



Collège Notre Dame Des Sœurs Antonines-Jamhour

Name: _____

Subject: **Biology worksheet**

Class: **grade 9**

Date: **29/10/2019**

Exercise 1: Indicate whether the statements are true or false. Justify your answer.

- 1- Proteins contained in the consumed food are not found in the feces.
- 2- During their passage in the digestive tube, glucose, proteins and lipids are digested.
- 3- We distinguish three groups of organic matter: mineral salts, vitamins and lipids.
- 4- Mastication (chewing) is a process that aids in digestion.

Exercise 2: Answer briefly the following questions.

- 1- Justify the expression: "Chemical digestion is a molecular simplification".
- 2- Design an experiment to identify the presence of water in a lettuce leaf.
- 3- Indicate the difference between food and nutrient.
- 4- Indicate on which substances the following enzymes act: amylase, maltase, sucrose, lactase, protease and lipase.

Exercise 3: During digestion, macromolecules of proteins are fragmented progressively and transformed into small molecules.

- 1- Schematize the digestion of proteins.
- 2- Explain the following statement: "A protein undergoes progressive fragmentation during digestion".

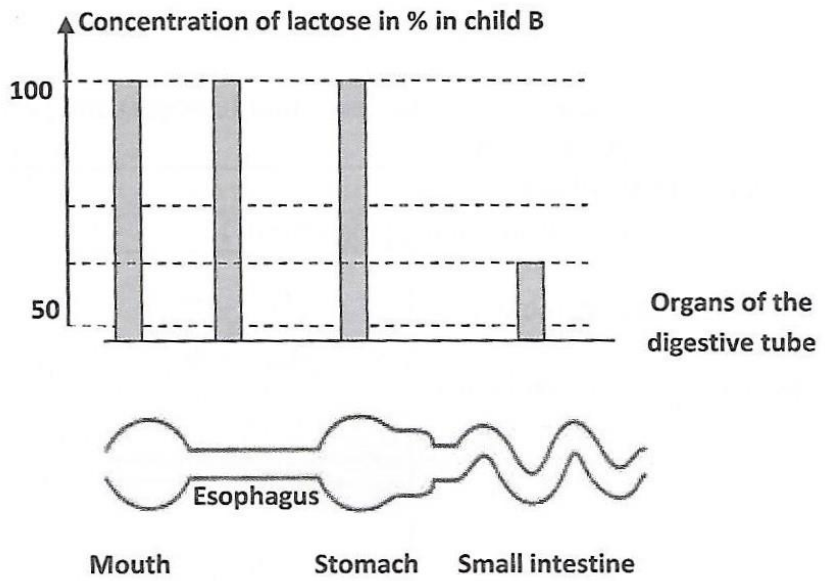
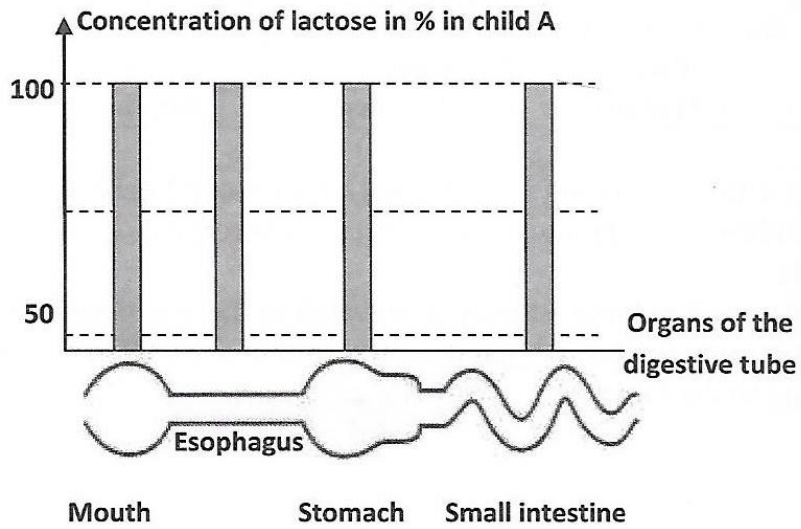
Exercise 4:

Wheat starch is a complex molecule constituted of many molecules of glucose. In the course of its digestion, starch reacts with water and is degraded into very small-sized molecules. This chemical reaction is called hydrolysis. The enzymes, contained in saliva and pancreatic juice, activate the hydrolytic reaction and favor the molecular simplification of starch. These enzymes remain intact at the end of this reaction.

- 1- In reference to the text :
 - a- Indicate the constituent molecules of wheat starch.
 - b- Define « hydrolysis ».
 - c- Pick out the sentence that shows the role of enzymes.
- 2- Name the enzyme responsible for the molecular simplification of wheat starch.
- 3- Schematize the molecular simplification of starch (cooked starch) in the presence of saliva.

Exercise 5:

Lactose, the milk sugar, is digested in the presence of an enzyme called lactase. Some children suffer, since birth, from a digestive trouble due to the absence of lactase. We give milk to two children A and B. Then, we measure the lactose concentration in certain digestive organs in each child. The results of the measurements are shown in the following documents.



- 1) Indicate the reason causing lactose intolerance.
- 2) Represent, in the same table, the different values of the lactose concentration in each digestive organ in the two children A and B.
- 3) Analyze the results. What do you conclude?