William Barnes Primary School	Subject: Science
Unit: Animals Including Humans – Circulation and The Heart	Year 6

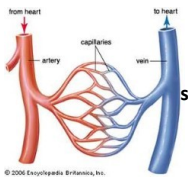
What should I already Know?

- the function of the skeleton and the purpose of muscles;
- the basic parts of the digestive system and the functions of organs in this system;
- the different types of teeth in humans and their functions;
- the life cycle of a human and how we change as we grow and develop;
- the basic needs of animals for survival (water, food, air);

the importance of exercise, hygiene and a balanced diet.

Scientific Learning

What is the Circulatory System?



- The **circulatory system** is made of the **heart**, **lungs** and **blood vessels**

Arteries carry **oxygenated** blood from the **heart** to the rest of the body.

- **Veins** carry **deoxygenated** blood from the body to the **heart**.
- **Nutrients, oxygen** and **carbon dioxide** are exchanged **via** the **capillaries**.

Choices that can harm the **circulatory system.**

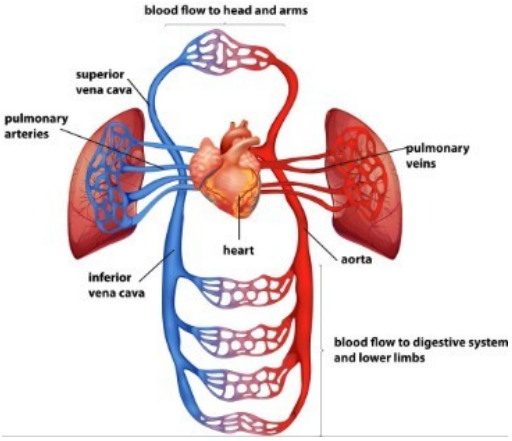
- Some choices, such as smoking and drinking alcohol can be harmful to our health.
- Tobacco can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death.
- Alcohol can cause short-term effects such as addiction and loss of control and long-term.
- Effects such as **organ** damage, cancer and death.

What is the **effect of exercise** on the heart?

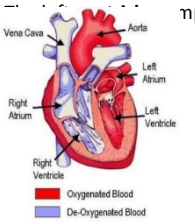
Exercise can:

- tone our **muscles** and reduce fat;
- increase fitness;
- make you feel physically and mentally healthier;
- strengthen the **heart;**
- improve your **lung** function;
- improve your skin.

Diagram Support: The Circulatory System



- The right **atrium** collects the **deoxygenated** blood from the body, **via** the **vena cava**. It sends the blood to the right **ventricle**.
- The right **ventricle pumps** the **deoxygenated** blood to the **lungs**. Here the blood picks up **oxygen** and disposes of **carbon dioxide**.
- The **lungs** send **oxygenated** blood back to the left **atrium** which pumps it to the left **ventricle.**
- [illegible] mps the blood to the rest of the body, **via** the **aorta**.



- The **heart** is composed of **four** chambers; **the right** atrium, **the right** ventricle, the left **atrium** and the left **ventricle**.
- How often your heart pumps is called your **pulse**.

What should I Know by the end of the unit?

- How my **pulse** changes with exercise and the most efficient way of presenting this data.
- The four parts of my **blood** and the job of each of these parts.
- The names of the four **chambers** of the **heart**.
- How my heart works.
- How blood travels around my body.
- The effect **exercise** has on my **heart**.
- The effect food, drugs and alcohol have on my body.
- The way in which water and nutrients are transported around my body.

Vocabulary

aorta	the main artery through which blood leaves your **heart** before it flows through the rest of your body
artery	a tube in your body that carries **oxygenated** blood from your **heart** to the rest of your body
atrium	one of the chambers in the **heart**
blood vessels	the narrow tubes through which your blood flows. **arteries**, **veins** and **capillaries** are **blood vessels**
capillaries	tiny **blood vessels** in your body
carbon dioxide	a gas produced by animals and people breathing out
circulatory system	the system responsible for circulating blood through the body, that supplies **nutrients** and **oxygen** to the body and removes waste products such as **carbon dioxide**
deoxygenated	blood that does not contain **oxygen**
heart	the **organ** in your chest that pumps the blood around your body
lungs	two **organs** inside your chest which fill with air when you breathe in. They **oxygenate** the blood and remove **carbon dioxide** from it
nutrients	substances that help plants and animals to grow
organ	a part of your body that has a particular purpose
oxygen	a colourless gas that plants and animals need to survive
oxygenated	blood that contains **oxygen**
pulse	the regular beating of blood through your body. How fast or slow your **pulse** is depends on the activity you are doing
respiration	process of respiring; breathing ; inhaling and exhaling air. In KS3 Science, this process is referred to as **ventilation**
veins	a tube in your body that carries **deoxygenated** blood to your **heart** from the rest of your body
vena cava	a large **vein** through which **deoxygenated** blood reaches your **heart** from the body
ventilation	the exchange of air between the lungs and the atmosphere so that **oxygen** can be exchanged for **carbon dioxide**
ventricle	one of the chambers in the **heart**
via	**through**