SCIENCE MEDIUM TERM PLANS

Year group						
1	Superheroes	Splendid Skies	Moon Zoom	Paws claws and whiskers	Bright lights, big city	Rio De Vida
	Senses Investigation: Smell, Sight, Sound, Taste and Sound. Can the tallest superhero jump the furthest?	Investigating the Seasons. Identify common flowering plants and trees. Deciduous and evergreen trees. What do frozen things do in summer? How big is a raindrop?	Naming Materials. Investigating Materials. Properties of Materials. Design, make and evaluate a space suit. Balloon Travel Investigation.	Investigating the Seasons. Look at the different groups of animals; fish, amphibians, mammals etc. What do animals eat? Explore diet, carnivore, herbivore and omnivore. Insect Camouflage Investigation.	Popping Yeast balloons Investigation.	Investigating the Seasons. What makes the loudest sound?
	INVESTIGATION: To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. **SCIENTIFIC ENQUIRY** I can perform simple tests. I use my observations and ideas to suggest answers to questions. I can gather and record data. I can observe closely, using simple equipment.	**INVESTIGATION:** To observe changes across the four seasons (Autumn) I can correctly identify and label the parts of a plant. I can correctly identify and label the parts of a tree. I can identify similarities between evergreen and deciduous trees. **SCIENTIFIC ENQUIRY** I can perform simple tests. I can observe closely, using simple equipment. I use my observations and ideas to suggest answers to questions.	**INVESTIGATION:** I can name the materials which classroom objects are made from and place them into groups. I can identify what a range of classroom objects are made from. I can describe properties of materials by investigation what different objects feel like. **SCIENTIFIC ENQUIRY** I can perform simple tests. I can observe closely, using simple equipment. I use my observations and ideas to suggest answers to questions. I can gather and record data.	**INVESTIGATION:** To observe changes across the four seasons (Spring) Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) To identify and name a variety of common animals that are carnivores, herbivores and omnivores. **SCIENTIFIC ENQUIRY** I can perform simple tests. I use my observations and ideas to suggest answers to questions. I can gather and record data.	**INVESTIGATION:** **SCIENTIFIC ENQUIRY** I can perform simple tests. I can observe closely, using simple equipment. I can gather and record data.	**INVESTIGATION:** To observe changes across the four seasons (Summer) To observe and describe weather associated with the seasons and how day length varies. **SCIENTIFIC ENQUIRY** I can perform simple tests. I can observe closely, using simple equipment. I use my observations and ideas to suggest answers to questions. I can gather and record data.
2	Land Ahoy	Street Detectives	Messy Mixtures	Healthy Living	Scented Garden	Beachcomber
		identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy I can identify that most living things live in habitats to which they are suited. Describe how different habitats provide for the basic needs of different kinds of plants Identify and name a variety of plants and animals in their habitats, including microhabitats	explore and compare the differences between things that are living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other identify and name a variety of plants and animals in their habitats, including microhabitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food
		INVESTIGATION 1 : Which material would be best to make Santa some new waterproof trousers? **Investigation 2 :** Which material would be the strongest for wrapping Christmas presents? **SCIENTIFIC ENQUIRY** I observe closely, using simple equipment. I can perform simple tests. I can identify and classify. I can use my observations to suggest answers to a question. I can gather and record data to help answer questions. Explore different types of science enquiries, including practical activities. Begin to recognise different ways in which they might answer scientific questions. Use simple features to compare objects, materials and , with help, decide how to sort and group them. Use simple measurements and equipment to gather data. Talk about what they have found out and how they found it out.	**INVESTIGATION:** If we put kitchen roll in our melted ice lollies what will happen? **SCIENTIFIC ENQUIRY** I observe closely, using simple equipment. I can perform simple tests. I can use my observations to suggest answers to a question. Explore different types of science enquiries, including practical activities. Observe changes over time. Talk about what they have found out and how they found it out.	**INVESTIGATION:** The effect Exercise has on our bodies (children's own questions) **SCIENTIFIC ENQUIRY** I ask simple questions and recognise that they can be answered in different ways. I observe closely, using simple equipment. I can perform simple tests. I can identify and classify. I can use my observations to suggest answers to a question. . I can gather and record data to help answer questions. Explore the world around them and raise their own simple questions. Explore different types of science enquiries, including practical activities. Begin to recognise different ways in which they might answer scientific questions. Observe changes over time. With guidance, they should being to notice patterns and relationships Use simple measurements and equipment to gather	**INVESTIGATION:** What does cress need to grow and stay healthy? Can seeds grow anywhere? What's on your wellies? **SCIENTIFIC ENQUIRY** I ask simple questions and recognise that they can be answered in different ways. I observe closely, using simple equipment. I can perform simple tests. I can identify and classify. I can use my observations to suggest answers to a question. . I can gather and record data to help answer questions. Explore the world around them and raise their own simple questions. Explore different types of science enquiries, including practical activities. Begin to recognise different ways in which they might answer scientific questions. Observe changes over time. Ask people questions and use simple secondary sources to find answers With	**INVESTIGATION:** How can we make a shell disappear? **SCIENTIFIC ENQUIRY** I ask simple questions and recognise that they can be answered in different ways. I observe closely, using simple equipment. I can perform simple tests. I can identify and classify. I can use my observations to suggest answers to a question. . I can gather and record data to help answer questions. Explore the world around them and raise their own simple questions. Explore different types of science enquiries, including practical activities. Ask people questions and use simple secondary sources to find answers Observe changes over time. Talk about what they have found out and how they found it out.

		With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.		data. Talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.	guidance, they should being to notice patterns and relationships Use simple measurements and equipment to gather data. Talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.	With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.
3	Urban Pioneers • compare how things move on different surfaces • notice that some forces need contact between two objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • describe magnets as having two poles • predict whether two magnets will attract or repel each other, depending on which poles are facing.	Predator • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • identify that humans and some other animals have skeletons and muscles for support, protection and movement • Name and locate certain bones in the body	Tremors • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter.	Gods and Mortals •	Flow • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant • investigate the way in which water is transported within plants	Tribal Tales • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Learn some facts about the sun • Learn the names of the planets of our solar system • recognise that shadows are formed when the light from a light source is blocked by an opaque object • find patterns in the way that the size of shadows changes.
	INVESTIGATION: What material are magnetic? Which magnet is the strongest? On which surface do we need the most force to make the object move? **SCIENTIFIC ENQUIRY** • Given a range of scientific experiences including different types of science enquiries to answer questions • Set up simple practical enquiries. • Talk about criteria for grouping, sorting and classifying; and use simple keys • Make systematic and careful observations • Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them • Take accurate measurements using standard units • Learn how to use a range of (new) equipment, such as newton meters • Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, • With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions • Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations.	**INVESTIGATION:** Do people with long legs always jump further than people with short legs? **SCIENTIFIC ENQUIRY** • Given a range of scientific experiences including different types of science enquiries to answer questions • Set up simple practical enquiries. • Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations • Make systematic and careful observations • Take accurate measurements using standard units • Collect and record data from their own observations and measurements in a variety of ways: tables, standard units, labelled diagrams, and help to make decisions about how to analyse this data • With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions • Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations.	**INVESTIGATION:** Permeability / Hardness of rocks. **SCIENTIFIC ENQUIRY** • Raise their own relevant questions about the world around them • Given a range of scientific experiences including different types of science enquiries to answer questions • Set up simple practical enquiries. • Talk about criteria for grouping, sorting and classifying; and use simple keys • Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations • Make systematic and careful observations • Learn how to use a range of equipment, such as pipettes, magnifying glasses. • Collect and record data from their own observations and measurements in a variety of ways: notes, and tables, drawings • With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions • Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations.	**INVESTIGATION:** **SCIENTIFIC ENQUIRY**	**INVESTIGATION:** Transportation of nutrients from the root to the leaves. Investigating the requirements for life in plants. **SCIENTIFIC ENQUIRY** • Raise their own relevant questions about the world around them • Given a range of scientific experiences including different types of science enquiries to answer questions • Start to make own decisions about the most appropriate type of scientific enquiry they might use to answer questions • Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up • Talk about criteria for grouping, sorting and classifying; and use simple keys • Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used • Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them • Collect and record data from their own observations and measurements in a variety of ways: tables, drawings, labelled diagrams, and help to make decisions about how to analyse this data • With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions • Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations.	**INVESTIGATION:** Which material would best protect our eyes from the sun? **SCIENTIFIC ENQUIRY** • Raise their own relevant questions about the world around them • Given a range of scientific experiences including different types of science enquiries to answer questions • Start to make own decisions about the most appropriate type of scientific enquiry they might use to answer questions • Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up • Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations • Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used • Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them • Take accurate measurements using standard units • Collect and record data from their own observations and measurements and help to make decisions about how to analyse this data • With help, pupils should look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions • Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations.

4	**Autumn 1: I Am Warrior**	**Autumn 2: Burps, Bottoms & Bile**	**Spring 1: Traders & Raiders**	**Spring 2: Potions**	**Summer 1: Misty Mountain**	**Summer 2: Blue Abyss**
	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 or not a lamp lights in a simple series circuit recognise some common conductors and insulators, and associate metals with being good conductors.	**The Digestive System** 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.	**Changes of State** 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)	**The Water Cycle** identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. **Living Things** construct and interpret a variety of food chains, identifying producers, predators and prey. recognise that environments can change and that this can sometimes pose dangers to living things.	**Living Things** 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.
	INVESTIGATION: Which materials are insulators? **SCIENTIFIC ENQUIRY** Raise their own relevant questions about the world around them Should be given a range of scientific experiences including different types of science enquiries to answer questions Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up Make systematic and careful observations Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions	**INVESTIGATION:** Which liquids can damage our teeth? **SCIENTIFIC ENQUIRY** Raise their own relevant questions about the world around them Should be given a range of scientific experiences including different types of science enquiries to answer questions Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations Make systematic and careful observations Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions	**INVESTIGATION:** Where is the loudest place in school? **SCIENTIFIC ENQUIRY** Raise their own relevant questions about the world around them Should be given a range of scientific experiences including different types of science enquiries to answer questions Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up Make systematic and careful observations Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used Take accurate measurements using standard units Learn how to use a range of (new) equipment, such as data loggers / thermometers appropriately Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions	**INVESTIGATION:** Which changes are irreversible? **SCIENTIFIC ENQUIRY** Raise their own relevant questions about the world around them Should be given a range of scientific experiences including different types of science enquiries to answer questions Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up Make systematic and careful observations Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used Take accurate measurements using standard units Learn how to use a range of (new) equipment, such as data loggers / thermometers appropriately Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions	**INVESTIGATION:** How does evaporation and condensation work? **SCIENTIFIC ENQUIRY** Raise their own relevant questions about the world around them Should be given a range of scientific experiences including different types of science enquiries to answer questions Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up Make systematic and careful observations Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them Talk about criteria for grouping, sorting and classifying; and use simple keys Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions	**INVESTIGATION:** What can pollute our rivers and seas? **SCIENTIFIC ENQUIRY** Raise their own relevant questions about the world around them Should be given a range of scientific experiences including different types of science enquiries to answer questions Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions Set up simple practical enquiries, comparative and fair tests Recognise when a simple fair test is necessary and help to decide how to set it up Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations Make systematic and careful observations Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used Talk about criteria for grouping, sorting and classifying; and use simple keys Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions
5	Pharaohs	Stargazers	Peasants, Princes and Pestilence	Beast Creator	Scream Machine	Hola Mexico
	• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	• describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	• describe the changes as humans develop to old age	• describe the life process of reproduction in some plants and animals • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	• use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them (addition)

	• know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • demonstrate that dissolving, mixing and changes of state are reversible changes • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.					
	INVESTIGATION: Whether natron will help preserve a fresh tomato. **SCIENTIFIC ENQUIRY** Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions Look for different causal relationships in their data and identify evidence that refutes or supports their ideas Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate.	**INVESTIGATION: How our shadows change during the day** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions Recognise which secondary sources will be most useful to re-search their ideas and begin to separate opinion from fact Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Identify scientific evidence that has been used to support or refute ideas or arguments Use their results to make predictions and identify when further observations, comparative and fair tests might be needed	**INVESTIGATION: How is bacteria spread?** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Use their results to make predictions and identify when further observations, comparative and fair tests might be needed	**INVESTIGATION: What habitat do woodlice prefer?** **SCIENTIFIC ENQUIRY** Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions Make their own decisions about what observations to make, what measurements to use and how long to make them for Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, Use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results Use their results to make predictions and identify when further observations, comparative and fair tests might be needed	**INVESTIGATION: How does surface type affect friction?** **SCIENTIFIC ENQUIRY** Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions Make their own decisions about what observations to make, what measurements to use and how long to make them for Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate. Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, Use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results Use their results to make predictions and identify when further observations, comparative and fair tests might be needed	**INVESTIGATION: How our shadows change during the day** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions Recognise which secondary sources will be most useful to re-search their ideas and begin to separate opinion from fact Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Identify scientific evidence that has been used to support or refute ideas or arguments Use their results to make predictions and identify when further observations, comparative and fair tests might be needed
6	Frozen Kingdom give reasons for classifying plants and animals based on specific characteristics describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals recognise that environments can change and that this can sometimes pose dangers to living things in particular the effect of climate change on the polar regions	Revolution associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches use recognised symbols when representing a simple circuit in a diagram.	Tomorrow's World recognise that light appears to travel in straight lines use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	ID give reasons for classifying plants and animals based on specific characteristics describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are	Darwin's Delights identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood describe the ways in which nutrients and water are transported within animals, including humans recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function	Child's War give reasons for classifying plants and animals based on specific characteristics describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals

				adapted to suit their environment in different ways and that adaptation may lead to evolution.		
	INVESTIGATION: How does climate change contribute to melting ice caps and how does this effect sea level on Earth? **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions Choose the most appropriate equipment to make measurements with increasing precision and explain how to use it accurately. Take repeat measurements where appropriate.	**INVESTIGATION: How does the number of cells effect the brightness of a bulb or the loudness of a buzzer?** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Look for different causal relationships in their data and identify evidence that refutes or supports their ideas Use their results to make predictions and identify when further observations, comparative and fair tests might be needed	**INVESTIGATION: Light??** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Make their own decisions about what observations to make, what measurements to use and how long to make them for	**INVESTIGATION: Which finches live on which Galapagos island, depending on beak size.** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Talk about how scientific ideas have developed over time Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why Use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment Decide how to record data and results of increasing complexity from a choice of familiar approaches: scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	**INVESTIGATION: To investigate the effects on our bodies through exercise and diet.** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Identify scientific evidence that has been used to support or refute ideas or arguments	**INVESTIGATION: Are our fingerprints really all different?** **SCIENTIFIC ENQUIRY** Use their science experiences to explore ideas and raise different kinds of questions Recognise which secondary sources will be most useful to re-search their ideas and begin to separate opinion from fact Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas, Use oral and written forms such as displays and other presentations to report conclusions, causal relationships and explanations of degree of trust in results