Year 4 – Animals Including Humans



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| National Curriculum Outcomes: Knowledge   * Describe the simple functions of the basic parts of the digestive system in humans * Identify the different types of teeth in humans and their simple functions * Construct and interpret a variety of food chains, identifying producers, predators and prey | | | | National Curriculum Outcomes: Working Scientifically   * Asking relevant questions and using different types of scientific enquiries to answer them * Setting up simple practical enquiries, comparative and fair tests * Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers * Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions * Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables * Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions * Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions * Identifying differences, similarities or changes related to simple scientific ideas and processes * Using straightforward scientific evidence to answer questions or to support their findings | | | | | |
| Children might work scientifically by:  Comparing the teeth of carnivores and herbivores, and suggesting reasons for differences. Finding out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images. (*Taken from the National Curriculum*) | | | |
| Links to prior learning  **Year 1** - Identify and name a variety of common animals and plants  **Year 2** - Describe how animals obtain their food from plants & other animals, using the idea of a simple food chain, and identify and name different sources of food  **Year 3** - Identify that animals, including humans, need the right types & amount of nutrition & they cannot make their own food; they get nutrition from what they eat | | | | | | | Links to future learning  **Year 6** - 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. | | |
| Key Vocabulary  Mouth, tongue, teeth, oesophagus, stomach, small intestine, large intestine, anus, digestion, digestive system, incisor, canine, molar, premolar, carnivore, herbivore, food chain, producer, consumer, prey, predator | | | Common Misconceptions   * Children often draw the arrows pointing the wrong way in food chain diagrams * They may think that the death of one animal in a food chain won’t affect the others in that chain * Children often think their stomach is where their belly button is * Some children think that when you have a meal, your food goes down one tube and your drink down another * Some children think that eaten food fills you up from your feet | | | | | | |
| Important knowledge/facts that the children need to know  **The mouth** is where food begins its journey through the digestive system  **Saliva** begins the digestive process as it starts to break down the food as well as making it moist and easier to move through the digestive system.  **The teeth** help to break down the food into smaller pieces to make it easier to digest.  **The stomach** is where food arrives after it is swallowed and is broken down by acid contained in this stretch sack.  **The small intestine**  is a stretchy tube. it breaks down the food mixture after it has been in the stomach even more so that the body can absorb all the vitamins, minerals, proteins, carbohydrates and fats.  **The large intestine** absorbs all the remaining water and minerals into the blood before the waste moves out of the body.  **The liver** processes the nutrients that have been absorbed from the small intestine. It cleans up the blood and removes any waste or toxins that have been absorbed.  **The anus** is where all the waste that the body does not need passes out of the body.  **Incisors** are the front 8 teeth in a person’s mouth and they are used to bite or cut food.  **Canine teeth** are sharp and pointed. These teeth are used to rip and tear food.  **Premolars** have a flat top and are used to crush food up in the mouth.  **Molars** are used to grind food down as small as possible to make it as easy as possible to digest. | | | | | | | | | |
| Important scientists  **Santorio Santorio** – Italian scientist who created a chair-device to weigh himself and everything he ate and excreted to investigate metabolism | | STEM Career Links  **Dentist** (looks after teeth and gums)  **Gastroenterologist** (a doctor who specialises in the digestive system)  **Orthodontist** (looks after teeth and gums)  **Proctologist** (a doctor specialising in the colon, rectum and anus) | | | | | | Links to real life   * How many teeth can you feel in your mouth? * How do your different teeth help you to eat food? * Where does our food go after we eat it? * How does eating different (healthy/unhealthy) foods affect how our digestive system feels? * How would our lives be different if bees became extinct? | |
| Suggested Enquiry Activities | | | | | | | | | |
| Identifying and Classifying   * How many if each types of tooth do we have? * How are the teeth of carnivores and herbivores different? | Comparative and Fair Testing   * Which drinks are most harmful to our teeth? | | | | Observation over Time   * How do different drinks affect our teeth? | | Pattern Seeking   * Do animals with the same types of teeth and mouths eat the same kinds of food? | | Research using Secondary Sources   * How does tooth decay happen? * What tools do dentists use to help them do their job (link to **light** from Year 3 – mirrors) * How has scientists’ understanding of the digestive system changed over the years? |
| **National Curriculum Statements** | | | | | | **Outdoor Learning Activities** | | | |
| * Construct and interpret a variety of food chains, identifying producers, predators and prey. | | | | | | Pupils identify the producers, predators and prey in the micro-habitats in the playground or local environment | | | |

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| Wow Factor Experiences   * Children could create their own digestive system and make ‘poo’ (see link in Helpful Weblinks area below) * Investigate dinosaur skulls to try and deduce what kind of food they ate based on their teeth (link to **fossils** learning from Year 3) * Ask a dentist to visit and talk about their job * Try plaque-revealing sweets to investigate how well we brush our teeth, or do a ‘before and after’ brushing teeth comparison * Investigate an owl’s diet by dissecting owl pellets | | |
| Maths Links   * Investigate food chain maths with an activity like this one from NRich: <https://nrich.maths.org/7651> (Year 4 children will need a simplified version) * Practise measuring/weighing skills by finding out how much sugar is in different drinks (this makes a really good display, with drinks bottles displayed alongside bags of sugar showing how much is in each) | Literacy Links   * Write a first-person account by or comic strip about a piece of food as it travels through the digestive system | Broader Curriculum Links  **Geography:** What food chains are there in our local area? What if one of the links in this chain became extinct?  **History:** How did people in the time period we are studying take care of their teeth? |
| Book Links  The Poo that Animals Do – Paul Mason | | |
| Helpful Weblinks  Create a digestive system lesson idea - <https://www.youtube.com/watch?v=7av19YhNkhE>  Teacher CPD for this unit (free) – <https://www.reachoutcpd.com/courses/upper-primary/body-systems/>  Assessment exemplification (could also be useful with planning ideas) – <https://www.ase.org.uk/resources/y4-animals-including-humans-dougal>  BBC Class Clips – Digestive System (useful videos) – <https://www.bbc.co.uk/bitesize/topics/z27kng8>  BBC Class Clips – Food Chains (useful videos) - <https://www.bbc.co.uk/bitesize/topics/zbnnb9q/resources/1>  STEM Learning’s online resource library for this unit - <https://www.stem.org.uk/resources/community/collection/12365/year-4-animals-including-humans> | | |