



Kindness

Positivity

Respect

<u>SCIENCE MEDIUM TERM PLANNING</u>		
Year Group: 4	Term: Spring 1 / Spring 2	Theme: Digestion and Teeth
<p>National Curriculum Substantive: <u>Animals Including Humans</u> To describe the simple functions of the basic parts of the digestive system in humans. To identify the different types of teeth in humans and their simple functions.</p>		
<p>National Curriculum Disciplinary: To report on findings, including oral and written explanations, displays or presentations – teeth and their functions To plan a scientific investigation - WALT investigate the effect of different liquids on teeth. To set up simple practical enquiries, comparative and fair tests. To make systematic and careful observations. To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions To identify differences, similarities or changes related to simple scientific ideas and processes. To use straightforward scientific evidence to answer questions or to support their findings</p>		
<p>Context: In this unit we want children to understand that animals, including humans, have a digestive system that carries out a variety of processes to extract the nutrients from food. Previously, in Year 3, the children have learnt which foods provide us with each type of nutrient and considered what food choices we make and how healthy these choices are. In Year 4, the learning will focus on what happens to the food that we eat once it is inside our bodies. Pupils will begin to appreciate how the</p>	<p>Concepts: Growth In order to survive and grow humans need the right type and amount of nutrition. Digestion is the process by which the body absorbs the nutrients from food and uses the energy for growth.</p>	<p>Vocabulary: Digestion, oesophagus, intestines, fibre, nutrients, canine, molar, incisor, oral hygiene, enamel. Investigation, method, prediction, variable, observation, conclusion.</p>

different parts of the digestive system work together and the main stages in the process of digestion			
<p>Prior Knowledge:</p> <p>Year 3 – Eat Happy – describe the importance of human food choices, where our food comes from and eating the right amount and type of food to gain the nutrients that our bodies require.</p>	<p>Future Knowledge:</p> <p>Year 6 – School of Medicine - describe the ways in which nutrients and water are transported within animals, including humans and recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function.</p>		
<p>End points /by the end of this unit pupils will...</p> <ol style="list-style-type: none"> 1. Name and describe the function of the main parts of the human digestive system. 2. Identify the different types of teeth in humans and describe their functions. 3. Understand how and why we should take care of our teeth. 4. Understand how to plan a scientific investigation, record observations and draw conclusions. 			
Learning Objective	Teaching Input/ Activities	Key Questions	Resources
<p>1</p> <p>To name the parts of the digestive system.</p>	<p>Initial assessment – what do we know already? Children to lie down on floor and draw around themselves on large paper. In groups, draw what they think the digestive system looks like and label what they think each part does. Photograph the big sheets of paper as the initial assessment.</p> <p>Parts of the digestive system Introduce Genevieve (a scientist!) and the idea of solving the ‘magic’ that happens inside us. Introduce the phrase ‘digestive system’ and definition. Children label a picture of the digestive system with correct names for each part.</p>	<p>What is the digestive system? What is its role? What are the main parts of the digestive system? What does digestion mean? How does food travel through the body?</p>	<p>Large sheets of paper (as big as the children!)</p>

<p>2 To identify the function of each part of the digestive system.</p>	<p>Functions of parts of the digestive system Write as many parts of the digestive system on whiteboard as they can remember from the previous lesson. Demonstrate a practical explanation of the functions of each part of the digestive system. Use some children as food to move them through the human digestive system. Other children will be given cards with the part of the digestive system on one side and the function on the other. Children with the cards have to order themselves as a class so that all the parts are in the correct position. The children that take the role of 'food' move along the digestive chain. Stop them at different points and ask what is happening to the food at each point in the chain. Photograph the chain.</p> <p>Be the teacher – children to describe the functions of each part of the digestive system.</p>	<p>What is the function of...? How does the ... link with ...? How is food processed in the human digestive system?</p>	
<p>3/4 To understand how the digestive system works.</p>	<p>Making the digestive system Children to work in small groups to make a model of the human digestive system. The model will be made out of junk materials e.g. boxes, plastic, card etc. The model should also have labels to describe each part. Models must be scientifically accurate, labelled and contain as much detail as possible. Take photographs.</p>	<p>What is the function of in the digestive system? Where does food go first, second etc.</p>	<p>Junk modelling materials</p>
<p>5 To understand how the digestive system works.</p>	<p>STEM digestion experiment Using household items such as paper cups, orange juice and a pair of tights, this demonstration</p>	<p>How is food absorbed into the body? How is water absorbed into the body?</p>	<p>Orange juice Water Crackers Banana</p>

	<p>enables children to visualise the process of digestion in an engaging, practical way. Children work together in groups to make the small intestine area using tights and food to imitate this part of the digestive system.</p> <p>banana and crackers = food being digested water = saliva orange juice = acid in the stomach bag = stomach hole in bag = duodenum tray = your body tights = small intestine cup = rectum / anus</p>		<p>Tray Cups Plastic bag ½ pair of tights</p>
<p>6/7 To identify the different types of teeth in humans and describe their functions</p> <p>Disciplinary: Reporting on findings, including oral and written explanations, displays or presentations</p>	<p>Researching and naming functions of teeth Children are introduced to Alfie from Demon Dentist (by David Walliams). The children’s task is to find out why Alfie should look after his teeth, focusing on the names and functions of the different teeth. The children decide how to present their information.</p>	<p>How will it be best to present your research to Alfie? What are the names of the different types of teeth? What are the functions of human teeth?</p> <p>How will you ensure that it is a fair test? Which liquids will be used?</p>	
<p>8/9 Disciplinary: To plan a scientific investigation: WALT investigate the effect of different liquids on teeth.</p> <p>To set up simple practical enquiries, comparative and fair tests.</p>	<p>Egg investigation (plan, investigate and record) Introduction to investigation - egg shells are similar to the outer layer of our teeth – the enamel. Link back to Demon Dentist.</p> <p>Children discuss and complete planning grids for experiment, focusing on the idea of a FAIR TEST.</p>	<p>How are eggs hells and our teeth similar?</p> <p>What happens to your teeth when you drink different liquids?</p> <p>How are we going to plan and carry out this investigation?</p>	<p>6 eggs 6 cups Coke Water Orange juice Vinegar Tea Milk</p>

<p>To make systematic and careful observations.</p> <p>To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>To identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>To use straightforward scientific evidence to answer questions or to support their findings.</p>	<p><u>What are you investigating?</u> What happens to your teeth when you drink different liquids?</p> <p><u>Equipment</u> – see resources column</p> <p><u>Method:</u></p> <ol style="list-style-type: none"> 1. Measure out 200ml of the six different liquids into clear containers. 2. Place one egg in each container. 3. Observe and record any changes in the eggs over the next 5 days. <p><u>Independent Variable</u> Type of liquid</p> <p><u>What will we keep the same?</u></p> <ol style="list-style-type: none"> 1. The amount of liquid 2. The size of the egg 3. Keep the egg in the cup for the same number of days 4. The same cup <p><u>Prediction</u></p> <p><u>Results</u> – detailed observation and description</p> <p><u>Conclusion</u></p> <ol style="list-style-type: none"> 1. What did your results show? 2. What would you recommend to Alfie? 3. If you did this experiment again in the future, what would you like to investigate? 	<p>What is a method, variable, prediction etc.?</p> <p>How will we make this a fair test?</p> <p>What is our conclusion/what do the results show?</p>	
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