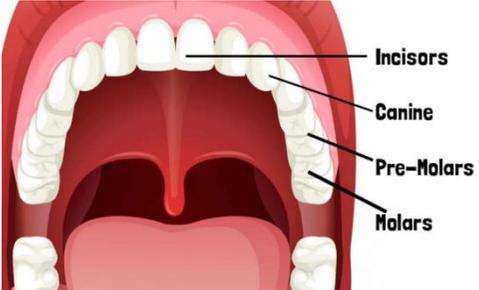
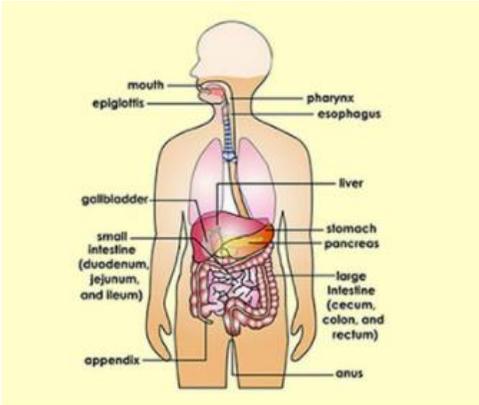


# Knowledge Organiser - We Are Scientists

## Year 4 Autumn Term 2: Science

Recap from previous years	Important vocabulary	Key facts	Pictures/diagrams
<p><b><u>Food</u></b>                      Nutrition, Food Chain, Muscles, Carbohydrates                      Protein, Fats,                      Absorbed</p> <p><b><u>Life Cycle</u></b>                      Consumer,                      Producer,                      Predator, Prey,</p> <p><b><u>Animals</u></b>                      Reptile,                      Amphibian, Fish,                      Mammal, Bird</p>	<p>Canine-sharp, pointed teeth used to tear food.</p> <p>Incisor-a narrow tooth at the front of the mouth, used for slicing food.</p> <p>Molar-a tooth at the back of the mouth used for grinding food.</p> <p>Premolar-used for tearing and crushing food.</p> <p>Digestion- a person's capacity to digest food</p> <p>Nutrients- substance that provides nourishment essential for the maintenance of life and for growth.</p> <p>Oesophagus- the part of the alimentary canal which connects the throat to the stomach</p> <p>Peristalsis- the involuntary constriction and relaxation of the muscles of the intestine or another canal, creating wave-like movements that push the contents of the canal forward</p> <p>Enzymes- proteins that help speed up metabolism</p>	<p>A human has three types of teeth: canines, incisors, molars (wisdom) and that these all perform different functions                      Incisors slice food, canines tear food (especially meat) and that molars grind food.                      Children develop an initial set of teeth which are gradually replaced between the ages of 6 and 12</p> <p>The process of digestion begins with food being chewed in the mouth by the teeth and saliva added                      Food passes through the body with the nutrients being extracted and the waste products excreted and that this process is called digestion.                      The process of digestion involves breaking complex food stuffs into simpler building blocks that can be absorbed by the body</p> <p>Food is squeezed down the oesophagus towards the stomach in a wave-like action called peristalsis (see diagram below)                      The stomach releases acid and enzymes to continue breaking down the food; the stomach is an organ; an organ is a part of living thing that is self-contained and has a specific important job                      Further enzymes and bile break down the food further as it moves through the duodenum towards the small intestine                      The small intestine adds more enzymes and then absorbs the nutrients                      The large intestine absorbs water from the undigested food                      Undigested food is stored in the rectum before being excreted through a muscle called the anus</p> <p>Fish are different to other animals in having gills so that they can breathe underwater and have scaly skin                      Amphibians are different to other animals in that they begin their lives with gills but then develop lungs and breath on land                      Reptiles are different to other animals in that they breath air and have scaly skin                      Birds are different to other animals in that they have feathers and wings                      Mammals are different to other animals in that they have fur/hair and they feed milk to their young</p>	 

	<p>Bile- a bitter greenish-brown alkaline fluid which aids digestion and is secreted by the liver and stored in the gall bladder</p> <p>Duodenum- first part of the small intestine immediately beyond the stomach</p> <p>Rectum- final section of the large intestine</p> <p>Anus- opening at the end of the alimentary canal through which solid waste matter leaves the body</p> <p>Extinction- animals that have died out, no longer alive.</p> <p>Vertebrates-animals that have a backbone. All mammals are vertebrates.</p> <p>Invertebrates-an animal lacking a backbone.</p> <p>Primary consumer-herbivores that feed on plants.</p> <p>Secondary consumer-carnivores that feed on the primary consumers.</p> <p>Tertiary consumer-carnivores that feed on primary and secondary consumers.</p>	<p>Animals can be grouped based on their physical characteristics (e.g. vertebrates and invertebrates) and based on their behaviour (e.g. herbivores, carnivores and omnivores)</p> <p>A classification key uses questions to sort and identify different living things</p> <p>Know how to use a classification key to identify living things</p> <p>Know that changes to the environment can make it more difficult for living things to survive and reproduce; in extreme cases this leads to extinction, where an entire species dies</p> <p>Know that human activity – such as climate change caused by pollution - can change the environment for many living things, endangering their existence</p> <p>Know that many species of living things have already been made extinct as a result of human activity</p>	<h3 style="text-align: center;">Food Chains</h3>  <p>The diagram illustrates a food chain with the following components and energy flow:</p> <ul style="list-style-type: none"> <li><b>Grass (producer)</b> is eaten by a <b>grasshopper (primary consumer)</b>.</li> <li>The <b>grasshopper (primary consumer)</b> is eaten by a <b>bluebird (secondary consumer)</b>.</li> <li>The <b>bluebird (secondary consumer)</b> is eaten by a <b>snake (tertiary consumer)</b>.</li> <li>The <b>snake (tertiary consumer)</b> is eaten by an <b>owl (apex predator)</b>.</li> <li>Arrows from the <b>grasshopper</b>, <b>bluebird</b>, <b>snake</b>, and <b>owl</b> all point to <b>decomposers</b> at the bottom of the chain.</li> </ul>
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