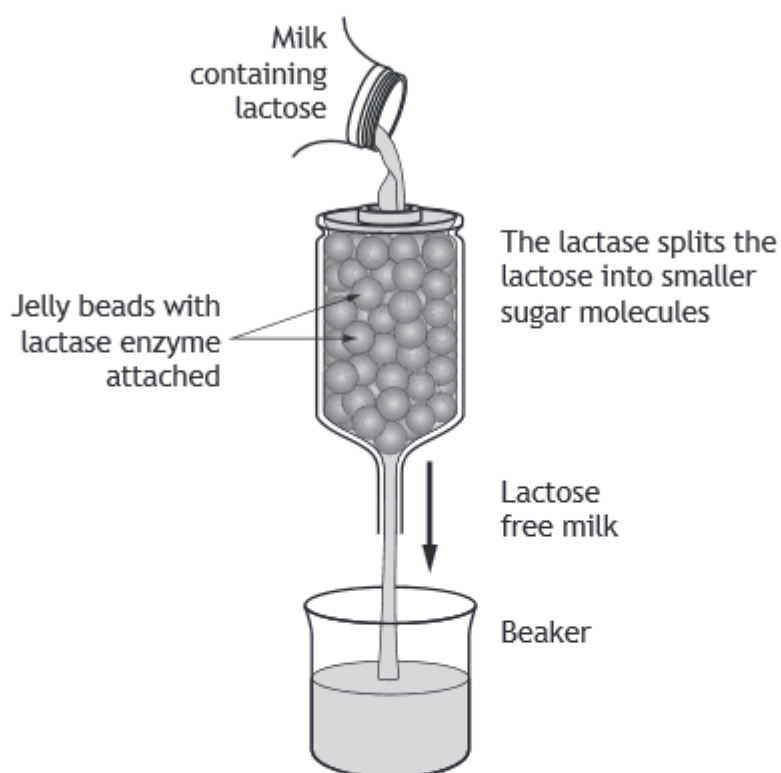


Proteins

6. Proteins have different functions. Which of the following statements identifies a protein and its function?
- A Hormones carry oxygen around the body.
 - B Enzymes carry chemical messages around the body.
 - C Antibodies defend the body against disease.
 - D Cellulose provides strength and structure to a plant cell wall.

2. The diagram below shows how the enzyme lactase is used in the production of lactose-free milk.



- (a) (i) Underline **one** option in each of the brackets to make the following sentences correct.

2

This process is an example of a $\left\{ \begin{array}{l} \text{degradation} \\ \text{synthesis} \end{array} \right\}$ reaction.

In this reaction, lactose is the $\left\{ \begin{array}{l} \text{product} \\ \text{substrate} \end{array} \right\}$ of lactase.

2. (a) (continued)

(ii) A fault in the production resulted in boiling water running over the lactase enzyme.

Using your knowledge of enzymes, predict how the milk produced would differ from the expected product.

Explain your answer.

2

Prediction _____

Explanation _____

(b) Enzymes such as lactase are biological catalysts.

Explain the role of enzymes in living cells.

1

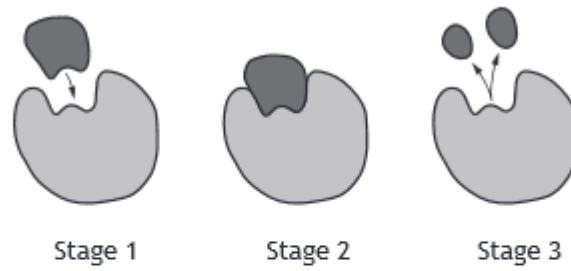
(c) Name the substance of which enzymes are made.

1

5. Which of the following are all types of proteins?

- A Hormones, enzymes and nitrates
- B Antibodies, enzymes and plasmids
- C Hormones, receptors and antibodies
- D Receptors, antibodies and nitrates

4. The diagrams represent stages in an enzyme-controlled reaction.



(a) Enzymes are involved in two types of reaction.

Identify the type of reaction shown in the diagrams above.

1

(b) Describe the events occurring in the enzyme reaction shown.

3
