

Name:
Science Class:
Teacher:
Hand in day:

Y8 Science

Term 1: Homework Booklet

Biology

	Hand in Date	Parents Signature
Organ Systems		
Homework 1		
Homework 2		
Homework 3		
Homework 4		

Organ systems : Homework 1

Read through the following passage

The food we eat must be broken down into other substances that our bodies can use. This is called digestion. Large insoluble molecules are broken down into small soluble molecules. Without digestion, we could not absorb food into our bodies and use it.

Digestion happens in the digestive system, which begins at the mouth and ends at the anus. After we swallow, our food passes through these organs in turn:

- oesophagus
- stomach
- small intestine
- large intestine

Different things happen to food as it passes through the digestive system:

- food is digested in the mouth, stomach and small intestine
- digested food is absorbed into the bloodstream in the small intestine
- excess water is absorbed back into the body in the large intestine
- any undigested food passes out of the anus as faeces when we go to the toilet

The liver and the pancreas play an important part in digestion. The liver produces bile, which helps the digestion of lipids (fats and oil). The pancreas produces biological catalysts called digestive enzymes which speed up the digestive reactions.

Enzymes are not living things. They are just special proteins that can speed up the break down of large molecules into small molecules. Different types of enzymes can break down different nutrients:

- amylase and other carbohydrase enzymes break down **starch** into **sugar**
- protease enzymes break down **proteins** into **amino acids**
- lipase enzymes break down **lipids** (fats and oils) into **fatty acids** and **glycerol**

Now answer the following questions

1. Why do we digest our food?

2. Name three organs of the digestive system

3. Where is the digested food absorbed into the bloodstream?

4. What do we absorb in the large intestine?

5. Which of the seven life processes is the anus linked to?

6. What is the function of bile?

7. Describe what an enzyme is.

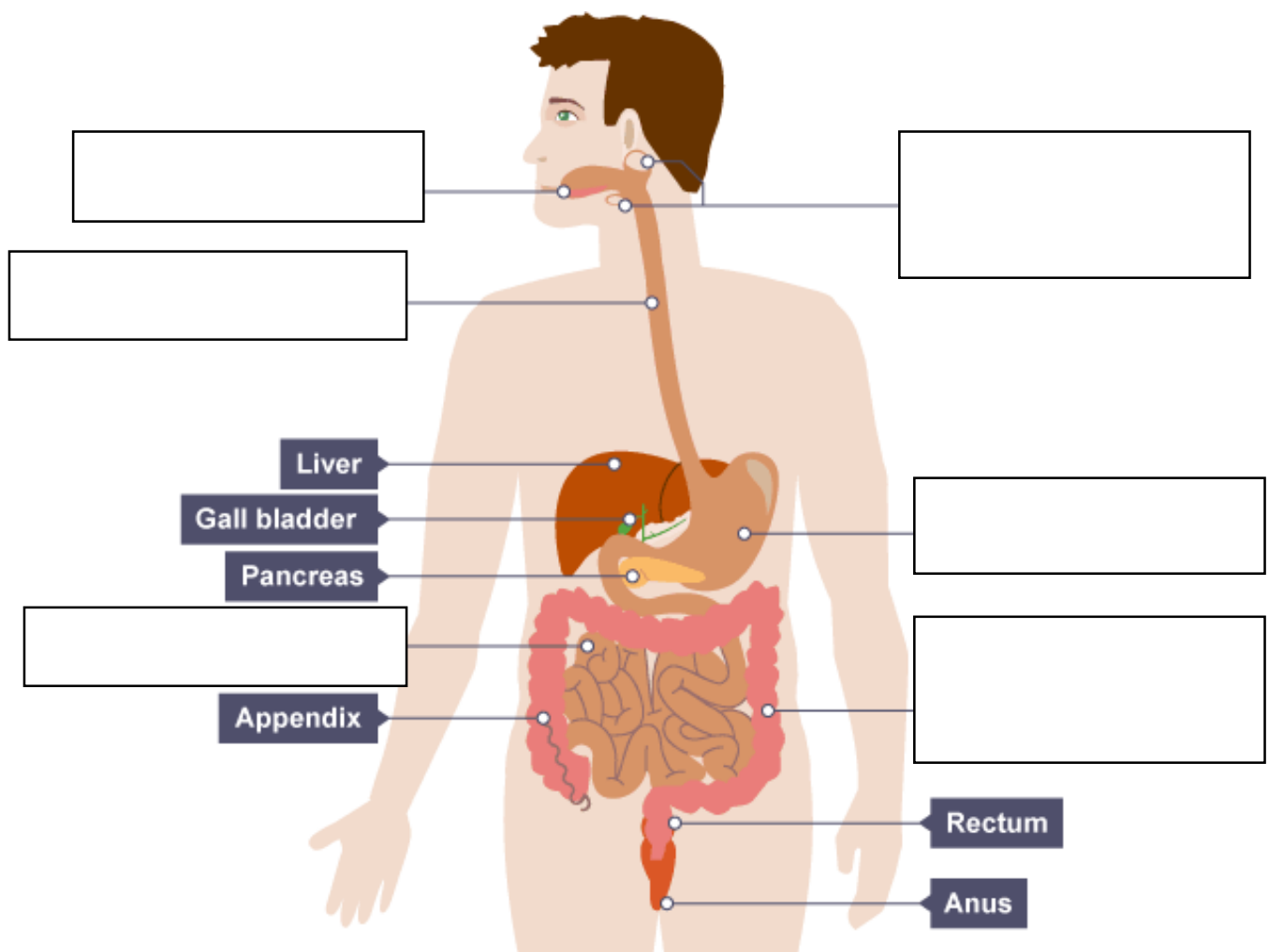
8. What do protease enzymes break down?

9. Put these digestive organs in the order food passes through them: anus, oesophagus, small intestine, stomach, large intestine.

10. What is a biological catalyst also known as?

Organ systems: Homework 2

Label the diagram below



Fill in the missing words

Digestion is when I _____, insoluble molecules are broken down into small, s_____ molecules.

E_____ speed up the breaking down of these molecules.

In the mouth, s_____ is added which makes the food easier to swallow. Saliva also contains digestive juices.

In the stomach, food is churned up with a _____ and more digestive juices.

In the s_____ intestine, small digested molecules of food are absorbed into the b_____.

Food that cannot be digested goes into the large intestine, where w_____ is removed.

Organ systems: Homework 3

1. Complete the following table:

	Arteries		Capillaries
Direction of Blood Flow		Carry blood away from the heart	
Blood Pressure	Blood under high pressure		Decreasing blood pressure
Valves			No valves
Walls	Thick Walls	Thinner Walls	
Type of blood			Blood starts oxygenated and slowly becomes deoxygenated

2. Answer the questions below:

a) How is the artery adapted for its function?




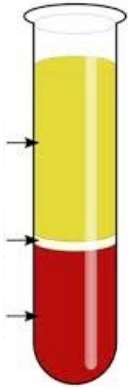
b) What is the role of the capillary?

c) What is the role of the valves in the veins?

d) Why is the wall of the left ventricle thicker than the right ventricle?

Organ Systems: Homework 4

1. Complete then table describing the structure and function of the different components of blood:

	Name	Function
		
		
		
		

2. Label parts A, B, C and D.

3. Draw arrows to show the direction of the oxygenated and deoxygenated blood flow. Use different colours for oxygenated and deoxygenated.

