MINISTRY OF EDUCATION

SECONDARY ENGAGEMENT PROGRAMME

INTEGRATED SCIENCE

GRADE 9

Week 2 **Lesson 2 - Worksheet 2**

1. Identify the parts of the digestive system in which the changes listed below occur. Transcribe each sentence and write the name of the part beside it.
   (a) Food nutrients move into the blood by diffusion.
   (b) Food is first mixed with an enzyme.
   (c) Muscles move food downwards after it is swallowed.
   (d) Undigested food is moved out of the body.
   (e) Food is mixed with hydrochloric acid and enzymes.

2. What is the role of enzymes in the digestive system?

3. Identify three enzymes present in the small intestines. For each one listed identify the substrate and the corresponding end product.

4. Explain briefly what can happen in the stomach if all the hydrochloric acid was removed.

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Worksheet 2 - Answers

5. Identify the parts of the digestive system in which the changes listed below occur. Transcribe each sentence and write the name of the part beside it.
   (f) Food nutrients move into the blood by diffusion. SMALL INTESTINES
   (g) Food is first mixed with an enzyme. MOUTH
   (h) Muscles move food downwards after it is swallowed. OESOPHAGUS
   (i) Undigested food is moved out of the body. RECTUM
   (j) Food is mixed with hydrochloric acid and enzymes. STOMACH
6. What is the role of enzymes in the digestive system? They speed up the rate at which food is broken down.
7. Identify three enzymes present in the small intestines. For each one listed identify the substrate and the corresponding end product.

Enzyme present	Substrate	End product
Trypsin	Proteins and peptides	Dipeptides
Amylase	Starch	Maltose
Lipase	Fats	Fatty acids and glycerol
Peptidase	Dipeptides	Amino acids
Maltase	Maltose	Glucose
Sucrase	Sucrose	Glucose and fructose

8. Explain briefly what can happen in the stomach if all the hydrochloric acid was removed. The individual can become infected with bacteria that are ingested with the food because they will no longer be killed. The enzymes will be deactivated since the pH for them to work has been changed.