



WEEKLY HOME STUDY PACKAGE - WEEK 2 (12/07/21 – 16/07/21)

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|---------------------------------|--|-------------------|-----------|
| Subject | HOME - ECONOMICS | Year/Level | 11 |
| Strand | HEC: 2 Food And Nutrition | | |
| Sub-strand | HEC 11. 2.3 Diet And Health | | |
| Content Learning Outcome | Discuss digestion and absorption of macro nutrients in the body | | |

LESSON NOTES/ACTIVITY:

Digestion and Absorption of Macronutrients

- When food is digested, it is converted to its simplest forms.
- Then it is absorbed into the bloodstream and performs its functions in the body.
- At every stage of digestion, the body releases enzymes that help in the conversion of macronutrients into its simplest forms.
- A summary of how macronutrients are digested from the mouth to the small intestine is given below.

| Organ | Fats | Carbohydrates | Proteins |
|-----------------|--|---|--|
| Mouth | No chemical digestion Chewing of food takes place. | Food is chewed and mixed with saliva. Ptyalin acts on starch to convert to maltose. | No action. Chewing of food takes place. |
| Oesophagus | Food is moved along by peristalsis | | |
| Stomach | Fat + lipase = fatty acid + glycerol | Food is mixed with gastric juice and becomes acidic. | Rennin coagulates milk protein. Pepsin breaks protein to smaller pieces. |
| Duodenum | Food is mixed with bile and pancreatic juice. Fats continue to be broken down by the action of lipase. | Amylase from pancreas acts on any starch not yet converted to maltose. | Contains trypsin which starts to break protein in smaller parts. |
| Small Intestine | Intestinal glands produce lipase. Fat + lipase converting all fats to fatty acid and glycerol. Products of fat digestion are absorbed into the lymph. | Intestinal glands produce enzymes maltose, lactose and sucrose which convert all these to glucose | Contains erepsin. Acts on partly broken down and completes the process of converting them to amino acids; the simplest form of protein. |

ACTIVITY: Use the information above and answer the following questions:

1. Identify the enzymes involved in the digestion of the following nutrients?
 - a. Protein _____
 - b. Fat _____ (2marks)
2. State the simplest form in which these nutrients are absorbed in the small intestine?
 - a. Carbohydrates _____ (1mark)
 - b. Protein _____ (1 mark)
3. Explain the function of mouth in digestion of food ?

_____ (1mark)

_____ (1mark)