Year 6 – Animals including humans – How do animal's living systems work together to maintain a healthy body?

Lesson 1

Lesson	1 of 6

Learning objective

I can identify and name the main parts of the human circulatory system.
I can describe how blood moves around the body.

National Curriculum links

NC Y6:
Children will:
- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood

Working scientifically:
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs;

Key lesson question	What is the circulatory system?

Resources

- lesson presentation (PPT)
- activity sheets
- act it out instructions and cards
- focus assessment sheet
- sticky notes

Teaching input

- **Scientific enquiry types and skills** – Review the 'scientific enquiry types' and 'working scientifically skills' the children will use in this lesson, highlighted on the slide.
- **How do an animal's living systems work together to maintain a healthy body?** – The slide shows the lesson questions the children will answer in this unit. The current lesson's question is highlighted on the slide.
- **Key vocabulary for this lesson** – Go through the key vocabulary for this lesson and their definitions. Have any of the children heard these words before? Did they already know their meanings?
- **Identifying and classifying** – Introduce Dr Anna. Choose a child to read what Calvin says about the scientific enquiry type, 'Identifying and classifying'.
- **What is a body system?** – Read through the information on the slide. In years 3 and 4, children learnt about other body systems, including the skeletal and digestive systems. The children are to use precise scientific vocabulary to explain the main functions of each system on the slide with their learning partners, in groups or as a class. There are sentence starters on the slide to help them. Go through the keyword and its definition in the 'New word alert!' box. Take feedback from the class before the answers are revealed on the following slide.
- **The digestive system** – Read through the information on the slide. Go through the keyword and its definition in the 'New word alert!' box.
- **Word detective** – Read through the information on the slide.
- **Asking questions** – Read through the information on the slide. Establish that doctors are a type of scientist, and that scientists ask questions to find things out, learn, and solve problems. Explain that they are going to be thinking about what the circulatory system is and its function. The children are to discuss with their learning partners, in groups or as a class, what they think the circulatory system does, and then record on Post-it notes the questions they would like answered. On the following slide, children are to stick their questions on the Post-it notes to their class science board so they can revisit them as we build their understanding.
- **Let's watch** – Read through the information on the slide. The children are to watch the video via the link on the slide. Go through the keywords and their definitions in the 'New word alert!' box.
- **Word detective** – Read through the information on the slide.
- **Recap quiz** – The children are to answer the questions on the slide with their learning partners, in groups or as a class. Take feedback from the class before the answers are displayed on the following slide.
- **The circulatory system** – Read through the information on the slide.
- **Circulatory system diagram** – Read through the information on the slide. Explain that using diagrams can make it easier to understand something we can't see. Look at the illustration on the board. Where are the heart, lungs, and blood vessels? Discuss whether the colours used in the diagram are done on purpose. Why?
- **Circulatory system activity** – The children are to label the diagram on the slide with their learning partners, in groups or as a class. Take feedback from the class before the answers are revealed on the following slide. Go through the keywords and their definitions in the 'New word alert!' box.
- **Word detective** – Read through the information on the following two slides.
- **Let's watch** – Read through the information on the slide. The children are to watch the video via the link on the slide.
- **How does blood move around our bodies?** – Read through the information on the slide. model using the flow diagram - read the text in the boxes in order, following the direction of the arrows. Explain that it doesn't matter which box we start with, as long as they read in the direction of the arrows. Explain that the arrows show how the blood moves around the body.
- **Let's investigate** – Read through the information on the slide. The children are to follow the instructions on their 'Let's investigate' worksheets to take the role of blood cells as they move around the circulatory system. Find a large space to complete the activity. Ideally, start with one child moving as a blood cell, watch where they go, and see if they are circulating in the correct direction. Are they swapping their red and blue cards at the correct places? Ask a child to narrate what is happening. Introduce a second child (ask the child to go straight from the lungs to the body). Is this correct? Establish that once the blood has left the lungs, it needs to return to the heart to be "pumped" around the body. Gradually add more children to the role play.
- **Activity** – The children are to label the heart, lungs, and blood vessels (arteries and veins) on their activity worksheets, and explain the processes that occur at each stage. Use the example to model how to complete the activity.
- **Recap activity** – The children are to match the different parts of the circulatory system to their correct definitions with their learning partners, in groups, or as a class. Take feedback from the class before the answers are revealed on the following slide.
- **Asking questions** – The children are to discuss the questions on the slide with their learning partners, in groups or as a class. Take feedback from the class.
- **Challenge** – Read through the information on the slide. The children are to discuss the question on the slide with their learning partners, in groups or as a class. There are sentence starters on the slide to help them. Take feedback from the class before the answers are revealed on the following slide.

Main activity

Children label the main parts of the circulatory system on the diagram and complete the flow diagram to explain how blood moves around the body. Adapted teaching: a scaffold activity is included. A statement for each stage of the system is provided. Children order the statements on the diagram and label each part. Children could orally explain how blood moves around the body using the diagram for support. This could be videoed.

Challenge

The children are to discuss the question on the slide with their learning partners, in groups or as a class. The world's tallest man, Robert Wadlow, was 2.72 metres tall. His blood had to travel a much greater distance than in an average-sized person. How might his height have affected the amount of work his circulatory system had to do to move blood around his body?

Cumulative quiz questions

Q1 – The heart is part of the circulatory system. **True or false?**

Q2 – Fill in the missing word.

Blood travelling back to the heart from the lungs is_____

Q3 – Match parts of the circulatory system to their correct definition.

Self-assessment

- I can identify and name the main parts of the human circulatory system.
- I can describe how blood moves around the body.

Key vocabulary

blood – A red liquid that flows around your body carrying oxygen, nutrients and water to your organs and takes away waste products like carbon dioxide
function – a strong, muscular organ that works like a pump
heart – something that makes an object move, stop, change shape, speed or direction
system – groups of parts that work together to do a job