Y4 - Animals including humans

Lesson 3

Lesson	3 of 5

Key Unit Question:	What happens to the food that we eat?

Key Lesson Question:	Which drink causes the most tooth decay?

Learning Objective

I can plan and carry out an investigation.
I can communicate my results.

NC Links

Working scientifically
- set up simple practical enquiries, comparative and fair tests
- make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gather, record, classify and present data in a variety of ways to help answer questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

Resources

- Presentation
- Science investigation sheet (easy/medium)
- Communicate results sheet (easy/medium/hard)
- Next Step
- Challenge activity
- A toothbrush, toothpaste and dental floss
- Boiled eggs with the shells.
- A selection of drinks (water, orange juice, milk, cola, tea)

Teaching Input

In this lesson, children will be planning and investigating. You may wish to divide this session into two parts or have one longer session. The eggs will need to be left in the liquids for at least a week.
- Teeth recap – ask the children to name the five different types of teeth on their whiteboards. With a partner, write the function of each type of tooth. Review as a class; how many did they get correct?
- In today's lesson, we will be looking at teeth in more detail and how to look after them. We will also be planning an investigation.
- Thinking time -how can we look after are teeth? Allow time for the children to discuss with a partner and then take feedback.
- There are several things that we can do to look after our teeth and keep them healthy. Read the information on PPT slide 5/PDF p4. What does the word decay mean? Why is it important that tooth decay is prevented?
- Read the information about brushing teeth. How many times a day should you brush your teeth? Explain that fluoride is a type of mineral that is added to toothpaste to help protect teeth. Enamel is the hardest and most highly mineralized substance in your body. It covers the outer layer of each tooth and it is the most visible part of the tooth.
- Invite one of the children to the front and demonstrate how to brush effectively or watch this video: How to Brush Teeth Correctly | Colgate® - Bing video Recap this information by reading the information on PPT slide 7/PDF p6.
- Do any of the children floss their teeth? Read the information on the slide. Why is flossing important in addition to brushing?
- What does a dentist do? How often do the children visit the dentist? Read the information PPT slide 8/PDF p7. Why do you think it is important to see a dentist regularly?
- Look at the cross-section diagram of a tooth on the slide. Explain what a cross section diagram shows. Read the information and ask a selection of retrieval questions to ensure the children have understood the information. Which parts of the tooth can we see in our mouths? Which parts can't we see?
- Activity part 1 – explain that you would like the children to plan a fair test investigation to find out which drink causes the most decay. Allow time for the children to discuss what they will do. Which one variable will change? (the type of drink) What variables will affect the results and therefore need to be controlled and kept the same? (the amount of liquid used, the size of egg, the length of time the egg is left in the liquid). How will the children collect the results? What equipment will they use? Once the children have had time to discuss what they will do with a partner, bring the class together to feedback their ideas.
- Ask the children to complete the science planning sheet.
- Activity part 2 – ask the children to conduct their investigation. For the best results, leave the eggs in the liquid for at least one week. You may wish the children to record their observations in a table at different points throughout the week.
- Activity part 3 – from their observations, which liquid caused the most decay? How do they know this? (more of the shell will be worn away). What substance in the liquid causes the shell to breakdown? Which liquid caused the least decay? What overall conclusions can you make?
- Ask the children to communicate their results (PPT slide 13/PDF p12). Model writing using the two-star letter template provided in the pack.
- Plenary – what did we find out? Allow time for the children to discuss the questions on the last slide before feeding back to the class.

Differentiated Activities

★ (working below)	★★ (working at)
Plan and conduct an experiment to answer the question – which drink causes the most decay? Children communicate their findings using the text message template provided. Adult support to be given.	Plan and conduct an experiment to answer the question -which drink causes the most decay? Children communicate their findings using the letter template or email template provided.

Y4 - Animals including humans

Lesson 3

Challenge activity	Next Step activity
Explain which ingredient in drinks causes tooth decay and explain how it affects teeth. Use the internet to research your answer.	Harvey visits the dentist regularly to help stop tooth decay. Give two other ways Harvey can help prevent tooth decay.

Assessment questions	Self assessment	Key vocabulary
What is tooth decay? How can you prevent tooth decay? How will you conduct your investigation? What conclusions did you make? Which variables will you keep the same and which variable will change?	I can plan and conduct a fair test investigation. I can use the data collected to draw conclusions and communicate my findings.	tooth decay, enamel gum, dentine, pulp, root, crown prevent, sugar, acid variables