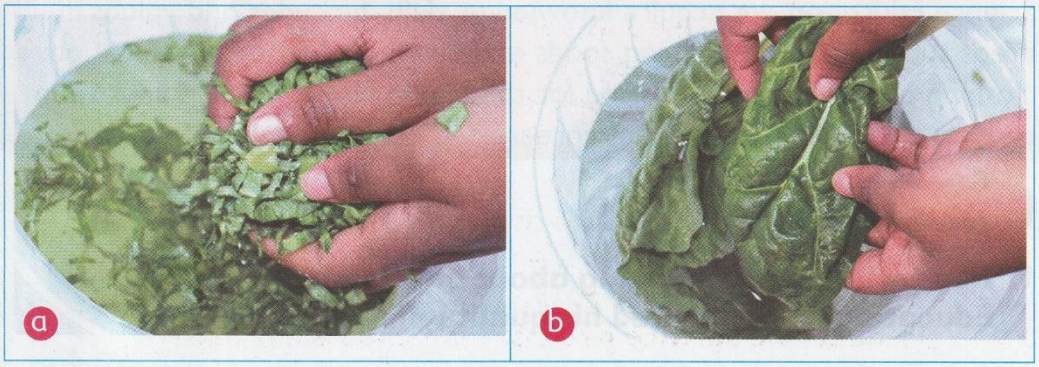
Guidelines for nutrient conservation during food preparation and cooking

In Grade 5 we learnt that nutrients are important substances found in food. They help in the growth and development of our bodies. Nutrients can be lost during food preparation and cooking.

Nutrient conservation is ensuring that nutrients are not lost during the process of food preparation and cooking.

Activity 2

Study the pictures below.



1. What is happening in each picture?
2. Based on your observation, suggest how we can avoid loss of nutrients during preparation and cooking of various foods.
3. Write down the meaning of washing, peeling and cutting in food preparation.
4. Brainstorm on the guidelines to follow when washing, cutting and peeling during food preparation.
5. Why are the guidelines important in nutrient conservation?

Activity 3

Teacher Ndichu invited a nutritionist to talk to Grade Seven learners about the guidelines of nutrient conservation. During the talk, the nutritionist mentioned that we should practise the 3R's during

preparation and cooking of food. The 3R's of cooking food are **reducing the amount of water**, **reducing the cooking time** and **reducing the surface area** of food that is exposed. She also said that some foods such as beans and maize should be covered when cooking for them to cook faster and therefore conserve nutrients.

1. Brainstorm on the 3R's of cooking.
2. Suggest how the 3R's can help to reduce nutrient loss during cooking.
3. List other foods which should be covered during cooking.

Activity 4

Heri searched for information on the 3R's in food preparation and cooking and the practice of covering food when cooking.

Read the summary he wrote.

Reducing cooking water

Reduce the amount of water used when cooking to save the water soluble nutrients. Use the water you used for boiling foods like peas, French beans and green grams to prepare your food as the water contains the dissolved vitamins and minerals.

Reducing cooking time

Food, especially vegetables should be cooked for the shortest time possible. This is because some nutrients, particularly vitamins are destroyed by long exposure to heat.

Reduce the surface area of food that is exposed

Cutting the food into large pieces reduces the surface area of food that is exposed to water, heat, air and light. This helps to preserve nutrients such as vitamins.

Covering the food

Covering foods like beans and maize ensures that they cook faster and reduces the time they are exposed to heat. This helps to conserve nutrients.

Activity 5

1. Using print or digital resources, search for information on the following in nutrient conservation and food preparation.
   a) blanching b) parboiling
   c) sodium bicarbonate or baking soda or bicarbonate of soda.

2. Suggest how parboiling and blanching assist to conserve nutrients.
3. Why do you think we should avoid using sodium bicarbonate when cooking?

Activity 6

Read the charts below to find out the importance of blanching and parboiling and why we should avoid the use of sodium bicarbonate in cooking.

What is blanching?

Blanching is dipping vegetables in extremely hot water for a short time, then plunging them into cold water immediately, to stop the cooking process.

Reasons for blanching are:

a) to conserve nutrients,
b) to enhance the green colour in vegetables,
c) to prepare vegetables for storage.

What is parboiling?

Parboiling is boiling food briefly or partially as a first step in cooking. Unlike blanching, the food is not plunged into cold water.

Reasons for parboiling are:

a) to conserve nutrients,
b) to prepare food to be easily cooked using other methods of cooking such as grilling or frying,
c) to cook some foods such as carrots,
d) to shorten cooking time.

Why we should avoid the use of sodium bicarbonate

Sodium bicarbonate is also known as bicarbonate of soda and commonly referred to as baking soda. It is a commonly used ingredient in homes as a raising agent. However, it is often misused to enhance the green colour of vegetables and shorten cooking time. The use of baking soda should be avoided because:

a) it destroys some vitamins,
b) it can cause hypertension due to its sodium content,
c) it can cause excess gas in the stomach,
d) it can lead to kidney and muscle problems.

1. Identify the difference between blanching and parboiling.
2. Why do you think blanching and parboiling are important in nutrient conservation?
3. Note down your answers.

Role of food enrichment, food fortification and supplementation of nutrients in nutrition

Activity 7

1. Use a digital device connected to the Internet or print resources to find out:
   a) the meaning of the term food fortification in nutrition.
   b) reasons for food fortification in nutrition.
   c) examples of foods which are fortified.
2. Write down your findings.

Activity 8

1. Use the Internet, textbooks or other reference materials to find out:
   a) the meaning of the term food enrichment in nutrition.
   b) reasons for food enrichment in nutrition.
   c) examples of foods that are enriched.
2. Write down your findings.

1. What is the difference between food enrichment and food fortification?
2. Write down your answers.

Activity 9 Read the story below.

Fatuma was feeling weak and fatigued for several days. Her mother took her to the hospital and the doctor told her that she was anaemic. The doctor prescribed for her iron supplements in form of tablets and advised her to increase her iron intake. After a few days, Fatuma felt better.

1. Using a digital device or print media, find out the meaning of supplementation of nutrients in nutrition.
2. Apart from people with medical conditions like Fatuma,which other people may require supplementation of nutrients?
3. Find out other examples of nutrient supplements.

Activity 10

James and his deskmate researched and presented their findings on food enrichment, food fortification and supplementation of nutrients in nutrition as shown below.

Read their presentations.

Food Fortification

This is adding nutrients that are not found or are inadequate in the food. For example iodine is added to salt to prevent Goitre while maize meal is fortified with minerals and vitamins during processing.

Food Enrichment

This is addition of extra nutrients lacking in some foods during presentation and cooking. For example, addition of lemon juice when preparing porridge.

Supplementation of nutrients

This involves the use of products that supply nutrients that are missing in the diet or are required for a specific need. Some common examples of nutrient supplements are iron and vitamin C supplements. People who may require supplementation of nutrients are:

a) those with medical conditions like Anaemia,
b) athletes and manual workers,
c) babies, toddlers and adolescents to support growth and development,
d) pregnant and lactating mothers,
e) people living in an environment where acquiring some nutrients from locally available food is not possible.

Effects of heat on vegetables during cooking

In Grades 4, 5 and 6 we learnt various methods of cooking. Cooking involves the application of heat. It is therefore important to study the effect of the heat on various foods. In this grade, we will investigate the effects of heat on vegetables.

Activity 11

1. Suggest how the following methods of cooking affect the colour, taste and texture of vegetables.
   a) frying b) steaming
   c) boiling d) stewing
2. Note down your ideas.

Safety precautions to observe when investigating the effect of heat on vegetables

Failure to observe safety when carrying out the cooking experiments may cause accidents and injuries. You should therefore observe safety throughout the investigation.

Activity 12

1. Alison made flashcards on the safety precautions to observe when carrying out cooking experiments on the effects of heat on vegetables. Read what she wrote.

Wear appropriate protective clothing, for example, aprons. a	Use chopping boards for chopping or cutting. b	Do not splash water into a pan with hot oil. c
Ensure you have a fully stocked First Aid Kit. d	Avoid tasting or touching very hot samples of the vegetables. e	Follow all the general kitchen safety regulations that you have learnt. f

2. Write down other safety precautions which should be observed when investigating the effect of heat on vegetables.

Boiling

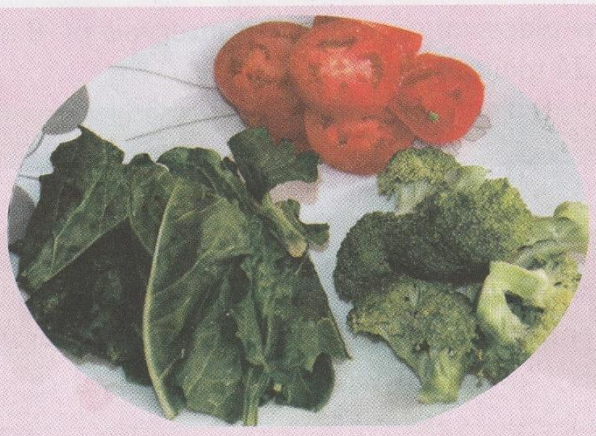
Activity 13 Investigating the effects of heat on vegetables when boiling

You will need

1. A sauce pan or *sufuria*, plates, wooden spoons, clean water, appropriate protective clothing, source of heat, improvised pot holder or kitchen cloth, kitchen dustbin and a working surface.
2. A table to fill in your observations.
3. Various locally available vegetables as suggested below.
   a) Green leafy vegetables such as *sukuma wiki*, spinach, *managu* or *terere*.
   b) Stem vegetables such as celery.
   c) Fruit vegetables such as tomatoes, cucumber, courgette or egg plant.
   d) Seed vegetables such as peas or green beans.
   e) Pod vegetables such as French beans.
   f) Flower vegetables like cauliflower or broccoli.

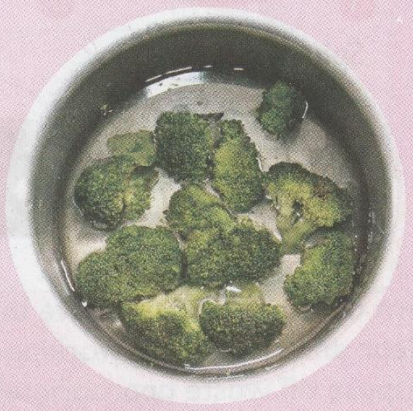
How to do it

1. Collect all the equipment and ingredients and place them on the prepared working surface.
2. Wear protective clothing.
3. Wash your hands thoroughly with clean water and soap.
4. Wash your vegetables with clean water.
5. Prepare the vegetables for cooking appropriately (peeling and cutting). Cut them into large pieces of about 5cm in size. Make sure the pieces are almost the same size for each vegetable.
6. Taste the raw vegetables and record your observations. Also, record your observation on their texture and colour. Keep a set of raw vegetables aside on a plate. (*This will help you to compare the colour, taste and texture after exposure to heat.*)



7. Ensure everything is ready before lighting up the fire to avoid wasting energy.
8. Put the remaining pieces of vegetables in three different *sufurias*. Cover with water and bring to boil.

Spinach

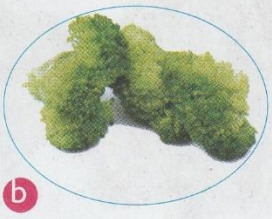
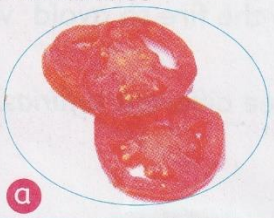
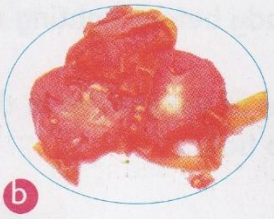
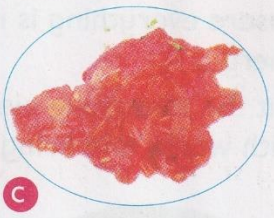


Broccoli

Tomatoes

9. As you boil, you will be required to record the change in taste, colour and texture of the vegetables in a table. A sample table is provided for you on page 10.

10. Remove a few pieces of vegetables at intervals of 8 minutes, 16 minutes and 24 minutes during boiling.

8 minutes	16 minutes	24 minutes
Broccoli  a	 b	 c
Tomatoes  a	 b	 c
Spinach  a	 b	 c

11. Turn off the heat or remove the boiling water from the heat source.
12. Clear and clean your working area after the experiment.
13. Dispose off waste appropriately.

Sample table

Observations

Effects of heat (Boiling) on vegetables

Vegetable	8 minutes	16 minutes	24 minutes
Broccoli			
Tomatoes			
Spinach			

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