Mendell Primary School

Aspire Challenge Achieve

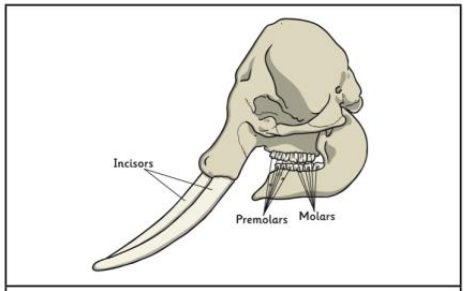
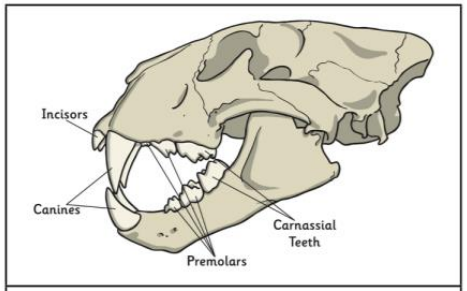
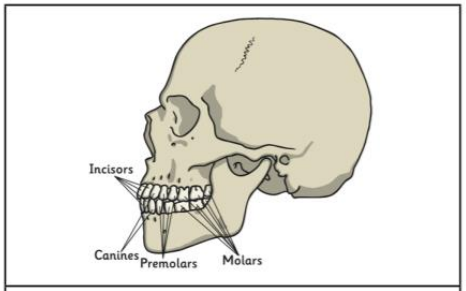
Medium Term Plan Science

Year Group: 4	Term: Spring 2	Teacher: Miss Jones	Subject lead: Sarah Bride	Overview: Animals Including Humans	Key End Points: By the end of this unit children will be able to:
Common Misconceptions: **Some children may think:** • your stomach is where your belly button is • food is digested only in the stomach • when you have a meal, your food goes down one tube and your drink down another • the food you eat becomes "poo" and the drink becomes "wee".			**Unit key Vocabulary:** Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars,	• 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. 	•Talk about their teeth and how to care for them • Describe the functions of the different types of teeth • Explain how food/drinks can affect teeth • Compare human teeth with those of other animals • Identify and name the main parts of the digestive system • Order the main parts of the digestive system • Describe what happens in each part of the digestive system • Explain how to keep their digestive system healthy

Links to other learning:	Prior Learning:	Future Learning:	High Quality Text:	Risk Assessment/Healthy and safety	Teacher CPD:
	• Identify and name a variety of common animals that are carnivores, herbivores and omnivores. **(Y1 - Animals, including humans)** • Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). **(Y2 - Animals, including humans)** • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. **(Y2 - Animals, including humans)** • Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from	• Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. **(Y6 - Animals, including humans)** • Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. **(Y6 - Animals, including humans)** • Describe the ways in which nutrients and water are transported within animals, including humans. **(Y6 - Animals, including humans)**	The Story of the Little Mole Who Knew it was None of His Business. **Scientist to study:** **Modern:** Paul Sharpe (Bioengineer who studies how to regrow teeth if they become damaged) **Historical:** William Beaumont (Surgeon who first observed and studied human digestion as it occurs in the stomach)		PLAN ASE Hadia Unit of work. Reach Out CPD - https://www.reachoutcpd.com/ sign up for free.

	what they eat. **(Y3 - Animals, including humans)**		Washington & Lucius Sheffield (Dentists who invented toothpaste in a tube)		

	Learning Intention	**Lesson Outline (Key Questions in colour)**	**Resources**	**Vocabulary**	**Lowest 20% Adaptations**
1	L.I. I can name and identify the functions of the four types of teeth.	**This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is making observations.** Pre assessment – what do you already know about animals and humans – thought shower in books. Prompts to support from prior knowledge: **What do animals and humans need to survive?** **Why is it important to exercise?** **What do you know about different types of food?** **How can we classify animals in terms of what they eat?** **Explorify – Zoom in Zoom Out – Hidden away.** **Big Question: What are the functions of the different types of teeth?** In pairs, ask the children to use their mirrors to look closely at their teeth. Ask them to count how many they have and compare with their partner. Ask them to feel their teeth with their tongue **do they all feel the same? Can you name any types of teeth?** Share the names of the four types of teeth with the children and simply a picture of each. Ask the children to look closely and ask them what do they notice about each type? Size, shape etc… Return to using the mirrors and see if this time the children can identify the teeth they see, **can they count how many of each type they currently have?** Give each child an apple, or piece of apple and ask them to bite into it. **What do they notice about the pattern left behind? Can they identify which types of teeth they have used to bite the apple?** As they eat ask them to consider the different teeth they use in their mouth when chewing. Ask the children **why they think we have different types of teeth?** https://www.bbc.co.uk/bitesize/topics/z27kng8/articles/zsp76yc Using secondary sources ask the children to research the different functions of teeth and then complete the labelling and matching activity. https://www.youtube.com/watch?v=th2ROcyH8Xw	Apples Mirrors Teeth labelling Animals skulls images	**teeth, incisor, canine, molar, premolars, carnivore, herbivore, omnivore.**	

		Exit pass: **Do other animals have the same type of teeth as humans? Why? Why not?** Give the children three different skulls to inspect. Ask them to note down any similarities and differences in terms of their teeth.  Elephant - Herbivore  Lion - Carnivore  Human - Omnivore			
2	L.I. I can ask scientific questions and choose a scientific enquiry to answer them	**This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is asking questions, setting up tests and recording data.** Prior learning questions: **What are the four types of teeth?** **If an animal only eats other animals what is, it identified as?** **What is the function of your incisors?** Explorify – What If – What if we had no teeth? **Word of the week:** decay Show the children a picture of a decaying tooth ask: **What is tooth decay? What causes tooth decay? How do you know?** I don't need to worry about taking care of my baby teeth as I get new ones anyway! True or false? **False!** **Poor dental care could cause other problems like gum disease and could also damage adult teeth (which are lying under the baby teeth waiting to emerge).** Scientific enquiry: **Why do scientists ask questions? Why do they carry out enquiries and tests?** Provide the children with a range of questions and ask them to categorise the questions based on whether they are scientific questions that can be tested or whether they are non-scientific questions – see resources. Ask the children to think of a scientific question they could ask about tooth decay. Remind them we need to be able to test them so…	Eggs Orange juice Water Milk Coke Containers Post it note investigation sheet.	**Tooth decay, teeth, incisor, canine, molar, premolars.**	

		• think about the equipment you would need • think about how the test would need to be carried out Share our enquiry question: **Which drink causes the most tooth decay?** – children may come up with something similar. Encourage children to think about the variables involved and how to ensure their test is fair. Provide children with post it note investigations sheet to complete in groups. Ensure the children consider the following when recording their investigation; **What will you change? What will you measure? What will you keep the same?** Children make observations across a number of days before writing their findings. Children record the changes over time to the eggs in different liquids – milk, water, coke, orange juice. **Exit pass:** share the work of Paul Sharpe (Bioengineer who studies how to regrow teeth if they become damaged)			
3	L.I. I can name the organs involved in the digestive system and know its function in the process of digestion.	**This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is making observations, naming and identifying.** Spend time discussing and recording the children's tooth decay findings. **Which drink caused the most/least tooth decay?** Prior learning questions: **What are the four types of teeth?** **If an animal only eats plants what is, it identified as?** **What is the function of your molars?** **Big Question: where does our food go?** **Explorify – odd one out - bite size.** Pre assessment – do children use prior knowledge of teeth at this point? Provide the children with a body outline and ask the children to label and draw anything they know about the digestive system. **Word of the week:** digestive system. - The organs that take in food and liquids and break them down into substances that the body can use for energy, growth, and tissue repair. Waste products the body cannot use leave the body through bowel movements. https://www.bbc.co.uk/bitesize/topics/z27kng8/articles/z9wk7p3 Share the work of William Beaumont (Surgeon who first observed and studied human digestion as it occurs in the stomach)	https://www.bbc.co.uk/bitesize/topics/zf339j6/articles/zrm48mn bananas, biscuits, tight, water, orange juice, clear plastic bag https://www.stem.org.uk/resources/elibrary/resource/35396/digestive-system-experiment	**Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus**	

		Digestive System Practical Demonstration. See resources. Take photographs for children's books. Ensure the children know what digestion is, why our bodies need nutrients, and what happens during digestion. https://www.bbc.co.uk/bitesize/topics/zf339j6/articles/zrm48mn As the teacher demonstrates digestion ensure they explain each step, organ involved and its function. Have a child wear the virtual t-shirt and show using teacher iPad the different organs as you complete the demonstration sharing the information. Children repeat their pre assessment diagram of the digestive system displaying everything they have found out from the practical demonstration. **Exit Pass;** use iPads and the link https://thehumanbodygame.co.uk/&& ask the children to explore the digestive system.			
4	L.I. I can share my findings about the digestive system.	**This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is presenting information.** Prior learning: who wants to be a millionaire – see resources. Review work on digestive system- **can children recall the main parts and their functions?** – provide the children with picture cards and functions to match together. Finally ask them to order the cards in the order the digestive system starts and ends. Take feedback and address misconceptions. Take photographs. **Task:** using the photographs from the practical demonstration ask children to create and explanation text for younger children to explain what happens when we eat food. Possible ideas: information poster, a report, zig zag information book, diary entry from foods point of view. **Exit Pass:** children to present their information booklets to children in a lower year group.	Photographs of digestive system demonstration.	**Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus**	
5	L.I. I can compare the diets of different animals.	**This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is asking questions and finding information.** Read the book: The Story of the Little Mole Who Knew it was None of His Business. Why might animal poo look different? Gather ideas about animal size and diet. Prior learning recap Year1/2 – in what three ways can we organise animals according to their diets - **carnivore, herbivore** and **omnivore** ask children to write definitions: (an animal that eats other animals, an animal that feeds on plants (including plant products such as nuts, berries, grains & cereals), an animal that feeds on both plants and animals). **Can the**	Steve Backshall - poo from www.bbc.co.uk Animal facts from www.nationalgeographic.com	**Herbivore, carnivore, omnivore, digestion, diet, faeces**	

		children think of three examples for each? Ask why do animals eat different things? - Explain that human and animal diets partly depend upon what is available. **Big Question: Do you think human and animal digestives system are the same? Why?** Animals have slight adaptations to parts of their digestive system depending on their diet. Explain that they will be researching the diets of different animals using the National Geographic website and completing fact files about their diets. See resources for layout. **What does their research tell them about animal digestive systems?** **Carnivores have a very simple digestive tract because meat is easy to digest. Herbivores, on the other hand, can have very complex digestive systems that can include multiple stomach chambers and regurgitating food for rechewing, because plant materials are much harder to digest.** Exit Pass/Post assessment: Add to thought shower from lesson 1 – their learning from the unit. **Update: website for fact researching - https://www.natgeokids.com/uk/category/discover/animals/**	http://www.nationalgeographic.com/anim Internet access for all, recording worksheets, a copy of 'The Mole who knew it was none of his business' by Werner Holzwarth and Wolf Erlbruch.als/index/ - *Animal facts*		