



SS John Fisher & Thomas More Catholic Primary School

A Voluntary Academy

"Journeying together with Jesus Christ, we learn to love and love to learn."

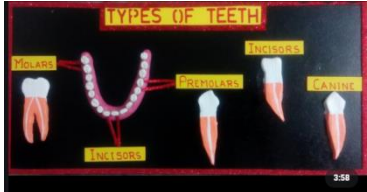



Science Planning

Year Group: Year 3 & Year 4	Topic: Animals including humans_teeth and digestion	Term: Autumn 1 (Cycle B)
<p>National Curriculum Links (Ref: NC 2014)</p> <p>Pupils in Key Stage Two should be taught to:</p> <ul style="list-style-type: none">describe the simple functions of the basic parts of the digestive system in humansidentify the different types of teeth in humans and their simple functions <p>Pupils <u>might</u> work scientifically by:</p> <ul style="list-style-type: none">comparing the teeth of carnivores and herbivores, and suggesting reasons for differencesfinding out what damages teeth and how to look after them. <p>Working scientifically (LKS2 objectives)</p> <ul style="list-style-type: none">asking relevant questions and using different types of scientific enquiries to answer themsetting up simple practical enquiries, comparative and fair testsmaking systematic and careful observations and, where appropriate, taking accurate measurements using standard units and a range of equipmentgathering, recording, classifying and presenting data in a variety of ways to help in answering questionsrecording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tablesreporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusionsusing results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questionsidentifying differences, similarities or changes related to simple scientific ideas and processesuse straightforward scientific evidence to answer questions or to support their findings.		



Science Planning

Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson One</u> I can name my teeth and know what they do.</p> <p><u>Working Scientifically:</u> I can ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>I can make careful observations.</p> <p>I can record what I have learnt through diagrams and written explanations.</p>	<p><u>Hook:</u> books about teeth, toy dental equipment, mirrors, models of teeth, tooth brushes, toothpaste etc.</p> <p><u>Starter Question:</u> Ask the question: <i>Why do we need teeth?</i> Discuss with Talking Partners before discussing as a whole class.</p> <p>Give out research material on this topic to either read with their TP or to read as a whole class - discuss new vocabulary e.g. swallow, digesting etc. Place the new vocabulary and their definitions on the Working Wall.</p> <p><u>Introduction:</u> Ask children to feel their teeth with their tongue. Ask the questions: <i>What do your teeth feel like?</i> <i>Do all your teeth feel the same?</i> Give out mirrors for the children to examine their teeth. Discuss with their TP what they find out. As the children are sharing ideas, listen and share with the children to assess their knowledge and understanding, and to find any misconceptions. Ensure these misconceptions are explored as a class.</p> <p>Show the children a model and/or an image of a set of human teeth. Allow the children time to explore the models and/or images. Ask the questions: <i>What are the differences or similarities between the teeth?</i> <i>Are any teeth the same?</i> <i>What do you think the job of each tooth is?</i> Spend time discussing the observations made.</p>	<p><u>SEN</u> – children to make just the four teeth out of playdough.</p>  <p><u>Year 3</u> – children to make a set of teeth together and attach arrows and labels premade.</p> <p><u>Year 4</u> – children to make a set of teeth together. Children to make their own arrows and labels.</p>  <p>Take photographs of the children's learning for evidence.</p> <p>As the children are completing this activity, ask them about the teeth in which they are making; can they describe the shape and the function? Discuss any misconceptions that arise.</p>




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	<p>Introduce the children to the 4 teeth names. Watch the following video all about types of teeth. https://www.funkidslive.com/learn/hallux/dentist/what-are-all-the-different-types-of-teeth-and-why-do-we-lose-our-baby-teeth/# (Start the video at 1:35.) Following the video discuss the different types and their functions. Consolidate how many teeth they have (primary and permanent) and how many of each teeth they have e.g. 4 incisors</p>	<p>Challenge: Year 3 – write about the function of each tooth using simple sentences e.g. Incisors are for cutting and biting food. Year 4 – use keynote app to make a video to explain the key functions of the teeth using scientific language.</p>
<p>Resources</p> <p>books about teeth toy dental equipment mirrors models of teeth tooth brushes toothpaste images and labels for matching playdough (pink/red& white)</p>	<p>Task 1: Give each pair images of the 4 different types of human teeth and descriptions of the teeth and its function. With their TP, children to match the image to the descriptions. Can they explain the function of each tooth in their own words?</p> <p>Task 2: Explain to the children that they are going to make a model of their teeth using playdough. Watch the following video (you might want the sound off). https://www.youtube.com/watch?v=gmKz2GBTZis</p> <p>Children to be given resources to make a model of a mouth in pairs – one can make the top set and the other can make the bottom set.</p>	<p>Plenary</p> <p>Watch this video up to 2.14 minutes (we will watch the rest later on in this topic). https://www.youtube.com/watch?v=Q3_ZwCLM0b4U Ask the children to share 1 new fact they have learnt today.</p> <p>Homework Activity: Make a set of Vampire teeth (Halloween focus) https://www.twinkl.co.uk/resource/t2-t-672-simple-3d-halloween-vampire-teeth-activity-paper-craft</p>
<p>Lesson Two I can explain what makes my teeth bad.</p> <p>Working Scientifically: I can ask relevant questions and use different types of scientific enquiries to answer them.</p>	<p>Hook: models and/or images of teeth, x-rays of teeth, toothbrush, toothpaste, floss, mouth wash etc - set up a dentist in classroom.</p> <p>Starter Question: Ask the question: <i>How many teeth do you have?</i> <i>Can you count them with your tongue?</i> <i>Do you know how many teeth you are supposed to have?</i></p>	<p>SEN – children to use pre-labelled hoops and real objects to sort.</p> <p>Talk</p>  <p>to the</p>



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<p>I can make careful observations.</p> <p>I can sort and classifying using a Venn diagram.</p> <p>I can record what I have found out using simple scientific language, labelled diagrams and Venn diagrams.</p>	<p>Children to discuss with their Talking Partners before discussing as a whole class.</p> <p>Introduction: Display 2 images of teeth on the IWB – a set of primary teeth and a set of adult teeth. Ask the children; <i>Which set of teeth belongs to a child?</i> <i>Which set of teeth belongs to an adult?</i> <i>How do you know?</i> Children to discuss with their TP before discussing as a whole class.</p> <p>Explain to the children that when you are young, your mouth is smaller so it cannot accommodate all the teeth and as a young person your diet is different to that of an adult. As you get older, your mouth gets bigger and your diet is more varied so it needs more teeth to do the hard work in breaking down the food we eat.</p> <p>Display an x-ray of a young child's teeth with the adult teeth siting in the gum. Ask the children: <i>What does this image show us?</i> <i>What does it tell us about our teeth?</i></p> <p>Watch this video https://www.youtube.com/watch?v=Q3ZwCLMOb4U (From 2.25 -3.56 minutes) Consolidate through the use of models or images of children and adult teeth, how many teeth children have (20 teeth - 10 on the top and 10 on the bottom, known as primary or baby teeth) and how many teeth adults have (28/32 teeth - 16 on the top and 16 on the bottom depending on wisdom teeth, known as permanent teeth).</p> <p>Task 1:</p>	<p>children about how they have sorted them and why.</p> <p>Year 3 – in books, children to sort 8 items. Write what makes the food bad for our teeth.</p> <p>Year 4 – in books, children to sort 12 items. Write what makes the food bad for our teeth using more detail.</p> <p>Do they know what makes good food, good for us an especially our teeth e.g. calcium? protein? They would have covered healthy eating in KS1, so can they recall the Eatwell Guide?</p> <p>(choose from: Good - milk, water, apple, egg, cheese, carrots, nuts Bad- cola, chocolate, sweets, cake, crisps, orange juice, bread, dried fruit)</p> <p>Challenge: Children to consolidate their understanding of the Eatwel Guide, by place=ing items/images into the correct space on the chart.</p>
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	<p>Ask the children: <i>How can I look after my baby teeth?</i> <i>How can I look after my adult teeth?</i> Children to discuss with their TP before discussing as a whole class, and recording their thinking on f/c and place on display.</p>	
<p>Resources</p>	<p>Explain that they are going to think about what one of those; foods. Ask the question: <i>Which foods are good or bad for our teeth?</i> Explain to the children that they are going to be given some images/objects, labels and 2 sorting hoops. Model or consolidate the use of sorting hoops. In groups, children to sort them. Take photographs of the children working scientifically. Invite children to share their thinking about which foods damage our teeth and why.</p> <p>Task 2: Discuss sugar, and ask: <i>What does sugar do to our teeth?</i> Watch the video https://www.youtube.com/watch?v=hDZXSMU2IAk Consolidate the terms; plague, bacteria, fluoride, cavities.</p> <p>Use the children's models of teeth from the previous session and some playdough, children to make cavities (start of with small holes and build them up).</p>	<p>Plenary</p>
<p><u>Lesson Three</u> I can explain what happens to my teeth if I don't look after them.</p> <p><u>Working scientifically:</u> I can ask relevant questions and use different types of scientific</p>	<p><u>Hook:</u> cross-section of a tooth, playdough, slime, toothbrush, toothpaste</p> <p><u>Starter Question:</u> Ask the question: <i>Why do we need to brush our teeth?</i> Children to discuss this with their Talking Partner before discussing as a whole class. Can the children recall some of the new vocabulary from last week?</p>	<p>Consolidate the new vocabulary: plague, bacteria, fluoride, cavities, and the four names of teeth and their properties. Display in IWB, the scientific term, the definition and an image. Invite children to match the vocabulary to the correct definition or image.</p> <p>Watch this video to consolidate teeth. https://www.youtube.com/watch?v=DstSL3I--9I</p> <p><u>SEN</u> – children to sort 3 images of the decay process in order and to talk about each stage.</p> <p>Children to orally give their prediction and this can be scribed for them.</p> <p><u>Year 3</u> – children to sort the images of the decay process and write about each stage using subject</p>



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<p>enquiries to answer them.</p> <p>I can set up simple practical enquiries, comparative and fair tests.</p> <p>I can make systematic and careful observations using standard units and a range of equipment.</p> <p>I can sort and classifying using a simple Venn diagram.</p> <p>I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p>	<p><u>Introduction:</u> Use the cross-section model of a tooth, model the process of tooth decay; 'When we eat, food gets stuck into our mouths (place some food on it). The bacteria in our mouths starts to eat the food and in doing so produce a slimy product called plaque (put slime on it) If we don't clean the food and plaque of our teeth, overtime, the plaque (acids) attack the enamel creating cavities (playdough). Eventually, the cavities grow and move into the dentine and possibly into the centre of the tooth where the nerves are. This is when we get tooth ache. When we clean our teeth (get a toothbrush), we have to brush thoroughly to get the food and out of our mouths (try brushing the plaque away).</p> <p><u>Task 1:</u> Children to be given a set of cards with the order of tooth decay on. In pairs children to order them. Children to explain to one another, what happens to teeth if we eat too much sugar and if we don't clean them very well.</p>	<p>specific vocabulary.</p> <p>Write a prediction e.g. I predict the egg in the Cola is going to rot first because coke has a lot of sugar in it.</p> <p><u>Year 4</u> – children to read the different stages of the decay process and place them in order. Children to record each stage of the decay process with illustrations.</p> <p>Write a prediction, ensuring they explain themselves with clarity and use subject specific vocabulary when doing so.</p> <p><u>Challenge:</u> Use a microscope to look at images of bacteria. Children to record what they see. What can they learn about bacteria?</p>
Plenary		
<p>Resources</p> <p>Cross-section of a tooth model Playdough Slime Toothbrush Toothpaste Cards for ordering (process of tooth decay) Approx. 6 eggs</p>	<p><u>Task 2:</u> Explain to the children that we are going to explore what bacteria actual does to the enamel of our teeth. We are going to do the 'egg experiment'. Model the setting up of a fair test; an experiment where one thing is different and everything else is the same. Discuss with the class throughout the setting up of the test, the importance of every stage of fair test and why scientist work this way.</p> <p>Children to make a prediction which can be recorded on a tooth outline and placed on the Working Wall.</p>	<p>Introduce children to a microscope. Explain the safety of using a scientific instrument. Discuss what a microscope is and the importance of it for scientists.</p> <p>Give out images of bacteria that live in the mouth for the children to look at. Discuss what they can see. Talk about good and bad bacteria, and how through cleaning our teeth, fluoride helps to get rid of the bad bacteria.</p>



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<p>Range of liquids (water, full-fat cola, fruit juice, milk, vinegar, squash, tea/coffee) See through cups Measuring jugs Microscope and images of bacteria</p>	<p>*The eggs can only be soaking for 2 days – children need to look at eggs on day 1 and on day 2 (on day 2 they need to brush the eggs with fluoride toothpaste) Children to record their findings on investigation sheet.</p>	
<p><u>Lesson Four</u> I know the importance of good dental hygiene.</p> <p><u>Working scientifically:</u> I can ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>I can make systematic and careful observations using standard units and a range of equipment.</p> <p>I can use straightforward scientific evidence to answer questions or to support my findings and record my findings using simple scientific language, drawings, labelled diagrams, and tables.</p> <p>I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p>	<p><u>Hook:</u> egg experiment from the previous lesson, images of tooth decay</p> <p><u>Starter Question:</u> Ask the question: <i>What does good brushing look like?</i> Children to discuss this with their Talking Partner before discussing as a whole class.</p> <p><u>Introduction:</u> Children to watch the following video : Talk about what good brushing is:</p> <ul style="list-style-type: none"> • 2 minutes • Use fluoride toothpaste • Use a pea size amount of paste • Use a rotation motion • Start at one side of the upper jaw and brush along the front. Then go behind the upper teeth and then finally across the top of the teeth. Repeat with the other set of teeth. • Use floss when you get your adult teeth (3-5 days a week) • No rinse <p><u>Task 1:</u> Children to practise brushing their teeth (toothbrushes to be resourced from Colgate Smile project or from science budget) Take photographs of children doing this.</p>	<p><u>SEN:</u> Children to create a poster containing key facts and images e.g. an image of a tooth brush with the statement; brush two times a day, or a picture of toothpaste with the statement; a pea size of toothpaste.</p> <p><u>Year 3:</u> Create a simple 2 page spread with key subheadings given and images to support.</p> <p><u>Year 4:</u> Create a 2 page spread with increasing independence.</p>



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Resources		Plenary
<p>Equipment from egg experiment Images of tooth decay Toothbrushes (enough for class) Toothpaste Statements to identify as true or false 2 page spread examples Resources to support the creation of 2 page spread.</p>	<p>Give children a set of statements to read and decide if the statement is true or false. Discuss as a whole class; the top 5 rules for good brushing and good oral hygiene.</p> <p><u>Task 2:</u> Explain to the children that they are now going to have a look at the egg experiment from last week. Consolidate their predictions. Children to look at their results. Ask the questions: <i>What did they notice after one day?</i> <i>What did they notice after two days?</i> <i>What happened following brushing the egg with toothpaste?</i></p> <p>Discuss with the children the findings and what they learnt through doing this experiment, and why. Discuss how some drinks stain our teeth and through brushing the stains can be reduced, and then some drinks containing a lot of sugar (acid) eats away at the shell (enamel). Watch this video to support learning https://www.bbc.co.uk/bitesize/clips/zh2kjsx????</p> <p>Explain to the children that they are going to create a two page spread all about oral hygiene. Model what a 2 page spread is, and tools and techniques children could use to support them. Provide some resources, such as, images of tooth decay, that they could use. Model WAGOLL.</p>	<p>Look at examples of 2 page spread and the important messages of dental hygiene.</p> <p>Ask the question: <i>How frequently (often) should we visit a dentist?</i> Children to discuss this with their Talking Partner before discussing as a whole class.</p> <p>Talk about the importance of this and ask them to think about when was the last time they visited a dentist. If they were unsure, ask them to ask parents or carers.</p>
<p><u>Lesson Five</u> I can know the difference my teeth and the teeth of animals.</p>	<p><u>Hook:</u> models of animal's teeth and human teeth.</p> <p><u>Starter Question:</u> Ask the question; <i>Why do we need to eat?</i></p>	<p><u>SEN:</u> Give children 3 images or models of animals (1 carnivore, 1 herbivore and 1 omnivore) and 3 labels. Children to match image or model to name. Can they</p>



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<p><u>Working scientifically:</u> I can ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>I can make systematic and careful observations using a range of equipment.</p> <p>I can sort and classify data using a Venn Diagram to help me to answer questions.</p> <p>I can use straightforward scientific evidence to answer questions or to support my findings and record my findings using simple scientific language, drawings, labelled diagrams, and tables.</p>	<p>Children to discuss with their Talking Partners before discussing as a class.</p> <p>Give out research material on this topic to either read with their TP or to read as a whole class - discuss new vocabulary e.g. energy, nutrients, functions etc. Place the new vocabulary and their definitions on the Working Wall.</p> <p><u>Introduction:</u> Look at models of teeth (if models are not available – use images) Ask the questions: What is similar or different about their teeth compared to your teeth? Discuss observations made and why they have different teeth. Discuss the different diets* animals have (carnivore/herbivore) and the need for specific teeth. Consolidate the terminology; carnivore and herbivore (they learnt this in KS1) If not spend time going over this through the use of songs or rhymes. Ensure all children understand the terminology before moving on. <i>*explain the term, diet.</i> Discuss how carnivores have sharp, elongated canines whereas herbivores don't have canines but lots of molars and in some case larger incisors. Watch this video to support learning. https://www.youtube.com/watch?v=th2ROcyH8Xw</p>	<p>example what each animal likes to eat?</p> <p><u>Year 3:</u> Give 6 images and 2 labels.</p> <p><u>Year 4:</u> Give 12 images and 2 labels.</p> <p>Children to write about the differences and similarities between the diets of a carnivore and a herbivore using scientific language, such as, canines, molars, incisors, diet, and a framework to support them.</p> <p>On completion, play the quiz on; https://www.bbc.co.uk/bitesize/topics/zn22pv4/articles/z846gdm</p> <p><u>Challenge:</u> Ask the question: <i>Where does my food go?</i> Children to use non-fiction texts to research this question</p>
<p>Resources</p>	<p><u>Task 1:</u> Explain to the children that you would like them to be scientists and to observe different sets of animal's teeth. Ask the question: <i>Do the teeth belong to an herbivore or a carnivore?</i></p> <p>Children to sort images into groups; carnivore or herbivore. On sorting them, ask the children if they can work out which animal the teeth might belong too and why.</p> <p>Following the sorting of the images, discuss their thinking.</p>	<p>Plenary</p> <p>Play what am I? Display a set of teeth and children have got to identify what diet the animal has based on its teeth.</p> <p>Consolidate why teeth are important. Ask the question: <i>Where does my food go once it has been broken down by the teeth?</i></p>



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		Children to discuss with their TP before taking feedback as a whole class.
<p><u>Lesson Six</u> I can name and explain the parts of the human digestive system.</p> <p><u>Working scientifically:</u> I can ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>I can make systematic and careful observations using a range of equipment.</p> <p>I can record what I have learnt through diagrams and written explanations.</p>	<p><u>Hook:</u> fake poo, orange juice, water, pair of tights, plastic bag, biscuits, banana, scissors, a model of the digestive system, tea towel, bowl</p> <p><u>Starter question:</u> Ask the question: <i>What is poo?</i> <i>What is it made from?</i> Children to discuss with their Talking Partners before discussing as a class.</p> <p><u>Introduction:</u> Using the model of the digestive system, explain simply the stages in which food travels; mouth, oesophagus, stomach, small intestines, large intestines and anus, and what happens in each part. This video can aid the understanding of this if needed. https://www.bbc.co.uk/bitesize/topics/zv9qhyc/articles/z74rqp3</p> <p>Explain to the children that today they are going to make the digestive system and make the end product. poo. Watch the following video to show the children how make it; https://www.bbc.co.uk/bitesize/topics/zf339j6/articles/zrm48mn Consolidate each step of the process by making it with the children.</p>	<p><u>SEN:</u> Children to have pre-made labels to attach to their models.</p> <p><u>Year 3:</u> Label the key parts of the digestion system and match the function to the part.</p> <p><u>Year 4:</u> Label parts of the digestion system (if they have learnt more e.g. salivary glands, pharynx etc. add these to the diagram. Children to make labels and write their own explanation of the function of each part. Take images of the children's learning for their Science book.</p> <p><u>Challenge:</u> Read a story about the journey of food from the perspective of food. Write a story.</p>
Resources	<u>Task 1:</u>	Plenary
Fake poo Orange juice Water		Consolidate the new vocabulary. Give the children a quiz all about the digestive system.



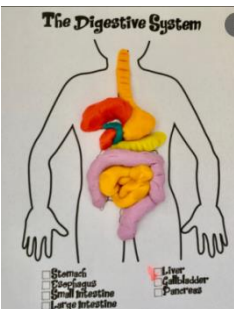
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<p>Pairs of tights Plastic food bags Biscuits Bananas Scissors, model of digestive system Tea towel Bowl Playdough Digestive system mats Paper for labelling</p>	<p>Give out materials to make a digestive system to each group. Ask children to recreate the digestive system. Do they children use the correct vocabulary when talking about each stage? Take photographs of children doing this</p> <p>Task 2: Give children an outline of the human body and different coloured playdough. Children to make the Digestive system and label it. As the children are making it, ask them questions about what happens in different parts.</p> <p>Give out function cards, and children to read and match to the correct part. Use this as an assessment of their knowledge.</p>	<p>Talk about any misconceptions.</p> 
<p>Applied Write Opportunities: Explanation text about the digestive system – this will be supported through the reading texts from the reading skill lessons.</p>		
<p>Key Vocabulary</p> <p>Tier 2: mouth, tongue, teeth, gums, wind pipe, tummy, bowels, poo, waste, energy, saliva, x-ray, chew, bite, tear, hygiene, holes, rotten, dentist, dental, nerves, roots, stains, sugar, jaw</p> <p>Tier 3 incisors, molars, canines, pre-molars, wisdom teeth, floss, decay, enamel, acid, plague, bacteria, fluoride, cavities, carnivore, herbivore, omnivore, oesophagus, stomach, gastric juices, small and large intestine, anus, excrete, <i>pancreas, gall bladder, liver, rectum,</i></p>		