Year 4 Science Coverage

'As Scientists, we question how the world around us works so we can make predictions, experiment and explain our understanding.'			
Unit:	The Empire Strikes	A Recipe for Success	And the Band Played On…
National Curriculum Science Knowledge taught as stand-alone lessons	**Living things and their habitats** • recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things. **Animals** • 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.	**Sound** • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the pitch of a sound and features of the object that produced it • find patterns between the volume of a sound and the strength of the vibrations that produced it • recognise that sounds get fainter as the distance from the sound source increases. **Electricity** • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • recognise that a switch opens and closes a circuit and associate this with whether	**Materials - States of Matter** • compare and group materials together, according to whether they are solids, liquids or gases • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

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		or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors.	
National Curriculum Science Knowledge Linked to topic			
Subject Focus	While pupils are investigating the legacy of Romans, Anglo-Saxons and Vikings and looking at the local area, they will be looking at the different species that live locally. They will look at successful invaders and examine what humans eat – looking at the role of teeth and the digestive system.	The theme for this topic is inventors and their inventions – pupils will be creating their own inventions using different materials – they will be creating simple circuits and discovering all about electricity and how it can be used safely. They will discover how sound travels and make observations about how distance, pitch and volume can be altered. They will then carry out tests to find how best to muffle sound.	Pupils will be studying the Titanic in this topic which will lead to looking at the properties of water and ice before moving on to look at how the particles are arranged in solids, liquids and gases. They will take measurements to find boiling and melting points and carry out tests to see how to change the speed of these processes. They will then link these processes to the water cycle.
Fab Five/ Top Ten	1. I can name and explain the function of different types of teeth 2. I can describe the main stages of the human digestive system 3. I can identify a producer, predator and prey in a familiar habitat 4. I can predict what a creature might eat by looking at its teeth 5. I can identify a local plant or animal using an identification key.	1. I can state that sound is produced by vibrations from a sound source. 2. I can explain what happens when you strike a drum or pluck a string and use a diagram to show how sounds travel from an object to the ear 3. I can demonstrate how to increase or decrease pitch and volume 4. I can make a simple circuit with a switch 5. I can name the components in a circuit	1. I can measure temperature with a thermometer 2. I can explain what causes changes in the speed that a liquid evaporates 3. I can give everyday examples of melting and freezing 4. I can give everyday examples of evaporation and condensation 5. I can describe/ draw/ label the water cycle

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Topic specific Vocabulary	All Y2 + micro-organism classification environment pollution species endangered extinct	All Year 1 , 2 and 3 + tongue teeth oesophagus stomach intestines digestive system molars canines incisors permanent producers consumers predators prey	vibrate vibrations medium pitch volume	electrical circuit appliances device cells batteries bulbs switches buzzer series wires conductor insulator	solid liquid gas properties state degrees evaporation condensation rate water cycle
	• ask relevant questions and using different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • make systematic and careful observations and , where appropriate, taking 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 in answering questions		• ask relevant questions and using different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • make systematic and careful observations and , where appropriate, taking 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 in answering questions		• ask relevant questions and using different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests • make systematic and careful observations and , where appropriate, taking 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 in answering questions

	• record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, include 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 • identify differences, similarities or changes related to simple scientific ideas and processes use straightforward scientific evidence to answer questions or to support their findings.	• record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, include 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 • identify differences, similarities or changes related to simple scientific ideas and processes use straightforward scientific evidence to answer questions or to support their findings.	• record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • report on findings from enquiries, include 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 • identify differences, similarities or changes related to simple scientific ideas and processes use straightforward scientific evidence to answer questions or to support their findings.