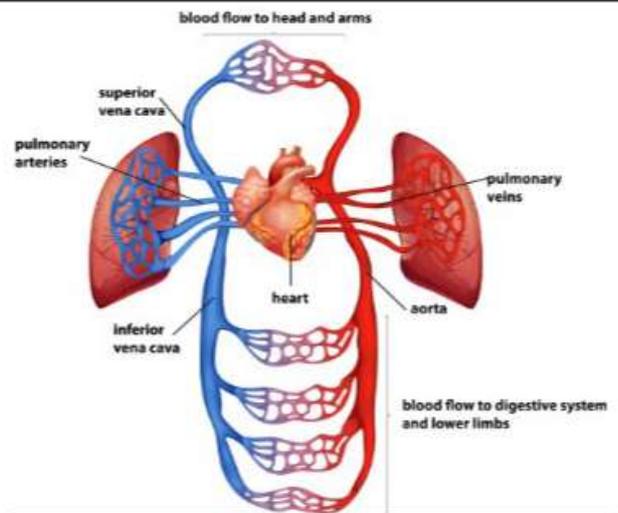


**What should I already know?**

Which things are living and which are not.  
 Classification of animals (e.g. amphibians, reptiles, birds, fish, mammals, invertebrates)  
 Animals that are carnivores, herbivores and omnivores.  
 Animals have offspring which grow into adults.  
 The basic needs of animals for survival (water, food, air)  
 The importance of exercise, hygiene and a balanced diet. Animals get nutrition from what they eat.  
 Some animals have skeletons for support, protection and movement.  
 The basic parts of the digestive system.  
 The different types of teeth in humans.  
**Respiration** is one of the seven life processes.  
 The life cycle of a human and how we change as we grow.

**Diagram - The Circulatory System**



**What will I know by the end of the unit?**

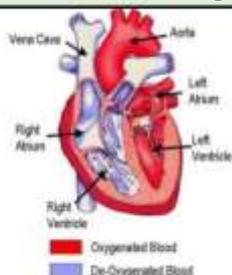
What is the circulatory system?	The <b>circulatory system</b> is made of the <b>heart, lungs</b> and the <b>blood vessels</b> . <b>Arteries</b> carry <b>oxygenated</b> blood from the <b>heart</b> to the rest of the body. <b>Veins</b> carry <b>deoxygenated</b> blood from the body to the <b>heart</b> . <b>Nutrients, oxygen</b> and <b>carbon dioxide</b> are exchanged <b>via</b> the <b>capillaries</b> .
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 <b>organ</b> damage, cancer and death
Why is exercise so important?	Exercise can: tone our muscles and reduce fat increase fitness make you feel physically and mentally healthier strengthens the <b>heart</b> improves <b>lung</b> function improves skin

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

**Vocabulary**

aorta	the main <b>artery</b> through which blood leaves your <b>heart</b> before it flows through the rest of your body
arteries	a tube in your body that carries <b>oxygenated</b> blood from your <b>heart</b> to the rest of your body
atrium	one of the chambers in the <b>heart</b>
blood vessels	the narrow tubes through which your blood flows. <b>Arteries, veins</b> and <b>capillaries</b> are <b>blood vessels</b> .
capillaries	<b>tiny blood vessels</b> in your body
carbon dioxide	a <b>gas</b> produced by animals and people breathing out
circulatory system	the system responsible for circulating blood through the body, that supplies <b>nutrients</b> and <b>oxygen</b> to the body and removes waste products such as <b>carbon dioxide</b> .
deoxygenated	blood that does not contain <b>oxygen</b>
heart	the <b>organ</b> in your chest that <b>pumps</b> the blood around your body
lungs	two <b>organs</b> inside your chest which fill with air when you breathe in. They <b>oxygenate</b> the blood and remove <b>carbon dioxide</b> 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 <b>oxygen</b>
pulse	the regular beating of blood through your body. How fast or slow your <b>pulse</b> 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 <b>ventilation</b> .
veins	a tube in your body that carries <b>deoxygenated</b> blood to your <b>heart</b> from the rest of your body
vena cava	a large <b>vein</b> through which <b>deoxygenated</b> blood reaches your <b>heart</b> from the body
ventilation	The exchange of air between the lungs and the atmosphere so that <b>oxygen</b> can be exchanged for <b>carbon dioxide</b>
ventricle	one of the chambers in the <b>heart</b>
via	through

**Diagram - The Heart**



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**.

**Investigate!**

How does your **pulse** change with exercise? What is the most efficient way of presenting this data?  
 Which exercise produces the fastest **pulse**? How would you make this a fair test?