

Complete the table below.

Enzyme	Site of Production	Substrate	Products
amylase			glucose
pepsin		protein	
lipase	pancreas		

Place the following structures in order from smallest to largest:

cell, organ, nucleus, tissue, organism

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Bile is made in the liver and stored in the gall bladder. Explain how bile helps digestion.

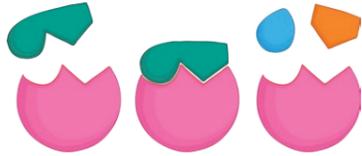
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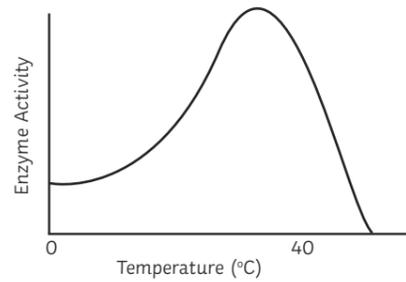
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The diagram below shows the 'lock & key' model of enzyme function. Label the diagram using the following words:

enzyme, active site, substrate, products, enzyme-substrate complex



Use the graph below to describe how temperature affects enzyme function.



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Transpiration is:

The movement of water molecules from a high water concentration to a lower water concentration across a partially permeable membrane.

The evaporation and diffusion of water from the leaves of a plant.

The movement of glucose molecules around the plant.

j




Name 3 factors that affect the rate of transpiration.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

From which part of the human digestive system is nutrients absorbed into the bloodstream?

\_\_\_\_\_

Where in the plant is meristem tissue located?

\_\_\_\_\_

Describe how to carry out the test for reducing sugars.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Enzymes are described as being 'specific' to a substrate. What does this mean? Use a labelled diagram to help your explanation.

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\_\_\_\_\_

List 5 important keywords from this unit.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

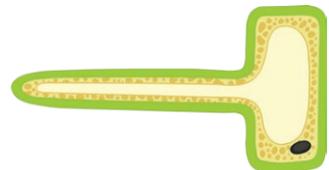
The xylem tissue is composed of hollow tubes strengthened by lignin. What is the function of xylem tissue?

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Describe how this root hair cell is adapted for the efficient uptake of water and mineral ions.



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\_\_\_\_\_

\_\_\_\_\_

Describe how to test for protein

\_\_\_\_\_

\_\_\_\_\_

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Why are enzymes referred to as 'biological catalysts'?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Describe how to test for starch.

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What is the function of phloem tissue?

\_\_\_\_\_

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\_\_\_\_\_

My main areas for improvement in this unit are:

\_\_\_\_\_

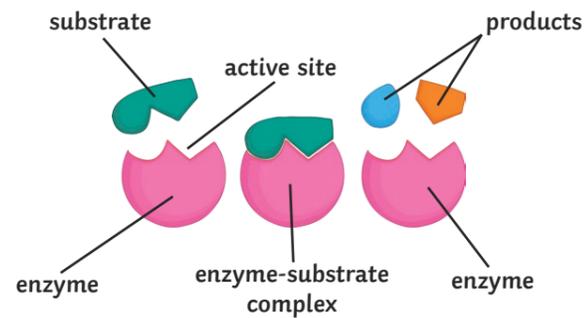
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Complete the table below.

Enzyme	Site of Production	Substrate	Products
amylase	salivary glands/ pancreas	starch	maltose/ glucose
pepsin	stomach	protein	amino acids
lipase	pancreas	fats	fatty acids & glycerol

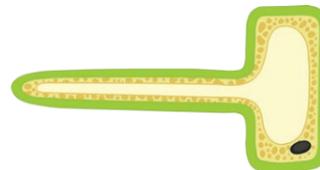
The diagram below shows the 'lock & key' model of enzyme function. Label the diagram using the following words:



Describe how to carry out the test for reducing sugars.

1. Place the test sample into a test tube (about 2ml).
2. Add an equal amount of Benedicts reagent.
3. Heat in a water bath for 5 minutes.
4. The colour will change from blue to either green/ yellow/red depending on the amount of reducing sugar present.

Describe how this root hair cell is adapted for the efficient uptake of water and mineral ions.



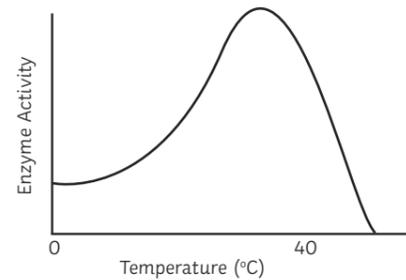
They have a large surface area for the rapid absorption of water and mineral ions from the soil.

Place the following structures in order from smallest to largest:

cell, organ, nucleus, tissue, organism

nucleus, cell, tissue, organ, organism

Use the graph below to describe how temperature affects enzyme function.



Initially, as temperature increases, the rate of enzyme activity also increases, up to 40°C, which is the optimum temperature. After 40°C, as the temperature increases the rate of enzyme activity decreases.

Enzymes are described as being 'specific' to a substrate. What does this mean? Use a labelled diagram to help your explanation.

A diagram showing active site of enzyme has a complimentary shape to the substrate molecule. The active site of the enzyme has a unique shape, only a substrate with a complimentary shape can fit and bind to form an enzyme-substrate complex.

Describe how to test for protein

1. Place the test sample into a test tube (about 2ml)
2. Add an equal amount of Biuret reagent and mix.
3. The colour will change from blue to purple if protein is present.

Bile is made in the liver and stored in the gall bladder. Explain how bile helps digestion.

Bile neutralises stomach acid to raise the pH so protease enzymes can work.

It also emulsifies fats to give them a larger surface area for lipase to work, which speeds up digestion.

Transpiration is:

The movement of water molecules from a high water concentration to a lower water concentration across a partially permeable membrane.

The evaporation and diffusion of water from the leaves of a plant.

The movement of glucose molecules around the plant.

Name 3 factors that affect the rate of transpiration.

Any 3 from;

Temperature, Light intensity, Air flow or Humidity.

From which part of the human digestive system is nutrients absorbed into the bloodstream?

Small intestine.

Where in the plant is meristem tissue located?

Growing tips of roots and shoots.

List 5 important keywords from this unit.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Why are enzymes referred to as 'biological catalysts'?

They speed up useful chemical reactions in the body.

Describe how to test for starch.

Place the test sample into a test tube. Add a few drops of iodine solution and mix. The colour will change from orange to blue/black if starch is present.

What is the function of phloem tissue?

To transport food substances (dissolved sugars) around the plant. This process is called translocation.

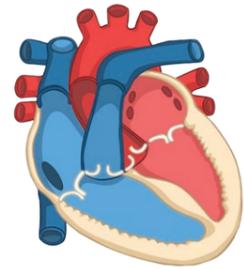
My main areas for improvement in this unit are:

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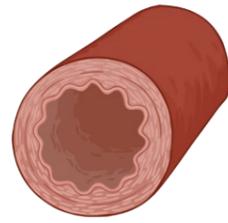
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a Label the following blood vessels on the diagram of the heart: aorta, vena cava, pulmonary artery, pulmonary vein.



d Describe how the structure of an artery is related to its function.



h Why does the left ventricle have a thicker, more muscular wall than the right ventricle?

i Name the four main components of the blood and describe their function.

n Describe 3 ways that the lungs are adapted for gaseous exchange.

e In coronary heart disease, layers of fatty material build up inside the coronary arteries. Explain how this can lead to a 'heart attack'.

j What is a 'carcinogen'? Give an example.

o A problem with heart transplants is rejection of the donor heart. What is 'rejection'?

b Label the following parts on the diagram below: trachea, bronchi, bronchiole, alveolus.



f Stents can be used to treat coronary heart disease. Give one advantage and one disadvantage of using stents.

k List 5 important keywords from this unit.

p Name the group of cells that controls the resting heart rate.

c Describe how smoking tobacco affects:

Adults

Advantage

Disadvantage

l Explain how an infection with a microorganism could lead to the development of other, non-communicable diseases.

q What are 'statins'?

Unborn babies

g Describe 3 lifestyle factors that can impact a person's physical and mental wellbeing.

m Describe how a faulty heart valve will affect a person's health.

r What is the difference between a benign and a malignant tumour?

s My main areas for improvement in this unit are:

