Science Overview - Year 4

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Term 1	Sound **Lesson 1: Good Vibrations** **LO:** To describe and explain sound sources. **Y4:Sc: S1, Y4:Sc: S4** **Big Idea (Aspect):** **Processes** (Pattern seeking, Phenomena) **Investigation** (Questioning, Measurement, Investigation, Observations, Report & conclude, Gather & record data) **Creativity** (Report & conclude, Gather & record data)	Sound **Lesson 2: Hearing Sounds** **LO:** To explain how different sounds travel. **Y4:Sc: S3, Y4:Sc: S1, Y4:Sc: S2** **Big Idea (Aspect):** **Processes** (Pattern seeking, Phenomena) **Comparison** (Phenomena)	Sound **Lesson 3: Higher and Lower** **LO:** To explore ways to change the pitch of a sound. **Y4:Sc: S1, Sc:WS3, Sc:WS4** **Big Idea (Aspect):** **Processes** (Pattern seeking, Phenomena) **Investigation** (Questioning, Measurement, Observations, Report & conclude, Gather & record data) **Creativity** (Report & conclude, Gather & record data) **Comparison** (Phenomena)	Sound **Lesson 4: String Telephone** **LO:** To investigate ways to absorb sound. **Y4:Sc: S5, Y4:Sc: S1, Y4:Sc: S2, Sc:WS5** **Big Idea (Aspect):** **Processes** (Pattern seeking, Phenomena, Modelling) **Investigation** (Questioning, Report & conclude) **Creativity** (Report & conclude) **Comparison** (Phenomena)	Sound **Lesson 5: Soundproofing** **LO:** To investigate ways to absorb sound. **Y4:Sc: S2, Sc:WS1, Sc:WS2, Sc:WS3, Sc:WS4 , Sc:WS6 , Sc:WS7, Sc:WS9** **Big Idea (Aspect):** **Processes** (Phenomena) **Investigation** (Questioning, Measurement, Investigation, Observations, Report & conclude, Gather & record data) **Creativity** (Report & conclude, Gather & record data) **Comparison** (Phenomena)	Sound **Lesson 6: Making Music** **LO:** To make a musical instrument to play different sounds **Y4:Sc: S1, Y4:Sc: S2, Sc:WS5** **Big Idea (Aspect):** **Processes** (Phenomena) **Processes** (Pattern seeking) **Comparison** (Phenomena)

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Term 2	Science: Animals including humans. **Lesson 1: Tooth Decay** **LO:** To discuss how to keep teeth healthy; plan and set up an investigation into tooth decay **Y4:Sc: A1, Sc:WS3** **Big Idea (Aspect):** **Nature** (Parts & function) **Humankind** (Human Body, Healthy lifestyle, Healthy lifestyle) **Investigation** (Questioning, Measurement, Investigation, Observations, Gather & record data) **Creativity** (Gather & record data)	Science: Animals including humans. **Lesson 2: Types of Teeth** **LO:** To draw conclusions from an investigation about keeping teeth healthy and to identify and examine different types of teeth. **Y4:Sc: A1, Sc:WS9** **Big Idea (Aspect):** **Nature** (Parts & function) **Humankind** (Human Body, Healthy lifestyle, Healthy lifestyle) **Investigation** (Questioning, Measurement, Investigation, Observations, Report & conclude, Gather & record data) **Creativity** (Report & conclude, Gather & record data)	Science: Animals including humans. **Lesson 3: Parts of the Digestive System** **LO:** To identify the parts of the digestive system and their function. **Y4:Sc: A2, Sc:WS8** **Big Idea (Aspect):** **Nature** (Parts & function) **Humankind** (Human Body, Healthy lifestyle)	Science: Animals including humans. **Lesson 4: The Digestion Process** **LO:** To demonstrate and explain the process of digestion. **Sc:WS1**, **Sc:WS2** **Big Idea (Aspect):** **Humankind** (Human Body) **Creativity** (Report & conclude)	Science: Animals including humans. **Lesson 5: Food Chains** **LO:** To construct food chains for different habitats and explain findings using the correct scientific language. **Y4:Sc: A3**, **Sc:WS3**, **Sc:WS5**, **Sc:WS7** **Big Idea (Aspect):** **Nature** (Identification & classification, Nutrition, Survival) **Humankind** (Human Body) **Place** (Habitats) **Investigation** (Questioning)	Science: Animals including humans. **Lesson 6: Animal Teeth** **LO:** To compare the teeth of different animals and link this with their roll in a food chain. **Y4:Sc: A3** **Big Idea (Aspect):** **Nature** (Identification & classification, Parts & function, Nutrition, Survival) **Humankind** (Human Body)

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Term 3	Science: Sates of Matter **Lesson 1: Solid, Liquid or Gas?** **LO: To** sort and describe materials. **Y4:Sc: SM1** **Big Idea (Aspect):** **Materials** (Identification and Classification)	Science: Sates of Matter **Lesson 2: Investigating Gases** **LO: To** investigate gases and explain their properties **Y4:Sc: SM1** **Big Idea (Aspect):** **Materials** (Identification and Classification)	Science: Sates of Matter **Lesson 3: Heating and Cooling** **LO: To** investigate materials as they change state. **Y4:Sc: SM2, Sc:WS2, Sc:WS3, Sc:WS4, Sc:WS5, Sc:WS6, Sc:WS9** **Big Idea (Aspect):** **Materials** (Identification and Classification) **Processes** (Changes) **Investigation** (Investigation, Gather & record data, Report & conclude, Observations) **Creativity** (Report & conclude, Gather & record data)	Science: Sates of Matter **Lesson 4: Wonderful Water** **LO: To** explore how water changes state. **Y4:Sc: SM2** **Big Idea (Aspect):** **Materials** (Identification and Classification) **Processes** (Changes)	Science: Sates of Matter **Lesson 5: Evaporation Investigation** **LO: To** investigate how water evaporates. **Y4:Sc: SM2, Y4:Sc: SM3, Sc:WS2, Sc:WS3, Sc:WS6, Sc:WS9** **Big Idea (Aspect):** **Materials** (Identification and Classification) **Processes** (Changes, Earth)	Science: Sates of Matter **Lesson 6: The Water Cycle** **LO: To** identify and describe the different stages of the water cycle. **Y4:Sc: SM3** **Big Idea (Aspect):** **Materials** (Identification and Classification) **Processes** (Changes, Earth) **Investigation** (Investigation, Report & conclude, Observations) **Creativity** (Report & conclude)
Term 4	Science: Living things and their habitats. **Lesson 1: Grouping Living Things**	Science: Living things and their habitats. **Lesson 2: Classifying Vertebrates**	Science: Living things and their habitats. **Lesson 3: Invertebrate Hunt**	Science: Living things and their habitats. **Lesson 4: Classification Keys**	Science: Living things and their habitats. **Lesson 5: Local Habitat Survey**	Science: Living things and their habitats. **Lesson 6: Environmental Changes**

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	LO: To group living things in a range of ways and use a range of methods to sort living things. **Y4:Sc: LT1, Sc:WS4** **Big Idea (Aspect):** **Nature** (Identification & classification) **Investigation** (Questioning, Gather & record data) **Creativity** (Gather & record data)	**LO: To** generate questions to use in a classification key and identify vertebrates by observing their similarities and differences. **Y4:Sc: LT2, Sc:WS8** **Big Idea (Aspect):** **Nature** (Identification & classification) **Investigation** (Questioning, Gather & record data) **Creativity** (Gather & record data)	**LO: To** create a classification key use evidence to identify an invertebrate. **Y4:Sc: LT2, Sc:WS9** **Big Idea (Aspect):** **Nature** (Identification & classification)	**LO: To** create a classification key and show the characteristics of living things in a table and a key. **Y4:Sc: LT2, Sc:WS4** **Big Idea (Aspect):** **Nature** (Identification & classification) **Investigation** (Questioning, Gather & record data) **Creativity** (Gather & record data)	**LO: To** recognise positive and negative changes to the local environment and record my observations in different ways. **Y4:Sc: LT3, Sc:WS5** **Big Idea (Aspect):** **Nature** (Identification & classification, Nutrition) **Change** (Living things) **Place** (Habitats)	**LO: To** describe environmental dangers to endangered species and present my findings orally and in writing. **Y4:Sc: LT3, Sc:WS6** **Big Idea (Aspect):** **Nature** (Identification & classification, Nutrition) **Change** (Living things) **Place** (Habitats)
Term 5	Science: Electricity **Lesson 1: Appliances** **LO:** To classify and present data, identifying common appliances that run on electricity. **Sc:WS9, Y4:Sc: E1** **Big Idea (Aspect):** **Investigation** (Questioning, Gather & record data)	Science: Electricity **Lesson 2: Making Circuits** **LO:** To identify circuit components and build working circuits. **Y4:Sc: E1** **Big Idea (Aspect):** **Humankind** (Staying safe) **Processes** (Forces, Modelling, Modelling)	Science: Electricity **Lesson 3: Complete Circuits** **LO:** To investigate whether circuits are complete or incomplete. **Y4:Sc: E2, Y4:Sc: E3, Sc:WS7** **Big Idea (Aspect):** **Humankind** (Staying safe)	Science: Electricity **Lesson 4: Conductors and Insulators** **LO:** To investigate which materials are electrical conductors or insulators. **Y4:Sc: E2, Y4:Sc: E5, Sc:WS3** **Big Idea (Aspect):** **Humankind** (Staying safe) **Processes** (Forces, Modelling, Modelling)	Science: Electricity **Lesson 5: Switches** **LO:** To explain how a switch works in a circuit, build switches and report my findings. **Y4:Sc: E2, Y4:Sc: E4,** **Big Idea (Aspect):** **Humankind** (Staying safe) **Processes** (Forces, Modelling, Modelling)	Science: Electricity **Lesson 6: Electrical Discussions** **LO:** To discuss and solve problems about electricity using reasoning skills. **Y4:Sc: E2, Sc:WS5, Sc:WS6** **Big Idea (Aspect):**

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	Creativity (Gather & record data) **Comparison** (Physical things)	**Comparison** (Physical things)	**Processes** (Forces, Modelling, Modelling) **Materials** (Properties and Uses) **Investigation** (Questioning, Investigation, Report & conclude, Gather & record data) **Creativity** (Report & conclude, Gather & record data)	**Materials** (Properties and Uses) **Investigation** (Questioning, Investigation, Observations, Report & conclude, Gather & record data) **Creativity** (Report & conclude, Gather & record data)	**Comparison** (Physical things) **Materials** (Properties and Uses)	**Humankind** (Staying safe) **Processes** (Forces) **Comparison** (Physical things) **Materials** (Properties and Uses) **Creativity** (Report & conclude) **Investigation** (Questioning, Report & conclude)
Term 6	Science: Scientists and inventors. **Lesson 1: Madagascar in Danger** **LO:** To explore deforestation and conservation in Madagascar and set up an enquiry to find out about soil erosion. **Sc:WS2**, **Sc:WS6**, **Y4:Sc: LT3** **Big Idea (Aspect):** **Nature** (Identification & classification) **Change** (Living things) **Place** (Habitats)	Science: Scientists and inventors. **Lesson 2: Alexander Graham Bell** **LO:** To describe Alexander Graham Bell and his inventions and present my findings. **Sc:WS6**, **Y4:Sc: S2** **Big Idea (Aspect):** **Processes** (Phenomena) **Significance** (Significant Events, Significant People)	Science: Scientists and inventors. **Lesson 3: Maria Telkes** **LO:** To build a solar oven and explain how the temperature changes inside it. **Sc:WS3** **Big Idea (Aspect):** **Processes** (Modelling) **Investigation** (Questioning, Measurement, Investigation, Report & conclude, Gather & record data)	Science: Scientists and inventors. **Lesson 4: Garrett Morgan** **LO:** To build a traffic light using series circuits. **Y4:Sc: E2, Y4:Sc: E4** **Big Idea (Aspect):** **Humankind** (Staying safe) **Processes** (Forces, Modelling, Modelling)	Science: Scientists and inventors. **Lesson 5: Discovering Oxygen** **LO:** To describe the properties of oxygen gas and explain how oxygen was discovered. **Sc:WS3**, **Sc:WS8, Y4:Sc: SM1** **Big Idea (Aspect):** **Processes** (Changes) **Investigation** (Questioning, Measurement, Investigation,	Science: Scientists and inventors. **Lesson 7: Thomas Edison and Lewis Latimer** **LO:** To explore the impact of electrical inventions by inventors such as Thomas Edison and Lewis Latimer. **Sc:WS8, Y4:Sc: E1** **Big Idea (Aspect):** **Comparison** (Physical things) **Significance** (Significant Events, Significant People)

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	Processes (Earth) **Investigation** (Questioning, Investigation, Report & conclude) **Creativity** (Report & conclude) **Significance** (Significant People)		**Creativity** (Report & conclude, Gather & record data) **Comparison** (Physical things) **Significance** (Significant Events, Significant People)		Observations, Report & conclude) **Creativity** (Report & conclude) **Materials** (Identification and Classification) **Significance** (Significant Events, Significant People) **Lesson 6: Absolute Zero** **LO:** To explain what Lord Kelvin called 'absolute zero' and accurately use a thermometer. **Y4:Sc: SM2** **Big Idea (Aspect):** **Processes** (Changes) **Significance** (Significant Events, Significant People)	**Lesson 8: Toothpaste** **LO:** To identify ways to look after our teeth and investigate the invention of toothpaste. **Sc:WS9, Y4:Sc: A2** **Big Idea (Aspect):** **Humankind** (Healthy lifestyle, Healthy lifestyle) **Investigation** (Questioning, Measurement, Investigation, Observations, Report & conclude, Gather & record data) **Creativity** (Report & conclude, Gather & record data) **Significance** (Significant Events, Significant People)