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## NATURAL SCIENCES: NATS4

### LESSON 13

#### NOTES AND ACTIVITY – US 7509

**THEME:** Life and Living

**TOPIC:** Healthy Diet

At the end of this unit, you should be able to:

1. Define various nutrients.
2. Group food according to food groups.
3. Understand the impact of unhealthy eating in the body
4. Identify nutritional disorders with their causes.

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### WHAT IS A HEALTHY DIET?

A *healthy diet* is an essential for good health and nutrition.

### FOOD GROUPS AND NUTRIENTS

There are three main food groups that we should eat from every day to be able to get all the nutrients our bodies need to stay healthy. We also need to drink at least eight glasses of water every day. The table below shows the three groups of food and the nutrients they supply.

<b>ENERGY FOODS</b> <i>(these supply carbohydrates and fats)</i>	<b>BODY BUILDING FOODS</b> <i>(these supply proteins)</i>	<b>PROTECTIVE FOODS</b> <i>(these supply vitamins and minerals)</i>
Maize meal Pasta Rice Sugar Oats Bread Oil Butter	Eggs Beans Lentils Meat Fish Chicken Milk Nuts	Carrots Spinach Beans Cabbage Pumpkin Apples Bananas Oranges

Included in these three food groups are seven different classes of nutrients which we need to stay healthy.

<b>NUTRIENT</b>	<b>FUNCTION</b>	<b>SOURCE OF FOOD</b>
Carbohydrates (Starches & sugars)	They provide the body with energy. They are converted into simple sugars by <i>carbohydrase enzymes</i> .	Maize meal, bread, pasta, etc.
Proteins	They build and repair cells. They are converted into amino acids by <i>protease enzymes</i> .	Meat, fish, eggs, etc.
Fats	Are used for energy. They are converted into fatty acids and glycerol by <i>lipase enzymes</i> .	Oil, butter, cream, etc.
Vitamins		
<ul style="list-style-type: none"> <li>• Vitamin A</li> </ul>	Needed for vision, healthy skin, bone and tooth growth, and immune system	Milk, eggs, darker veggies and fruits
<ul style="list-style-type: none"> <li>• Vitamin B (complex)</li> </ul>	Vital for maintaining good health	Cereals, rice, pork, tuna, etc.
<ul style="list-style-type: none"> <li>• Vitamin C</li> </ul>	Important for boosting the immune system	Citrus fruits, strawberries, potatoes
<ul style="list-style-type: none"> <li>• Vitamin D</li> </ul>	Needed for proper absorption of calcium stored in bones	Egg yolks, fatty fish, fortified milk and margarine
<ul style="list-style-type: none"> <li>• Vitamin E</li> </ul>	Antioxidants and protect cell walls	Corn, egg yolks, liver, etc
<ul style="list-style-type: none"> <li>• Vitamin K</li> </ul>	Needed for proper blood clotting	Spinach, broccoli, etc
Minerals	These are inorganic substances needed in tiny amounts for different functions.	Milk provide calcium
<ul style="list-style-type: none"> <li>• Calcium</li> </ul>	Used for making teeth and bones	Milk
<ul style="list-style-type: none"> <li>• Sodium</li> </ul>	Used for nerve function	Salt
<ul style="list-style-type: none"> <li>• Iron</li> </ul>	Used to make haemoglobin in red blood cells	Meat and liver
Roughage (a dietary fibre)	It helps food to flow through the digestive system.	Vegetables, fruit and cereals
Water	Is required by all cells to function properly	

## NUTRITIONAL DISORDERS AND THEIR CAUSES

DISORDER	DISCRIPTION	DIFIENCY CAUSE
Marasmus (Starvation)	Skin becomes thin and hangs on the body	Malnutrition caused by eating too little food.
Kwashiorkor	Light coloured hair, big belly, thin upper arms and sores on the skin	Eating mainly carbohydrates and too little of other nutrients
Anaemia	Feels weak and tired; pale on the eyelids, mouth and fingernails	Eating too little iron rich foods like meat, liver and beans.
Scurvy	Bleeding gums, wounds take longer time to heal	Lack of Vitamin C in diet
Rickets	Bones become soft and bent	Lack of Vitamin D
Constipation	Irregular bowel movements and small, hard-to-pass stool	Lack of fibre in diet
Dehydration	Loss of water through diarrhea	water

### ACTIVITY

1. Study the picture and answer the questions.



- 1.1 What type of nutritional disorder is the boy suffering from? (1)
- 1.2 Name ONE illness the disorder could lead to. (1)
- 1.3 Identify foods that caused the boy to suffer from the disorder. (2)
- 1.4 List THREE life-style changes should the boy undertake to correct this condition. (3)
- 1.5 What is the name of a professional that could help the boy to eat healthy? (1)

2. Read the article below and answer the questions.

***Morogo, our local wild spinach***

Morogo is a dish made from the leaves of a group of indigenous vegetables that grow in different parts of South Africa. Morogo is similar to spinach. Morogo plants need very little water or fertilizer to grow. The leaves provide valuable protein and Vitamin A. They also have plenty of minerals, such as iron and calcium.

- 2.1 Is morogo, spinach? Explain. (3)
- 2.2 Identify the food groups that morogo contains. (2)
- 2.3 Provide ONE importance of Vitamin A in the diet. (1)
- 2.4 Name the disease a person could suffer for not eating enough iron. (1)
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