

Science in Focus: Life Science 3

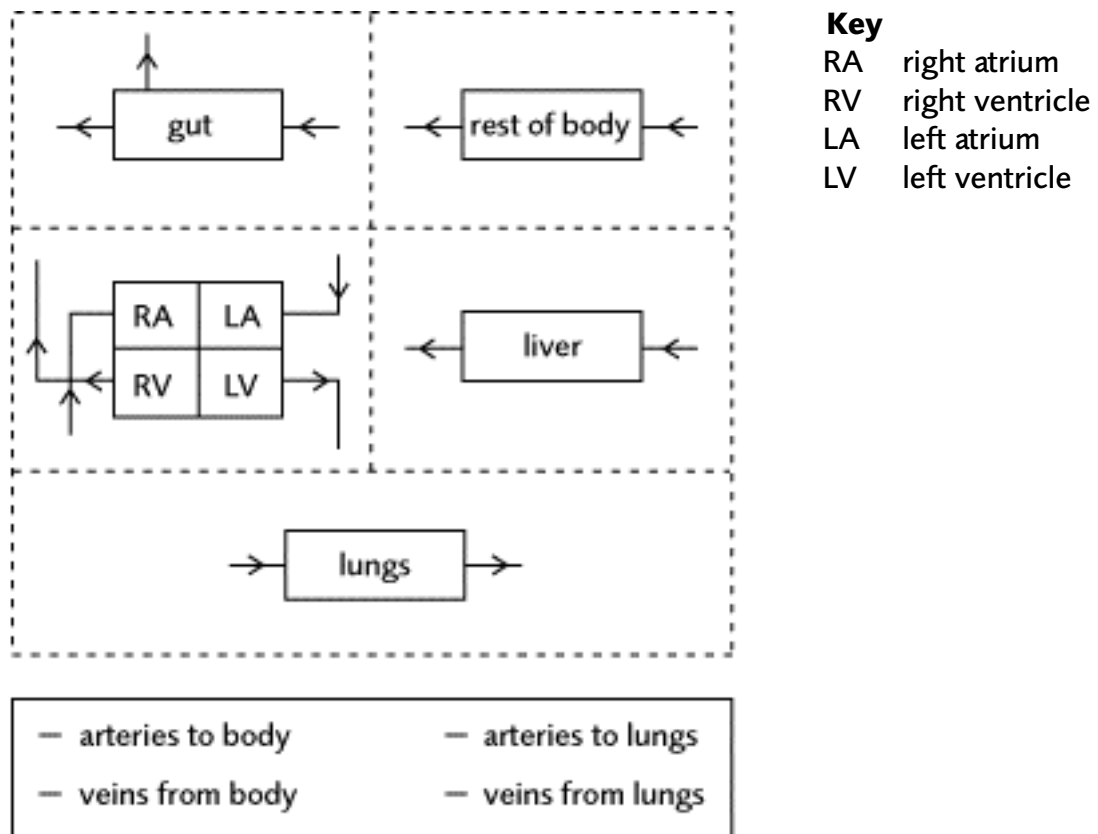
Programme 1: Life blood

Worksheet 1

1. The human body is dependent upon a circulation of essential elements, such as oxygen. In the programme, William Harvey is identified as the first person to speculate that blood went 'as it were, in a circle' around the body – unfortunately he could not work out how blood got from arteries back in to veins for its return to the heart.

- a) Cut out and rearrange the items in **Figure 1** below to create a circulatory system that works. Label your diagram using the words provided.
- b) Draw a red line to show where the oxygenated blood flows.

Figure 1: Circulatory system



You can get more information about the circulatory system from:
<http://sln2.fi.edu/biosci/systems/circulation.html>

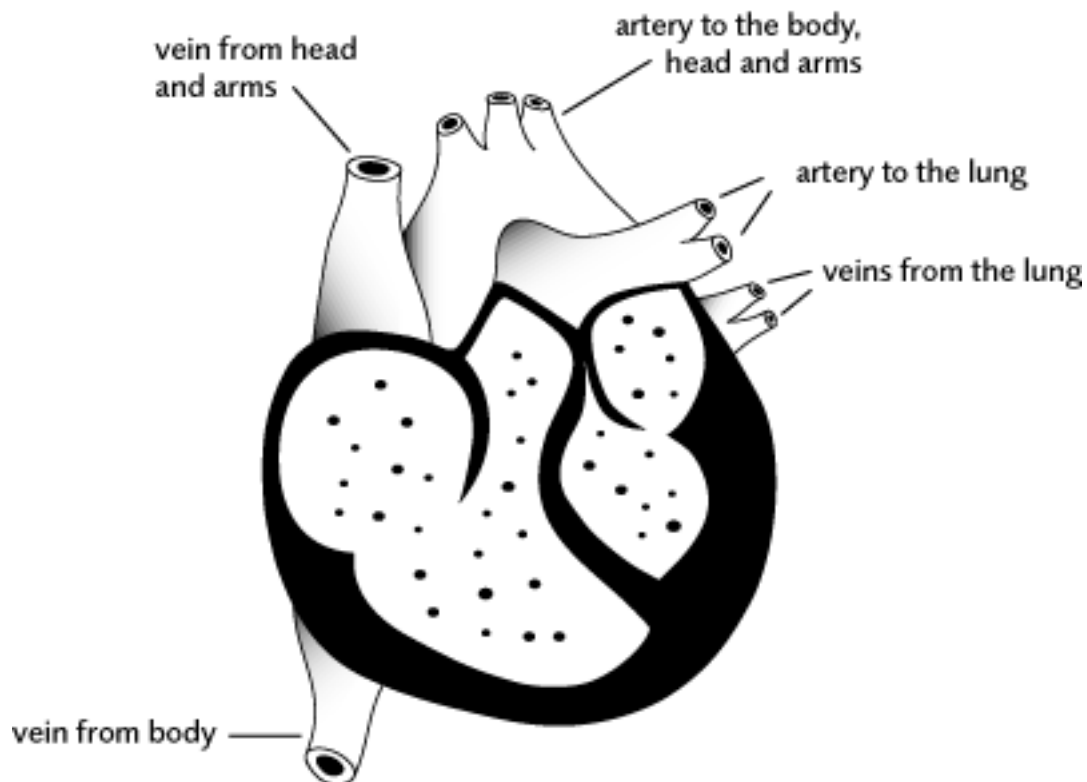
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Worksheet 2

2. The heart is made up of four connected chambers. The upper chambers (atria) are separated from the lower chambers (ventricles) by valves.
- Identify on **Figure 2** below where these valves are located in the heart. Label them on the diagram.
 - Draw arrows to show the direction of blood flow when these valves are open. (Look again at the video [tricuspid valve and animated diagram of heartbeat] to help you.)

Figure 2: Cross-section of heart



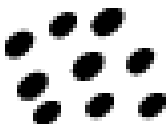


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Worksheet 3

3. **Table 1** below shows some of the cells found in human blood, their names and a brief summary of their use in the body. The information and pictures are all mixed up. Redraw the table on another sheet of paper, putting everything into the correct order.

Table 1: Blood cells

Cells (not to scale)	Name	Uses
	Red blood cell (erythrocyte)	Used in the clotting of blood.
	White blood cell (leucocyte)	Contains the chemical haemoglobin. Used for carrying oxygen to the working cells where it is released.
	Platelet	Helps the body to fight disease by, for example, ingesting harmful bacteria.

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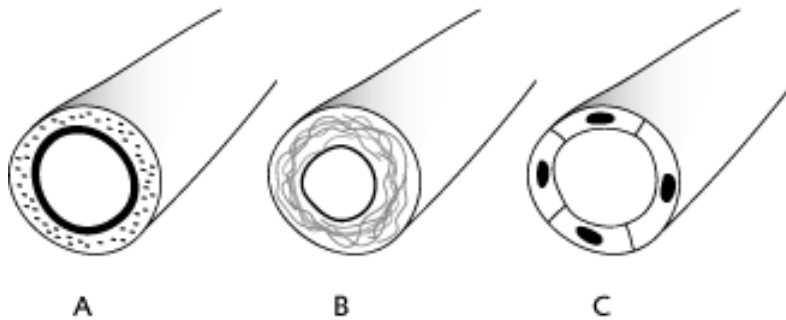
Worksheet 4

4. **Figure 3** shows the structure of three types of blood vessel: A, B and C.

a) Identify and label each type of blood vessel using the following: artery, vein, capillary.

b) In the space provided at the bottom of the page, draw a diagram of a small capillary network and show the position of red blood cells in it. (Hint: look at the video to help you). You can also get help from the following website: <http://sln2.fi.edu/biosci/vessels/capillaries.html>

Figure 3: Blood vessels



A _____

B _____

C _____

