Coley Primary School – Knowledge Organiser

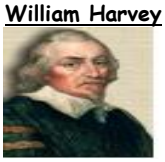
SUBJECT FOCUS: Biology strand	Science: Animal, including humans	YEAR 6	TERM 1

WHAT? – Key Knowledge

- Identify and name the main parts of the human circulatory system, and describe 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.
- Explore questions to understand how the circulatory system enables the body to function.
- Learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body.
- Explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.
- Use scientific language: say, read and spell scientific vocabulary.

Famous Scientist

William Harvey



William Harvey was an English physician and the first person to correctly describe **blood's circulation** in the body. He showed that **arteries** and veins form a complete circuit.



Healthy Lifestyle:

A healthy and balanced diet and regular exercise is important in helping the body to function.

Regular exercise:

- **strengthens muscles including the heart muscle**
- **improves circulation**
- **increases the amount of oxygen around the body**
- **releases brain chemicals which help you feel calm and relaxed**
- **helps you sleep more easily**
- **strengthens bones**

It can even help to stop us from getting ill.

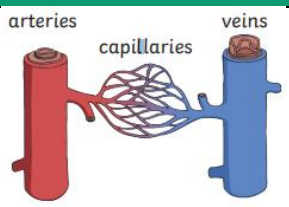
Did you know…



Diet, exercise, drugs and other lifestyle choices have an impact on how our bodies function. This can affect how well our heart and lungs work and how fit and well we feel. Some choices such as smoking, drinking alcohol and obesity can be harmful to our health.

Drugs -A drug is a chemical that has an effect on your body. Some drugs are prescribed by doctors to make people healthy. Other, illegal drugs can have a dangerous effect on our health. **Alcohol** is a depressant. Alcohol can cause damage to the liver and brain. Cigarettes contain nicotine, which is a stimulant, and is addictive. Cigarettes cause damage to the lungs and heart.
Drugs, alcohol and smoking have a negative effect on the body.

Amazing facts:



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. Veins carry deoxygenated blood toward the heart. Arteries carry **oxygenated blood** away from the heart.

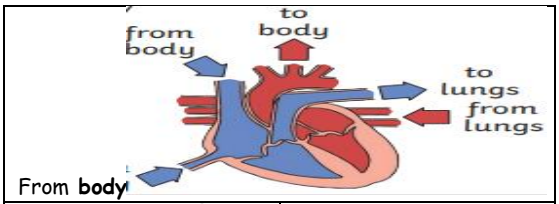
I wonder… Can I …

- explore the work of medical pioneers, for example, William Harvey and Galen and recognise how much we have learned about our bodies?
- compare the organ systems of humans to other animals?
- make a diagram of the human body and explain how different parts work and depend on one another?

WHAT? – Key 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.
drugs	A substance containing natural or man-made chemicals that has an effect on your body when it enters your system.
nutrients	Substances that provides nourishment essential for the maintenance of life and for growth.
alcohol	A drug produced from grains, fruits or vegetables when they are put through a process called fermentation.
organ, muscles, veins, blood, arteries, oxygen,	

Diagrams and symbols



Deoxygenated →	← Oxygenated blood

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.
The heart pumps blood to the lungs to get oxygen. It then pumps this oxygenated blood around the body.

Working Scientifically Challenge:

Let's think like scientists…

Can they…

- identify and explain the function of the organs of the human circulatory system? (heart, blood vessels, blood, blood pressure, clotting)
- identify and explain the function of the organs of the human gaseous exchange system? (lungs, nose, throat, bronchi, bronchial tubes, diaphragm, ribs, breathing)
- name the major organs in the human body?
- locate the major human organs?

Possible experiences: *Curious minds…*

Body: The Ultimate Guide, by Dr Kristina Routh