

# Science Knowledge Organiser

# Year 6 Autumn 1

Animals including humans

Year 6

Main Foci: Biology

### What should I already know?

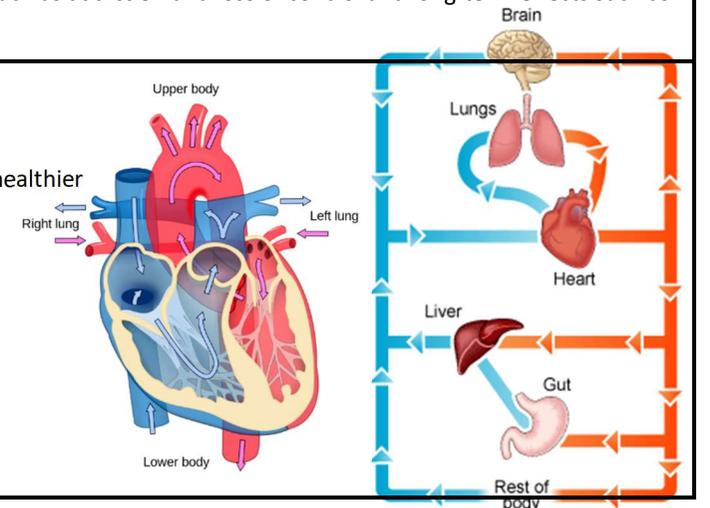
- Classification of animals (e.g. amphibians, reptiles, birds, fish, mammals, invertebrates)
- Animals that are carnivores, herbivores and omnivores.
- Animals have offspring which grow into adults.
- The importance of exercise, hygiene and a balanced diet.
- Animals get nutrition from what they eat.
- The basic parts of the digestive system.
- The different types of teeth in humans.
- Respiration is one of the seven life processes.

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

- |   |   |
|---|---|
| <p><b>What is the circulatory system?</b></p>       | <ul style="list-style-type: none"> <li>• There are only three parts of the circulatory system:</li> <li>• <b>blood</b>: which circulates or travels round the whole body.</li> <li>• <b>blood vessels</b>: that carry the blood.</li> <li>• The <b>Heart</b>: which is the muscle which pumps the blood.</li> </ul>   |
| <p><b>What is the function of the heart?</b></p>    | <ul style="list-style-type: none"> <li>• <b>Arteries</b> carry <b>oxygenated</b> blood from the <b>heart</b> to the rest of the body.</li> <li>• <b>Veins</b> carry <b>deoxygenated</b> blood from the body to the <b>heart</b>.</li> <li>• <b>Nutrients, oxygen</b> and <b>carbon dioxide</b> are exchanged <b>via</b> the <b>capillaries</b></li> </ul>   |
| <p><b>What is the blood and what is in it?</b></p>  | <p>Blood transports materials around the body and protects against disease. It contains:</p> <ul style="list-style-type: none"> <li>• <b>Red blood cells</b></li> <li>• <b>White blood cells</b></li> <li>• <b>Blood platelets</b></li> <li>• <b>Plasma</b></li> </ul>  |
| <p><b>What do valves and blood vessels do?</b></p>  | <p><b>Blood vessels</b> are the tubes that carry blood around the body. There are three main types:</p> <ul style="list-style-type: none"> <li>• <b>Veins</b> carry blood back to the heart.</li> <li>• <b>Arteries</b> carry blood away from the heart.</li> <li>• <b>Capillaries</b> are the small (in some cases very small) blood vessels that carry blood through the various tissues of the body.</li> </ul>  |
| <p><b>What can harm the circulatory system?</b></p> | <ul style="list-style-type: none"> <li>• Some <b>choices</b>, such as smoking and drinking alcohol can be <b>harmful</b> to our <b>health</b>.</li> <li>• <b>Tobacco</b> can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as <b>lung disease, cancer</b> and <b>death</b></li> <li>• <b>Alcohol</b> can cause short-term effects such as <b>addiction</b> and loss of control and long-term effects such as organ damage, cancer and death</li> </ul> |

|                    |  |
|--------------------|--|
| 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   |
| blood vessels      | the narrow tubes through which your blood flows. <b>Arteries, veins</b> and <b>capillaries</b> are <b>blood vessels</b> .  |
| capillaries        | tiny <b>blood vessels</b> 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 <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>  |
| nutrients          | substances that help plants and animals to grow  |
| oxygen             | a colourless gas that plants and animals need to survive   |
| oxygenated         | blood that contains <b>oxygen</b>  |
| respiration        | process of respiring; breathing; inhaling and exhaling air.  |
| vein               | a tube in your body that carries <b>deoxygenated</b> blood to your <b>heart</b> from the rest of your body   |

- Why is exercise so important?**
- Exercise can:
- tone our **muscles** and reduce fat
  - increase fitness
  - make you feel physically and mentally healthier
  - strengthens the **heart**
  - improves **lung** function
  - improves skin



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