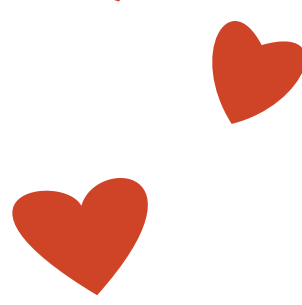


Name: \_\_\_\_\_

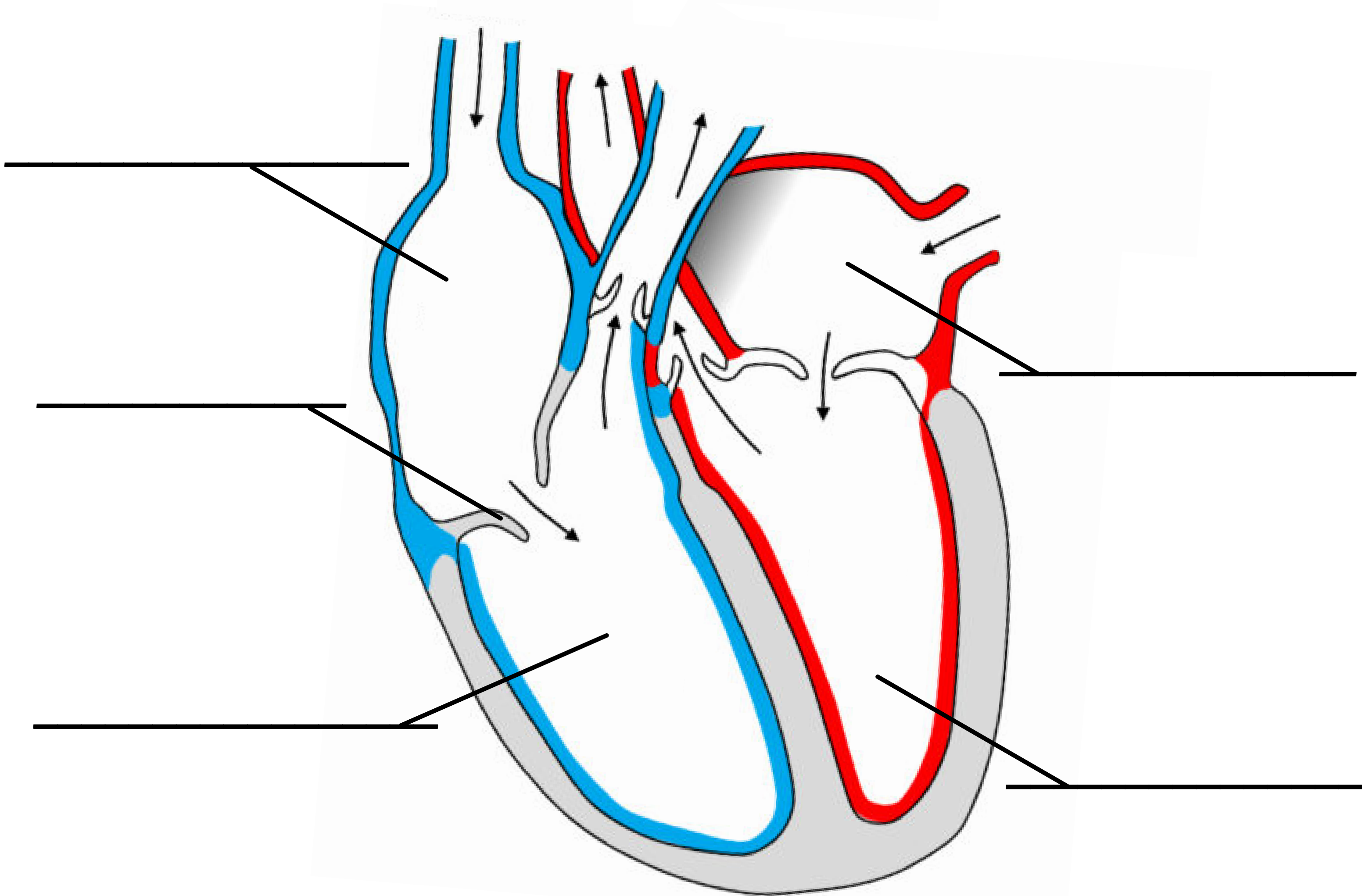


Date: \_\_\_\_\_

# Know Your Own Heart

The heart is the centre of your 'circulatory system'. That's the name for your heart, blood vessels and all the blood in your body. It's very important, as it delivers oxygen and energy all around your body!

Can you label the heart? Use the words from the list below.



Left Atrium

Right ventricle

Right atrium

Left ventricle

Valve

(Remember that the heart is always labelled from the animal's point of view. Imagine the animal's head facing you above it).

How blood moves through the heart is complicated! Can you put the statements in order to explain it? One has been done for you.

Statement

Order number

The right ventricle contracts and blood is forced into the pulmonary artery, to the lungs.

\_\_\_\_\_

The left atrium contracts; blood is squeezed into the left ventricle.

\_\_\_\_\_

The right atrium contracts; blood is squeezed into the right ventricle.

\_\_\_\_\_

Blood from the lungs enters the left atrium.

\_\_\_\_\_

Blood from the body flows into the right atrium.

\_\_\_\_\_1\_\_\_\_\_

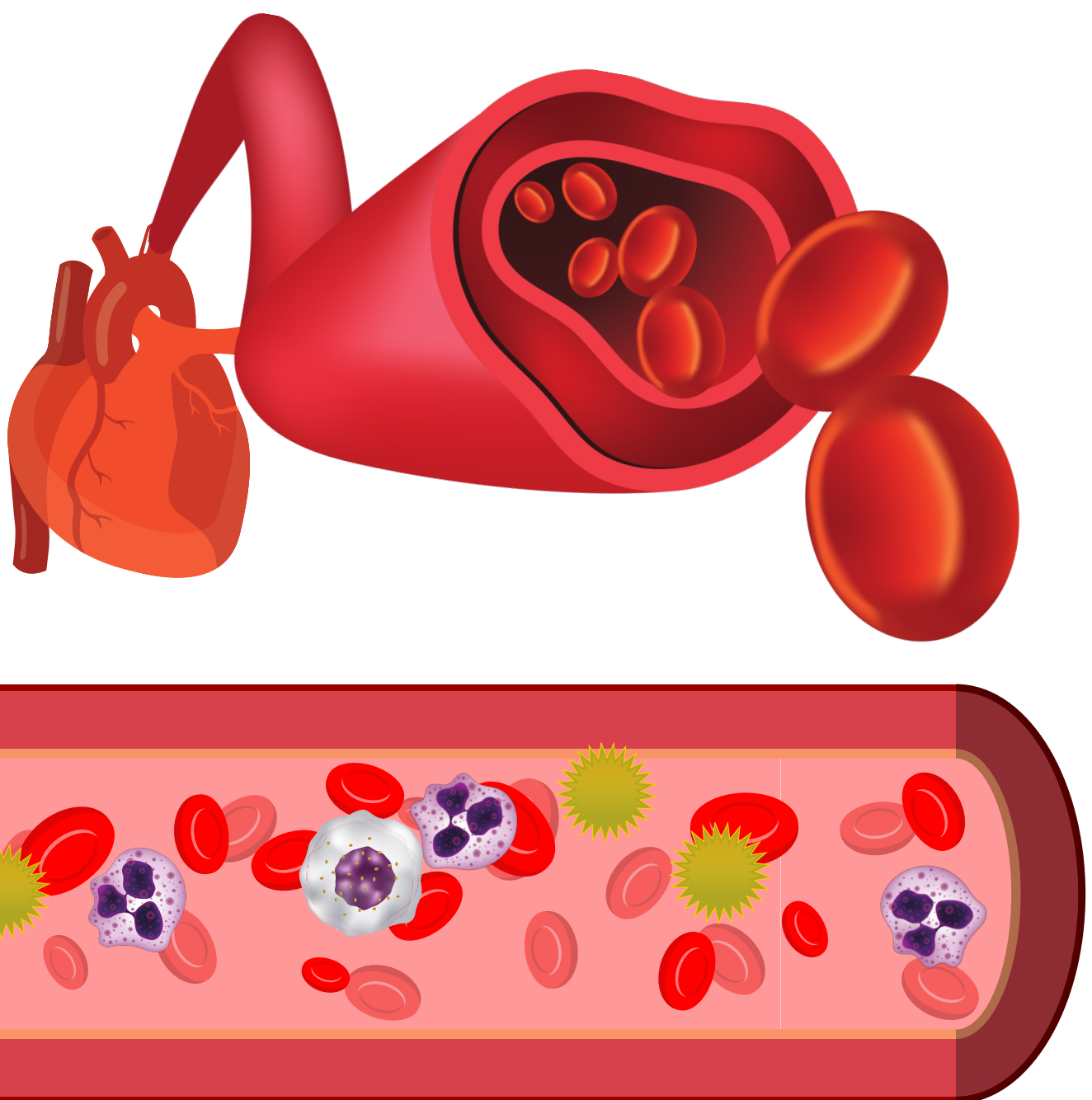
The left ventricle contracts and blood is forced into the aorta (artery), out to the rest of the body.

\_\_\_\_\_

Ext: The left ventricle walls are much thicker and stronger than the right ventricle's. Why do you think this is? \_\_\_\_\_

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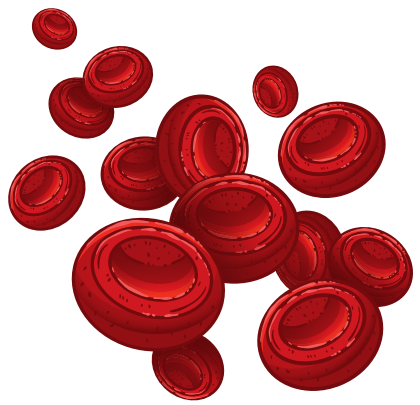
## Arteries, Veins and Vessels

Blood flows through long thin tubes called blood vessels, like arteries and veins. *Arteries* carry blood away from the heart. *Veins* carry blood into the heart. On the heart diagram, which vessels are arteries and which are veins?

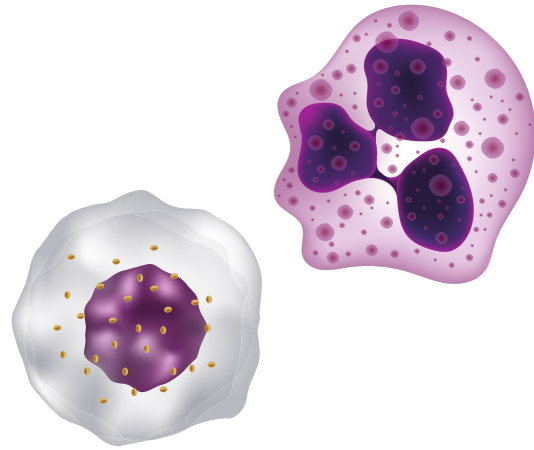
# Blood at the Crime scene!

A red substance has been found at a crime scene! Is it human blood? It'll need to be tested! Blood is made up of different parts:

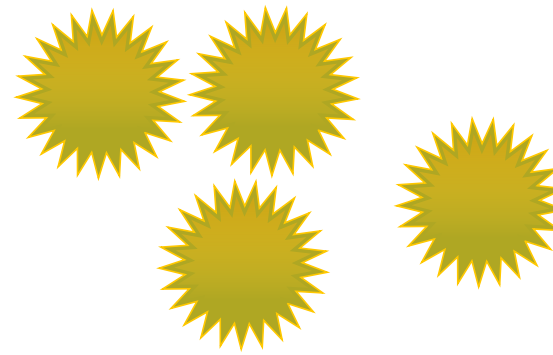
'Red blood cells' carry oxygen.



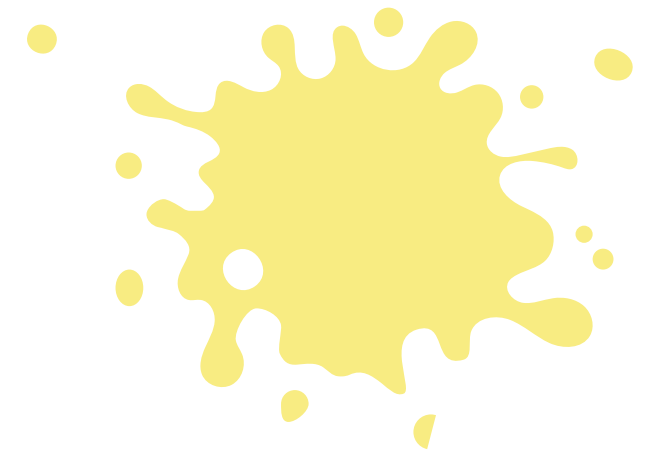
'White blood cells' fight infection.



'Platelets' help form scabs.



'Plasma' transports the other three.



If it is human blood, the sample should have the same proportion of parts as human blood:

Red blood cells make up 45% of blood.

Plasma makes up 55%.

White blood cells and platelets make up the last 1%.

This is shown in this pie chart.

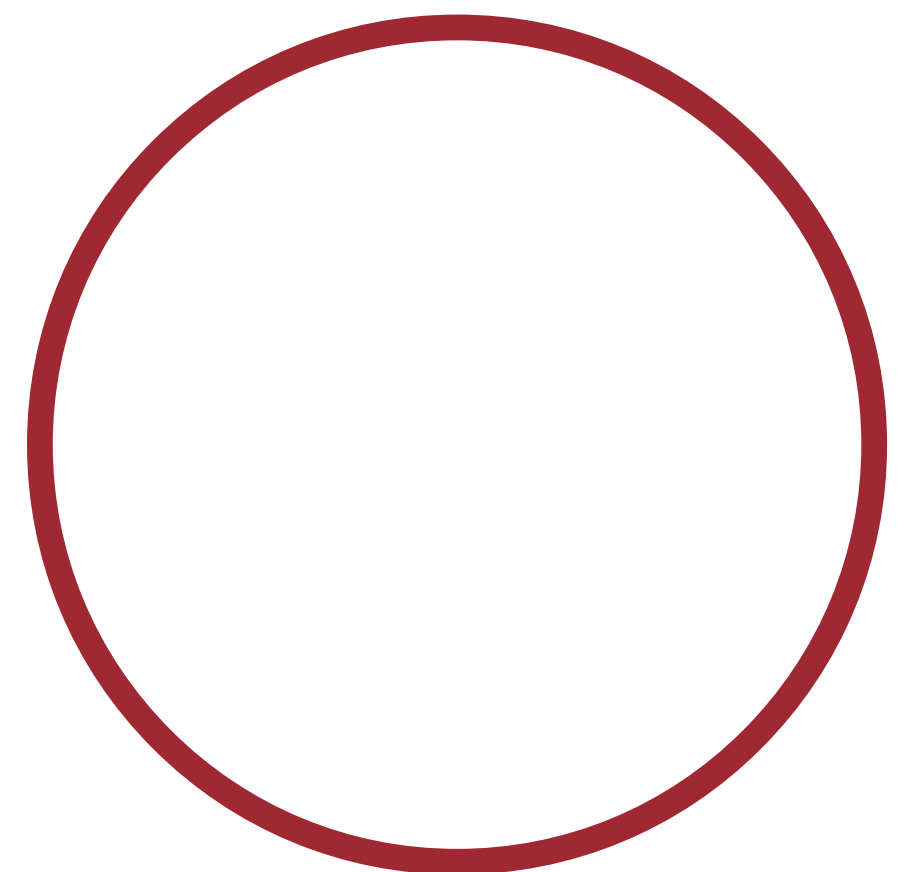
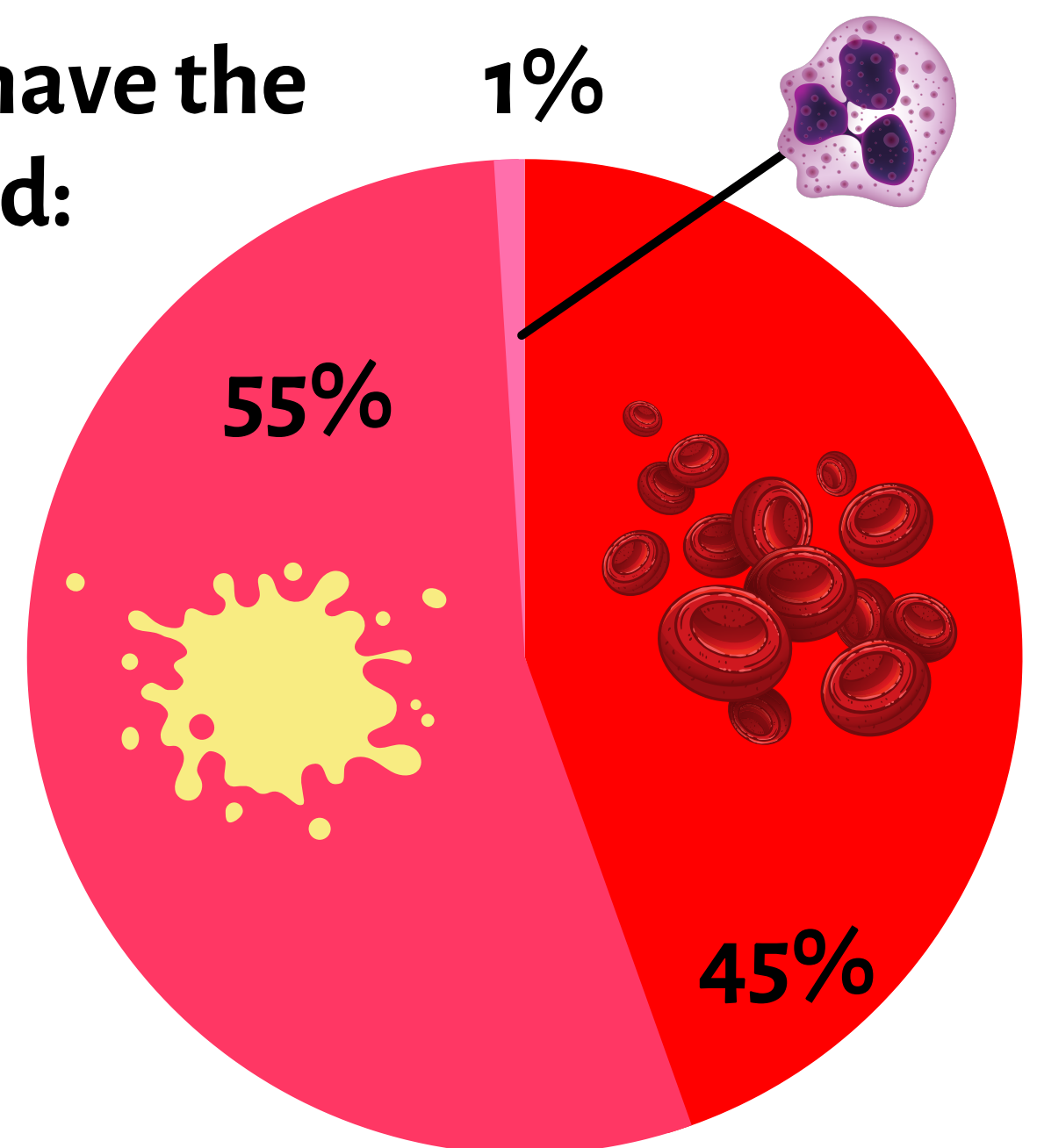
Out of the 200ml crime scene sample:

There are 100ml of red blood cells.

There are 80ml of plasma.

There are 20ml of white blood cells and platelets.

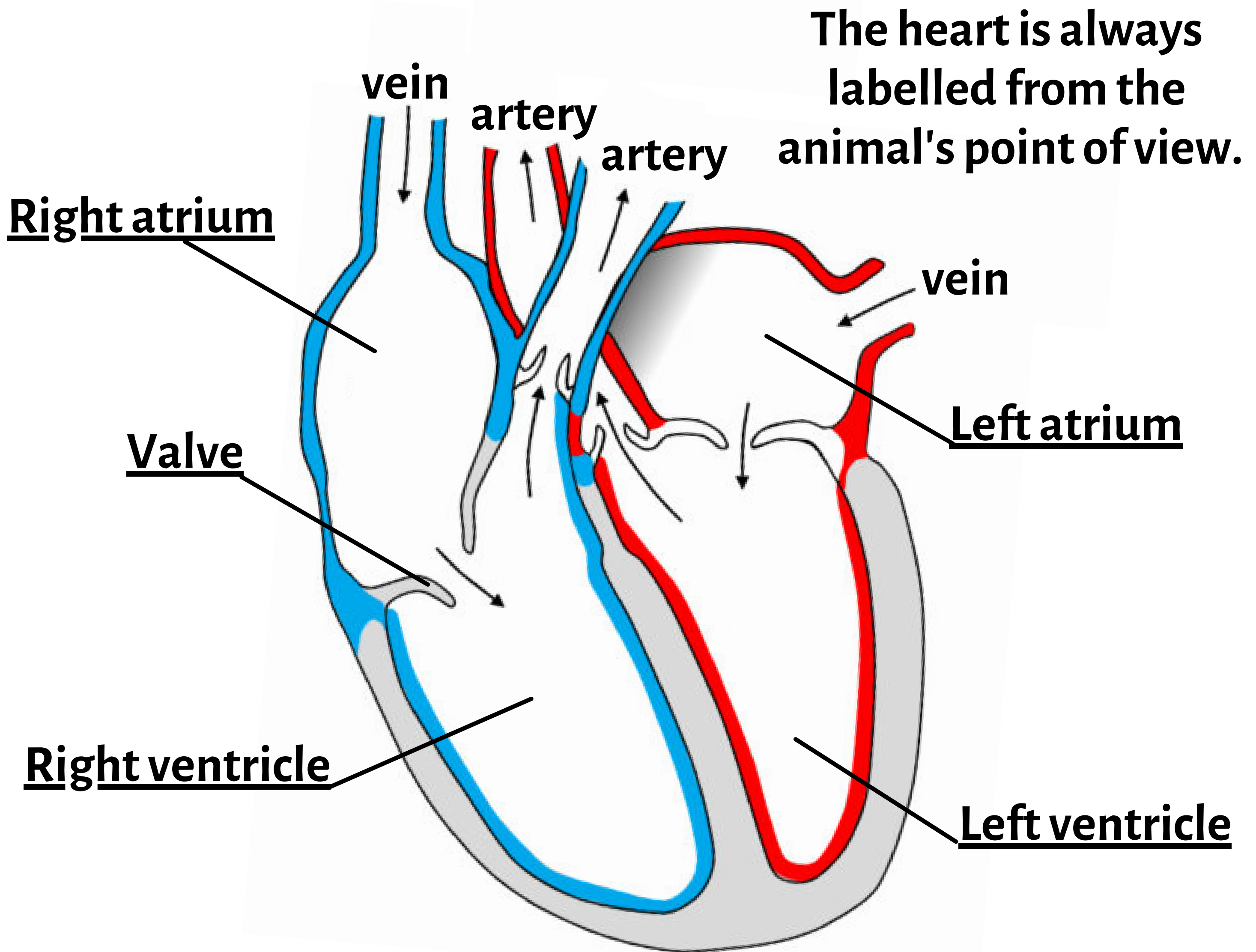
Do you think it is human blood? How do you know? Find the percentages of parts and estimate a pie chart to show your answer.



I do/ do not think it is human blood because \_\_\_\_\_

\_\_\_\_\_

# Know Your Own Heart Answers



## How blood moves through the heart

## Order number

The right ventricle contracts and blood is forced into the pulmonary artery, to the lungs.

\_\_\_3\_\_\_

The left atrium contracts; blood is squeezed into the left ventricle.

\_\_\_5\_\_\_

The right atrium contracts; blood is squeezed into the right ventricle.

\_\_\_2\_\_\_

Blood from the lungs enters the left atrium.

\_\_\_4\_\_\_

Blood from the body flows into the right atrium.

\_\_\_1\_\_\_

The left ventricle contracts and blood is forced into the aorta (artery), out to the rest of the body.

\_\_\_6\_\_\_

**Ext: The left ventricle walls are much thicker and stronger than the right ventricle's. Why do you think this is? This is because the left ventricle pumps blood around the whole body, not just to the lungs. The left ventricle walls are thicker so they are stronger, so blood can be pumped to the whole body.**

## **Arteries, Veins and Vessels Answers**

**(See the heart diagram). Vessels with an arrow pointing into the heart are veins. Vessels with arrows pointing out are arteries.**

## **Blood at the Crime Scene Answers!**

**Do you think it is human blood? How do you know?**

**Find the percentages and estimate a pie chart to show your answer.**

**Red blood cells**

$$= 100/200 = 1/2 = 50\%$$

**Plasma**

$$= 80/200 = 40/100 = 40\%$$

**White blood cells and platelets**

$$= 20/200 = 10/100 = 10\%$$

**Whether you think it is human**

**blood or not is up to your judgement.**

**But, given that there is much less plasma**

**and much more white blood cells and**

**platelets than in human blood normally,**

**it seems unlikely that the sample is human blood, as it does not**

**have the same proportions of parts as human blood usually does.**

