Instructions: Study unit 1 of Cambridge Primary Science 6 and answer the following worksheets.

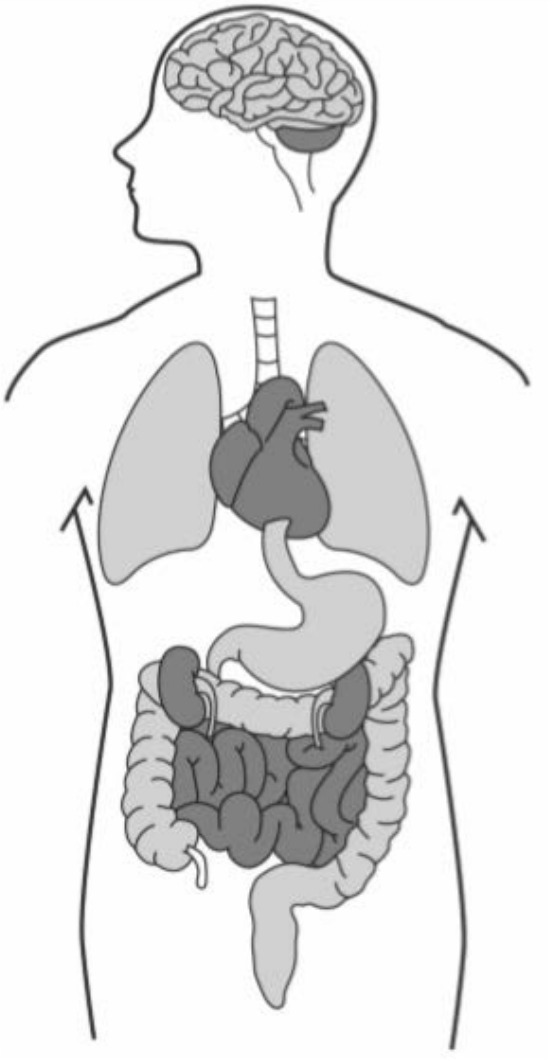
Worksheet 1.1

Label body organs

Name: _____ Date: _____

Label the drawing of body organs. Use the words in the box to help you.

brain	heart	intestines	kidneys	liver	lungs	stomach



Worksheet 1.2

How William Harvey explained circulation

Name: _____ Date: _____

Read about how William Harvey's observations and experiments led him to understand and explain how the circulatory system works.

William Harvey was an English doctor who lived 400 years ago. At that time, doctors and scientists thought that the lungs moved the blood around the body and that the body used up the blood for energy as it flowed to the different organs. They also thought the heart's job was to control our feelings. Harvey observed water pumps in London which gave him the idea that the heart pumped blood around the body. He studied the heart and blood vessels and carried out experiments. He was very thorough in his work and spent many hours repeating experiments and going over every detail. He also read the work of early doctors to help him build up his own ideas.

Harvey's results showed him that the heart works by muscle contraction to pump blood to body organs and that blood is carried away from the heart by arteries and returns to the heart through veins. He observed that in one hour the heart pumps more than the body's weight in blood. This showed him that the body did not use up the blood that flowed to body organs. Harvey explained how blood flows in one direction throughout the body and that gases enter and leave the blood in the lungs.

William Harvey's work became so admired that he became the court physician to King Charles I, who took a great interest in his work on circulation.

1 What incorrect ideas did doctors and scientists have about circulation 400 years ago?

_____

_____

_____

_____

_____

_____

2 What observation made William Harvey start to think about how the heart works?

_____

3 **a** How did Harvey obtain evidence about how the circulatory system works?

b Why did he repeat his experiments?

4 **a** How did Harvey show that the body does not use up the blood that flows to the organs?

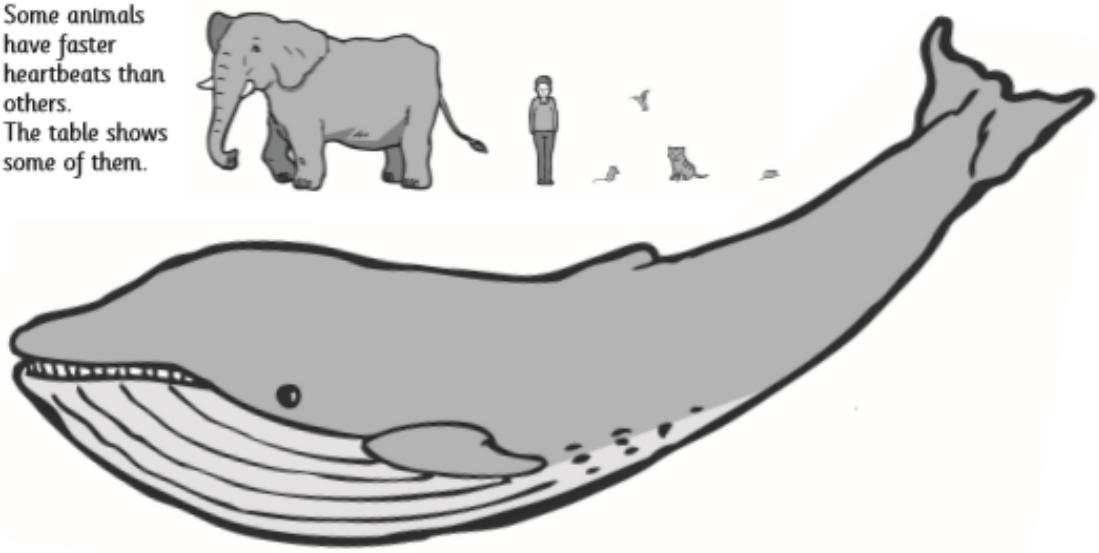
b Name **three** other discoveries that William Harvey made about the circulatory system.

Worksheet 1.3a

Comparing heartbeats

Name: _____ Date: _____

Some animals have faster heartbeats than others.
The table shows some of them.



Animal	Heartbeat in beats per minute
human	70
elephant	30
mouse	500
blue whale	10
cat	150
humming bird	1300

1 a Which animal has the fastest heartbeat? _____

b Which animal has the slowest heartbeat? _____

2 a Which animal is the biggest? _____

b Which animal is the smallest? _____

3 a List the animals in the table according to their heartbeats. Start with the slowest heartbeat.

_____ _____

_____ _____

_____ _____

b What pattern do you notice in the results?

_____

_____

4 a Write a conclusion about animal heartbeats from these results.

_____

_____

_____

b Predict the heartbeat of a:

horse _____ shrew _____

c Do some research to find out if your prediction is true or not. Does the evidence support your prediction?

_____

Challenge:
When the average bat hibernates, its heart rate drops to about 20 beats per minute.
Why is this so?

_____

_____

_____

_____

_____

_____

Worksheet 1.8

Revising body organs and systems

Name: _____ Date: _____

Use the words in the box to complete the sentences. You will have to use some words more than once.

blood	**blood vessels**	**breathing**	**carbon dioxide**	**circulatory**	**digestive**	**excretory**
food	**gullet**	**heartbeat**	**intestines**	**mouth**	**nerves**	**nervous**
oxygen	**systems**	**wastes**	**windpipe**			

Body organs work together to form organ _____.

The lungs and _____ are part of the _____ system, which brings _____ gas into your body and releases _____ _____ gas into the air.

Your heart is part of the _____ system, which takes _____ containing food and _____ to all of the parts of your body. Blood is carried in the _____ _____.

Your stomach is part of the _____ system, which is responsible for breaking down _____ so that your body can use it. Other parts of this system are the _____, _____ and _____.

Your kidneys are part of the _____ system, which is responsible for removing _____ from your body.

Your brain and _____ form the _____ system, which controls your _____ , _____, muscle movement and your senses.