

Enzymes and digestion

Reading : 25-29 higher, 25-28 foundation

Knowledge

1. What are enzymes?
2. Why are they referred to as catalysts?
3. Which is the only enzyme found in the stomach?
4. Why is there hydrochloric acid in the stomach? (2 reasons)
5. Name the two functions of bile
6. Complete the table

Enzyme	Acts on	Products
Amylase		
Protease		
Lipase		

7. How do the small molecules produced in digestion cross into the blood stream?
8. How does chewing food help digestion?
9. What happens to enzymes at high temperatures or extreme pH levels?
10. Which chemical is needed to test for protein in foods?
11. What colour does Benedict's solution turn if sugar is present?

Application

1. Explain why food has to be digested

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2. Describe how food is mixed with gastric juice in the stomach

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3. Where is bile made and stored and where does it enter the digestive system?

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4. Explain how bile helps the digestion of fats in the small intestine

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5. Explain how bile helps other enzymes in the small intestine function properly

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6. Explain why the pH decreases when fats are digested

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7. Describe how molecules such as amino acids and glycerol get from the small intestine into the bloodstream

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8. Describe how you would test for the presence of sugar in a particular food. Describe the result you would expect if the test was positive.

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9. Describe how you could use the equipment below to test the effect of temperature on enzyme activity:

Amylase solution, starch solution, Bunsen, thermometer, test tubes, stopwatch, iodine

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10. Describe one improvement you could make to your equipment which would make the temperature more accurate

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11. Explain why enzymes do not work well at certain temperatures or pH.

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