

Bomere and the XI Towns Federation Knowledge Organiser—Science

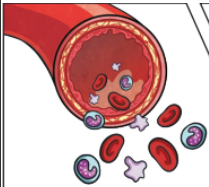
Topic: Science— Heart and Lungs

Class/Year Groups: Wrekin

Term: Spring

What you already know?
Pupils have not studied the heart and circulatory system in detail before, though they should be able to name the organs.

What will you learn

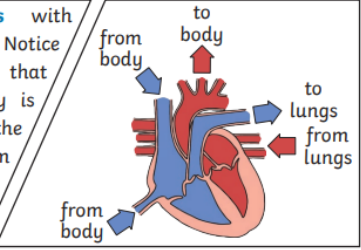


The liquid part of blood contains water and protein. This is called plasma.

Blood transports:

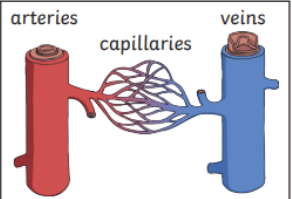
- gases (mostly oxygen and carbon dioxide);
- nutrients (including water);
- waste products.

Mammals have **hearts** with four chambers. Notice how the blood that has come from the body is **deoxygenated**, and the blood that has come from the lungs is **oxygenated** again. The blood isn't actually red and blue: we just show it like that on a diagram.



Capillaries are the smallest **blood vessels** in the body and it is here that the exchange of water, nutrients, oxygen and carbon dioxide takes place.

Arteries carry **oxygenated blood** away from the heart.



Veins carry **deoxygenated blood** toward the heart.

If you linked up all of the body's blood vessels, including arteries, capillaries, and veins, they would measure over 60,000 miles.

Vocabulary:

Circulatory System	A system which includes the heart, veins, arteries and blood transporting substances around the body.
Heart	An organ which constantly pumps blood around the circulatory system.
Blood Vessels	The tube-like structures that carry blood through the tissues and organs. Veins, arteries and capillaries are the three types of blood vessels.
oxygenated blood	Oxygenated blood has more oxygen. It is pumped from the heart to the rest of the body.
deoxygenated blood	Deoxygenated blood is blood where most of the oxygen has already been transferred to the rest of the body.



- National Curriculum Objectives:**
- Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood
 - recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
 - describe the ways in which nutrients and water are transported within animals, including humans.

