



## 3055 BA SANGAM COLLEGE

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### Worksheet 13

School: Ba Sangam College

Year:12

Subject: Home Economics

Name: \_\_\_\_\_

<b>Strand</b>	2 HEC 12.2 Food and Nutrition
<b>Sub strand</b>	<b>HEC 12.2.3 Diet and Health</b>
<b>Content Learning Outcome</b>	<b>HEC12.2.3.1</b> Explore the utilization of micronutrients and the effects of malconsumption by individuals.

### CHAPTER 6 DIET AND HEALTH

#### MICRONUTRIENTS

**Vitamins-** are complex chemical substances required by the body in very small amounts. It is made up of the chemicals carbon, oxygen, hydrogen and nitrogen and are not always obtained from food. Although vitamins do not produce energy, they are required for the normal functioning of the body. Vitamin deficiency diseases examples are scurvy and rickets. Symptoms of these deficiency diseases often include tiredness, mouth ulcers and poor condition of skin, hair, teeth and nails.

#### **Classification of Vitamins**

Vitamins are grouped according to their solubility. They are relatively small molecules; it is broken down through digestion before they are absorbed into the blood stream.

**The two classes of Vitamins are:**

#### **Fat – soluble vitamins: A, D, E and K**

- The fat-soluble vitamins are soluble in lipids. These vitamins are absorbed in fat globules that travel through the lymphatic system of the small intestine and into the general blood circulation within the body. Those not

#### **Water soluble vitamins: B group and C.**

- The water – soluble vitamins are absorbed through the walls of the stomach and intestines. Excess is eliminated through the kidneys. As water – soluble vitamins are not stored care

## FAT SOLUBLE VITAMINS

Vitamins	Functions	Dietary Sources	Characteristics
Vitamin A Retinol – Pure vitamin A Carotene – Provitamin A	It regulates growth. It promotes healthy skins. Maintenance of epithelial (lining) membranes such as the cornea and bronchial tubes. Necessary for healthy eyes to manufacture rhodopsin, the pigment in the retina which helps the eye to adapt to dim light.	Retinol Carotene Cod liver oil, carrots liver spinach butter watercress margarine Dried apricots, prunes cheese tomatoes Egg yolk cabbage herring's peas Milk and cream	A yellow fat-soluble alcohol. Insoluble in water. Can be destroyed by oxygen, as when exposed to air and light. Heat stable, therefore affected by cooking or heat preserving. Prolonged high temperatures destroy it. Some loss when food is dried, as when raisins are dried in the sun.
Vitamin D (Calciferous)	Necessary for the absorption of calcium and phosphorus in bones and teeth. Regulates calcium balance between skeleton and blood. Prevents rickets.	Sunlight is a major source. Cod liver oil. Oily fish (herrings) Margarine Eggs Dairy produce in summer	Heat stable unaffected by cooking or preserving. Unaffected by oxidation, acids or alkalis. Insoluble in water; unaffected by steeping or moist cooking methods. It is Fat – soluble.

### Activity

1. What are vitamins? (2 marks)  
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2. How many types of vitamins are present in our diet? Identify them. (2 marks)  
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3. Examples of vitamin deficiency diseases are \_\_\_\_\_ (2 marks)
4. Define fat-soluble vitamins and water-soluble vitamins. (2 marks)  
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5. What is **hypervitaminosis**? (2 marks)  
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6. Discuss three functions of vitamin A. (3 marks)  
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7. State the characteristics of vitamin D. (2 marks)  
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