

Curriculum map

Science

	Autumn	Spring	Summer
EYFS	<u>Ourselves</u> <ul style="list-style-type: none"> To understand how to look after ourselves (washing, personal hygiene, dental hygiene, healthy eating). To identify how humans change as they grow. To compare ourselves to one another. To identify some of the different body parts of a human. To talk about our 5 senses. 	<u>Dinosaurs</u> <ul style="list-style-type: none"> To know that dinosaurs do not exist today and that they existed a very long time ago called Jurassic time. To identify how we know about dinosaurs today. To know what dinosaurs ate, which dinosaurs were herbivores, carnivores and omnivores. To learn the features of some of the dinosaurs. <hr/> <u>Animals and Growing</u> <ul style="list-style-type: none"> To know the life cycle of humans, some farm animals, and plants. To identify how humans, animals and plants grow (living things grow). To identify how to keep healthy by eating and exercising (nutrition). To plant seeds and know what a plant needs to grow healthy. To know where their food comes from. To know that a life cycle come to an end. 	<u>Mini-beasts</u> <ul style="list-style-type: none"> To observe the lifecycle of a caterpillar. To list similarities and differences between minibeasts. To compare spiders.
Year 1	<u>Animals Inc. Humans (Common Animals)</u> <p>Humans</p> <p>To identify, name and label the parts of the human body.</p> <ul style="list-style-type: none"> I can name parts of the human body. I can identify parts of the body and label them. 	<u>Everyday Materials</u> <p>To identify and name different materials.</p> <ul style="list-style-type: none"> I can recognise different materials and identify them by a picture. I can match a material to its name. 	<u>Plants (Identifying Plants and Their Structures)</u> <p>To plant seeds and observe them growing.</p> <p>To identify and name a variety of plants growing in our local environment.</p> <ul style="list-style-type: none"> I can observe and record carefully.

	<p>To name the five senses.</p> <ul style="list-style-type: none"> I can identify different things using my five senses. <p>To identify which part of the body is used for each sense.</p> <ul style="list-style-type: none"> I can name the five senses. I can perform simple tests to answer questions about my senses. <p>To understand our five senses. (optional lesson)</p> <ul style="list-style-type: none"> I can give my own opinions. <p style="text-align: center;">Animals</p> <p>To group animals in different ways.</p> <ul style="list-style-type: none"> I can name some common animals. <p>To name and label the parts of an animal.</p> <ul style="list-style-type: none"> I can name some common animals. I know the structure of different animals. I can name the five animal groups. <p>To describe the characteristics of mammals.</p> <ul style="list-style-type: none"> I can name and label the parts of an animal. <p>To describe the characteristics of birds. (optional lesson)</p> <ul style="list-style-type: none"> I can name and label the parts of an animal. <p>To name and identify animals from the five animal groups.</p> <ul style="list-style-type: none"> I can name some common animals. I can name the five animal groups. I can identify what groups animals belong to. <p>To describe and compare animals from different animal groups.</p> <ul style="list-style-type: none"> I can name some different animal's features. I can say how animals are similar. I can say how animals are different. 	<p>To tell the difference between an object and the materials it is made from.</p> <ul style="list-style-type: none"> I can name specific objects. I can identify the materials which specific objects are made from. I can explain the difference between objects and materials. <p>To give our own opinions to a scientific question. (optional lesson)</p> <p>To describe the simple properties of everyday materials.</p> <ul style="list-style-type: none"> I can choose words which describe how materials look. I can choose words which describe how materials feel. <p>To compare and group materials based on their properties.</p> <ul style="list-style-type: none"> I can group together objects with the same properties. I can explain how I have sorted the objects. <p>To investigate waterproof materials.</p> <ul style="list-style-type: none"> I can follow the steps in the method. I can test different materials and can record my observations. I can identify materials that are waterproof and those that are not. <p>To compare materials to find out which will be the most successful for building a house. (optional lesson)</p> <ul style="list-style-type: none"> I can predict which materials would be the best for house building. I can work with a group to build a house using a material. I can explain whether a material will be suitable or not. <p>-----</p>	<ul style="list-style-type: none"> I can be respectful of the plant life. I can use a key to help me identify plants. <p>To identify the basic structure of flowering garden plants.</p> <p>To identify the basic structure of flowering garden plants. (optional lesson)</p> <ul style="list-style-type: none"> I can use scientific vocabulary. I can label the parts of the plant on the diagram. <p>To compare and contrast two different plants.</p> <ul style="list-style-type: none"> I can identify similarities (things that are the same). I can identify differences (things that are different). <p>To identify and name a variety of wild plants.</p> <ul style="list-style-type: none"> I can name some garden plants. I can name some wild plants. I can sort the plants into groups. <p>To identify and describe the basic structure of a trees.</p> <ul style="list-style-type: none"> I can identify and name a variety of trees. I can name the different parts of a tree on a diagram. I can use scientific vocabulary. <p>To identify and name a variety of deciduous and evergreen trees. (optional lesson)</p> <ul style="list-style-type: none"> I can identify trees by their leaves. <p>To identify and name a variety of deciduous and evergreen trees.</p> <ul style="list-style-type: none"> I can identify trees by their leaves. I can sort different types of trees into two groups. <p>-----</p>
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To sort animals into the diet groups they belong to.

- I can explain what herbivores, omnivores and carnivores eat.
- I can identify what different animals eat.
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Seasonal Changes

Autumn

To understand seasonal changes of autumn.

- I can identify signs of autumn.
- I can describe the weather in autumn.

To observe changes to plants in autumn.

- I can identify signs of autumn.

To observe changes across the four seasons – autumn.

Winter

To understand seasonal changes of winter.

- I can identify signs of winter.
- I can describe the weather in winter.

To understand how the seasons and weather affect our daily life. (optional lesson)

- I can explain what we wear in winter and give reasons why.

To observe and record daily weather.

- I can describe different types of weather.
- I can observe how day length varies.

To observe changes across the four seasons – winter.

Seasonal Changes

Spring

To understand seasonal changes of spring.

- I can identify signs of spring.
- I can describe the weather in spring.

To share opinions about different types of weather.

- I understand that the weather changes in different seasons.

To observe changes across the four seasons – spring.

Seasonal Changes

Summer

To understand seasonal changes of summer.

- I can identify signs of summer.
- I can describe the weather in summer.

To understand how the seasons and weather affect our daily life.

- I can explain what we wear in summer and give reasons why.
- I can explain how to stay safe in the sun.

To observe and record daily weather.

- I can describe different types of weather.
- I can observe how day length varies.

To observe changes across the four seasons – summer.

<p>Year 2</p>	<p><u>Uses of Everyday Materials</u></p> <p>To describe the properties of range of materials.</p> <ul style="list-style-type: none"> I can use appropriate scientific vocabulary. <p>To compare and group materials, based on their properties.</p> <ul style="list-style-type: none"> I can identify the properties of materials. I can use the properties to group materials. <p>To explain which properties make a material suitable or unsuitable for a use.</p> <ul style="list-style-type: none"> I can explain suitability of materials. <p>To choose a material for an object and explain why it is suitable. (optional lesson)</p> <ul style="list-style-type: none"> I can explain suitability of materials. <p>To understand that materials can have many different uses.</p> <ul style="list-style-type: none"> I can identify different everyday materials. I can explain what materials can be used for and why. <p>To describe the properties that make a material suitable for a particular use.</p> <ul style="list-style-type: none"> I can identify objects. I can explain what these objects are used for and why. <p>To investigate how materials can change shape by squashing, bending, twisting, and stretching.</p> <ul style="list-style-type: none"> I can name materials that can be altered in shape. I can say which materials will permanently change shape and those that will regain their shape. <p>To test materials for stretchiness.</p> <ul style="list-style-type: none"> I can make predictions. I can record my observations. 	<p><u>Living Things and Their Habitats (Habitats and Food chains)</u></p> <p>To understand what all living things need to stay alive.</p> <p>To understand what all living things need to stay alive.</p> <ul style="list-style-type: none"> I can understand that there are 7 life processes for all living things. <p>To compare the differences between things that are living, dead and things that have never been alive.</p> <ul style="list-style-type: none"> I can think about whether something is living, dead or has never been alive. I can sort objects into categories. <p>To compare the differences between things that are living, dead and things that have never been alive.</p> <ul style="list-style-type: none"> I can think about whether something is living, dead or has never been alive. I can sort objects into categories. <p>To understand how habitats provide for the basic needs of plants and animals.</p> <p>To identify and name a variety of plants and animals in local habitats.</p> <ul style="list-style-type: none"> I can group and classify animals based on their habitats. I can describe a habitat and identify the animals that live in it. <p>To identify and name a variety of plants and animals in world habitats.</p> <ul style="list-style-type: none"> I can group and classify animals based on their habitats. I can describe a habitat and identify the animals that live in it. <p>To describe why animals are suited to different habitats.</p>	<p><u>Plants (Growing Plants)</u></p> <p>-----</p> <p><u>Animals Inc. Humans (Health and Growth) – life cycles part</u></p> <p>To understand the life cycle of a human.</p> <ul style="list-style-type: none"> I understand that humans grow and are able to do more things as they get older. I can describe the different stages in the human life cycle. <p>To compare the stages of a human life cycle.</p> <ul style="list-style-type: none"> I understand that humans grow and are able to do more things as they get older. I can describe the different stages in the human life cycle. <p>To recognise how I have changed from a baby to a child.</p> <ul style="list-style-type: none"> I can recognise features of babies. I can recognise features of children. I can observe changes that occur when babies grow into children. <p>To carry out an investigation to answer a question. (optional lesson)</p> <ul style="list-style-type: none"> I can write a prediction. I can record measurements using equipment. I can record my results and use them to write a conclusion. <p>To understand that animals have offspring which grow into adults.</p> <ul style="list-style-type: none"> I can understand how animals change as they grow. I can understand that baby animals grow and develop to become adults.
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	<ul style="list-style-type: none"> I can look for patterns in my results. <p>-----</p> <p><u>Animals Inc. Humans (Health and Growth) – excluding life cycles part</u></p> <p>To describe the basic needs of animals for survival. To understand that there are different food groups.</p> <ul style="list-style-type: none"> I can record data in a tally and pictogram. I know which foods are healthy. I can name different types of food. <p>To sort food into different food groups.</p> <ul style="list-style-type: none"> I can name different types of food. I can sort food into different groups. <p>To describe the importance of eating a balanced diet. (optional lesson)</p> <ul style="list-style-type: none"> I can understand what is meant by a ‘balanced diet’. I can name the foods we should eat a lot of, eaten in moderation and eaten as a treat. <p>To group and compare food from different food groups.</p> <ul style="list-style-type: none"> I can group and compare foods. I know which foods are good for me. <p>To understand that some food is high in fat.</p> <ul style="list-style-type: none"> I can carry out a fair test. I can make a prediction. <p>To understand that some food is high in fat.</p> <ul style="list-style-type: none"> I can understand which food is high in fat. I can record the results of an investigation. I can write a conclusion. <p>To describe the importance of exercise for humans.</p> <ul style="list-style-type: none"> I can explain the importance of exercise for staying fit and healthy. 	<ul style="list-style-type: none"> I can describe a habitat and identify the animals that live in it. I can describe the features of different animals and why they are suited to their habitat. <p>To design a creature that is suited to its habitat.</p> <ul style="list-style-type: none"> I can describe the features of different animals and why they are suited to their habitat. <p>To understand why animals are dependent on the plants in their habitats.</p> <p>To find microhabitats and identify the minibeasts I find there.</p> <ul style="list-style-type: none"> I can use a classification key to identify minibeasts. I can record information about minibeasts in a table. <p>To create a pictogram to record our findings.</p> <ul style="list-style-type: none"> I can present my results in a pictogram. I can use my findings to compare two microhabitats. <p>To describe how animals get their food from plants and other animals.</p> <ul style="list-style-type: none"> I can give some examples of different food sources. I can give examples of carnivores, herbivores and omnivores. <p>To describe how animals get their food from plants and other animals.</p> <ul style="list-style-type: none"> I can describe how an animal gets their food. I know that a food chain starts with a plant (producer). <p>To design a suitable habitat for an animal. (optional lesson)</p> <ul style="list-style-type: none"> I can explain what all living things need to stay alive. 	<ul style="list-style-type: none"> I understand that babies can be similar or different to their adult parents. <p>To identify similarities and differences between different animals’ offspring.</p> <ul style="list-style-type: none"> I can describe the key characteristics of the offspring found in different animal groups. <p>To understand the lifecycle of a chicken.</p> <ul style="list-style-type: none"> I can explain that a baby chick grows inside an egg. I can describe the changes a chicken goes through in its life cycle. <p>To understand the lifecycle of a butterfly.</p> <ul style="list-style-type: none"> I can describe the changes a butterfly goes through in its life cycle. I understand that babies can be similar or different to their adult parents. <p>To compare the life cycles of two insects.</p> <ul style="list-style-type: none"> I can describe the changes a butterfly goes through in its life cycle. I can describe the changes a bee goes through in its life cycle. I can identify similarities and differences between the insect life cycles.
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	<p>To understand what effect exercise has on our hearts.</p> <p>To describe the importance of exercise for humans.</p> <ul style="list-style-type: none"> I can explain the importance of exercise for staying fit and healthy. <p>To understand the importance of good hygiene.</p> <ul style="list-style-type: none"> I know that I need to keep clean to stay healthy. I understand that I need to have plenty of rest to stay healthy. I know the importance of washing my hands. 	<ul style="list-style-type: none"> I can design a habitat that provides for the basic needs of an animal. <p>To plan, design and create a suitable habitat for an animal. (optional lesson)</p> <ul style="list-style-type: none"> I can explain what all living things need to stay alive. I can design a habitat that provides for the basic needs of an animal. 	
Year 3	<p><u>Forces and Magnets</u></p> <p>To understand that there are different types of forces.</p> <ul style="list-style-type: none"> I can describe friction as a force that acts upon 2 surfaces and it slows the moving objects down. I can identify instances where we desire more/less friction. I can identify surfaces in which friction acts upon. <p>To compare how things move on different surfaces.</p> <ul style="list-style-type: none"> I can describe friction as a force that acts upon 2 surfaces and it slows the moving objects down. I can compare how things move on different surfaces by explaining it in terms of the amount of friction between two objects/ surfaces. I can describe how we can make our test fair. I can record findings using a table. <p>To analyse the results from an experiment.</p> <ul style="list-style-type: none"> I can identify which materials create the most/ least friction and can give some reasons why. I can record findings using a bar chart. 	<p><u>Rocks</u></p> <p>To understand that there are different types of rock.</p> <ul style="list-style-type: none"> I can make careful observations. I can identify some properties of different types of rocks. <p>To compare and group rocks based on their appearance.</p> <ul style="list-style-type: none"> I can compare and contrast rocks based on their appearance (colour, shape, grains, crystals, surface texture) <p>To carry out an investigation into the physical properties of rocks.</p> <ul style="list-style-type: none"> I can make careful observations. <p>To compare and group rocks based on simple physical properties.</p> <ul style="list-style-type: none"> I can compare and contrast rocks based on their properties (e.g. permeability, durability). <p>To identify the different uses of rocks in our local environment.</p> <ul style="list-style-type: none"> I can describe how properties of rocks determine how they are used. <p>To compare the different purposes and uses of rocks based on their properties.</p>	<p><u>Plants (Functions & Life Cycles)</u></p> <p>To name the different parts of flowering plants and explain their function.</p> <ul style="list-style-type: none"> I can draw on my previous knowledge of the different parts of a plant. I can explain the function of each part of a plant. <p>To express my opinions, using my knowledge of plants to support my ideas.</p> <p>To name the different parts of a flower.</p> <ul style="list-style-type: none"> I can recognise some of the parts of a flower. I understand that seeds are needed to make new plants. <p>To investigate what plants need for life and growth.</p> <ul style="list-style-type: none"> I can record observations over time. I can make a prediction using my prior knowledge. I can draw diagrams and record my observations in a table. I can accurately measure the height of the plant in cm. <p>To explore the part that flowers play in pollination. I can describe how pollination occurs.</p>

	<ul style="list-style-type: none"> I can answer questions about the data giving reasons why. <p>To identify what happens when different forces are applied.</p> <ul style="list-style-type: none"> I know that forces can make objects start to move, speed up, slow down, stop, or change direction. <p>To understand that there are different types of forces.</p> <ul style="list-style-type: none"> I know that forces can make objects start to move, speed up, slow down, stop, or change direction. <p>To observe how magnets attract or repel each other.</p> <ul style="list-style-type: none"> I understand that a magnet has two poles. I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing. I can record findings using diagrams and labels. <p>To write a diary entry using our knowledge of forces.</p> <ul style="list-style-type: none"> I can demonstrate my knowledge of different forces using scientific vocabulary. <p>To conduct an investigation into magnetic materials.</p> <ul style="list-style-type: none"> I can identify which materials are magnetic and which are not. I compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet. I know that not all metals are magnetic. I can notice that some forces need contact between two objects, but magnetic forces can act at a distance. <p>To plan a fair test to investigate the strength of different magnets.</p> <ul style="list-style-type: none"> I can explore the strengths of different magnets and find a fair way to compare them. 	<ul style="list-style-type: none"> I can describe how properties of rocks determine how they are used. <p>To understand how different types of rocks are formed.</p> <ul style="list-style-type: none"> I know that rocks are formed in different ways. I can explain how rocks are formed. <p>To understand what fossils are and identify similarities between animals and their fossils.</p> <ul style="list-style-type: none"> I know the difference between a bone and a fossil. I know that there are different types of fossils. <p>To explain how fossils are formed.</p> <ul style="list-style-type: none"> I can order the steps of fossilisation. <p>To sort, classify and compare a range of fossils.</p> <ul style="list-style-type: none"> I know that there are different types of fossils. I know what information fossils can tell us. <p>To make careful observations and draw accurate diagrams.</p> <p>To research a famous scientist and understand the importance of Mary Anning's fossil findings.</p> <ul style="list-style-type: none"> I know what a palaeontologist does. I can recall some facts about Mary Anning. I can explain why her findings were important. I can explain why fossil discoveries are important. <p>To recognise that soils are made from rocks and organic matter.</p> <p>To identify similarities and differences between soils.</p>	<p>To understand how plants disperse their seeds.</p> <ul style="list-style-type: none"> I can understand and explain the different methods of seed dispersal. <p>To understand that seeds are dispersed in different ways depending on their characteristics.</p> <ul style="list-style-type: none"> I can understand and explain the different methods of seed dispersal. <p>To investigate how water is transported within plants.</p> <ul style="list-style-type: none"> I can plan an investigation to show that water is absorbed in the roots. I know that the stem transports water to the rest of the plant. <p>To understand and order the stages of the life cycle of a flowering plant.</p> <ul style="list-style-type: none"> I know some of the changes that happen to a plant over the course of its lifetime. I can understand the importance of the flowers for a flowering plant. <p>-----</p> <p style="text-align: center;"><u>Light (Light and Shadows)</u></p> <p>To identify and categorise different light sources.</p> <ul style="list-style-type: none"> I can recognise that we need light in order to see things. I know that dark is the absence of light. I can identify sources of light. <p>To investigate which objects let light through them.</p> <ul style="list-style-type: none"> I can sort materials according to whether they are opaque, transparent or translucent. <p>To investigate which surfaces reflect light.</p> <ul style="list-style-type: none"> I can notice that some materials reflect light. I can carry out a fair test to see which materials reflect light.
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	<ul style="list-style-type: none"> • I can plan a fair test and understand what makes it fair. • I know that not all magnets are the same. <p>-----</p> <p><u>Animals Inc. Humans (Nutrition and Moving)</u></p> <p>To understand the proportions of a balanced diet.</p> <ul style="list-style-type: none"> • I can identify the main food groups. • I can name some foods in each of the food groups. <p>To identify food in different food groups.</p> <ul style="list-style-type: none"> • I can identify the main food groups. • I can name some foods in each of the food groups. <p>To understand the functions of different food groups.</p> <ul style="list-style-type: none"> • I know why we need to eat certain food groups and the effect on the body if we didn't. <p>To write a letter using our knowledge of food groups.</p> <ul style="list-style-type: none"> • I can understand the correct proportions for a healthy meal. <p>To compare and categorise animals based on their diets.</p> <ul style="list-style-type: none"> • I know the difference between herbivores, carnivores and omnivores. • I can group animals based on their diets. <p>To identify and name bones in the human skeleton.</p> <ul style="list-style-type: none"> • I can build a skeleton and identify common bone names. • I can name some of the scientific names for bones. <p>To identify that humans have skeletons for support, protection and movement.</p> <ul style="list-style-type: none"> • I can explain the functions of a skeleton. 	<p>To carry out a comparative test experiment.</p> <p>To compare and record the results from our experiment.</p>	<p>To explore what happens when light is reflected off of a mirror.</p> <ul style="list-style-type: none"> • I can notice that some materials reflect light. • I know that a mirror is a reflective surface. <p>To recognise that shadows are formed when light is blocked by an opaque object.</p> <ul style="list-style-type: none"> • I know what a shadow is. • I know that shadows are formed when the light is blocked by an opaque object. <p>To find patterns in what happens to shadows when the light source moves.</p> <p>To find patterns in the way that the size of shadows change.</p> <ul style="list-style-type: none"> • I can notice patterns in the way the size of shadows change. • I can record my findings using tables and graphs. <p>To recognise that light from the sun can be dangerous.</p> <ul style="list-style-type: none"> • I know of different ways they can protect themselves against the sun.
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	<p>To understand that we have different types of joints in our bodies that help us to move.</p> <ul style="list-style-type: none"> • I can identify different joints in a skeleton. <p>To sort and group animals based on their skeletons.</p> <ul style="list-style-type: none"> • I know that other animals have skeleton and they are for support, movement and protection. <p>To identify similarities and differences when comparing skeletons.</p> <ul style="list-style-type: none"> • I can name key parts of the skeleton in other animals. • I can identify similarities and differences between skeletons. <p>To understand that humans have muscles for movement.</p> <ul style="list-style-type: none"> • I know that muscles are for movement but that does not just mean for walking or lifting out limbs. • I can describe muscles as contracting and relaxing. • I can describe the function of our muscles in the different part of our body and how muscles help us move. 		
Year 4	<p><u>Animals Inc. Humans (Teeth and Digestion)</u></p> <p>To identify the different human teeth and their functions.</p> <ul style="list-style-type: none"> • I can identify the types of human teeth. • I can identify the function of human teeth. • I can match the types and functions of teeth. <p>To compare and contrast teeth of different animals.</p> <ul style="list-style-type: none"> • I can identify the function of different teeth. • I can classify animals according to the type of teeth they have. • I can identify similarities and differences of carnivores, herbivores and omnivores. 	<p><u>Electricity</u></p> <p>To group and classify different appliances.</p> <ul style="list-style-type: none"> • I can identify some electrical appliances and devices. • Sort appliances based on whether they use mains or batteries. • Distinguish between appliances that use and do not use electricity. <p>To identify how to stay safe when using electricity.</p> <ul style="list-style-type: none"> • I can identify some electrical appliances and devices. <p>To understand the impact electricity has on our everyday lives.</p>	<p><u>Living Things and Their Habitats (Classification Keys & Changing Environments)</u></p> <p>To understand the 7 life processes of living things.</p> <ul style="list-style-type: none"> • I can identify what processes makes an organism living. <p>To identify different leaves using a key.</p> <ul style="list-style-type: none"> • I can distinguish between organisms based on their characteristics.

	<p>To investigate the effects of tooth decay.</p> <ul style="list-style-type: none"> •I can set up a comparative test. •I can make a prediction using my prior knowledge. •I can record my observations using labelled diagrams and can use this to write a conclusion. <p>To use scientific evidence and my prior knowledge to answer questions.</p> <ul style="list-style-type: none"> •I can identify the function of human teeth. <p>To describe and explain how to protect teeth.</p> <ul style="list-style-type: none"> •I understand ways in which teeth can be kept healthy. •I know the importance of brushing your teeth. <p>To understand the process of digestion.</p> <ul style="list-style-type: none"> •I can name some parts of the human digestive system. •I understand that different parts of the digestive system have different important functions. •I understand what parts the household items represent in the digestive system model. <p>To identify and name parts of the human digestive system.</p> <ul style="list-style-type: none"> •I can name all parts of the human digestive system. •I understand that different parts of the digestive system have different important functions. <p>To explain the functions of the digestive system.</p> <ul style="list-style-type: none"> •I can name all parts of the human digestive system. •I can describe the digestion process in the correct order. •I understand that different parts of the digestive system have different important functions. <p>To understand the functions of some parts of the digestive system.</p> <ul style="list-style-type: none"> •I can describe the digestion process in the correct order. •I understand that different parts of the digestive system have different important functions. 	<p>To construct a simple electrical circuit, identifying and naming its parts.</p> <ul style="list-style-type: none"> •I can follow instructions to set up circuits. •I can name the components of a circuit. •I can draw a labelled diagram of the circuit. •I can identify what makes a circuit complete. <p>To construct a simple electrical circuit using computer software.</p> <ul style="list-style-type: none"> •I can name the components of a circuit. •I can identify what makes a circuit complete. <p>To predict and test complete and incomplete circuits.</p> <ul style="list-style-type: none"> •I can explain how a circuit works and why it might not work. •I can make predictions using my prior knowledge. •I can construct the given circuits and record if the circuit is complete or incomplete. <p>To identify and sort materials into electrical conductors or insulators.</p> <ul style="list-style-type: none"> •I can explain why some materials conduct electrical currents and why others don't. •I can test materials to check if they are conductors or insulators. <p>To investigate if all metals are good electrical conductors.</p> <p>To explain how a switch works and why they are needed.</p> <ul style="list-style-type: none"> •I can explain that a switch turns the electric current on and off. •I can create a circuit containing a switch. <p>To explain how an electrical circuit works.</p> <ul style="list-style-type: none"> •I can recall all my knowledge about electricity. •I can explain how a circuit works and why it might not work. <p style="text-align: center;"><u>States of Matter</u></p>	<p>To draw a range of leaves from observation and describe their characteristics.</p> <ul style="list-style-type: none"> •I can draw simple diagrams, labelling them appropriately. <p>To group and classify leaves using a key.</p> <ul style="list-style-type: none"> •I can group leaves based on their shared characteristic. •I can explain my reasoning for grouping leaves together. <p>To recognise that animals can be grouped in a variety of ways.</p> <ul style="list-style-type: none"> •I can group organisms based on their shared characteristic. •I can explain my reasoning for grouping organisms together. <p>To group animals into vertebrates and invertebrates.</p> <ul style="list-style-type: none"> •I know the differences between vertebrates and invertebrates. •I can describe the characteristics of the different vertebrate groups. <p>To group and classify animals based on criteria.</p> <ul style="list-style-type: none"> •I can group animals based on more than 1 criteria. <p>To group and classify animals based on criteria.</p> <ul style="list-style-type: none"> •I can group animals based on more than 1 criteria. <p>To classify vertebrates based on their characteristics.</p> <ul style="list-style-type: none"> •I can group similar animals using a range of other characteristics. <p>To classify vertebrates using a classification key.</p> <p>To identify invertebrates in our local environment.</p> <ul style="list-style-type: none"> •I can identify invertebrates using a key. <p>To identify invertebrates in our local environment.</p> <ul style="list-style-type: none"> •I can use my findings to identify and classify invertebrates found.
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	<p>To construct and interpret food chains.</p> <ul style="list-style-type: none"> • I can order a simple food chain. • I can identify the producer, predator and prey. • I can interpret a variety of food chains. • I can make links between plants and animals in the form of food chains. <p style="text-align: center;"><u>Sound</u></p> <p>To identify how sounds are made.</p> <ul style="list-style-type: none"> • I can explain how sources of sound vibrate, creating sound. <p>To identify and describe different sources of sound.</p> <ul style="list-style-type: none"> • I can explain how sources of sound vibrate, creating sound. <p>To explain how sounds are produced by vibrations.</p> <ul style="list-style-type: none"> • I can observe the effect of sound on objects. • I can observe how sound travels through a medium (air). <p>To explain how sounds are produced by vibrations.</p> <ul style="list-style-type: none"> • I can observe the effect of sound on objects. • I can observe how sound travels through a medium (air, water, solid objects). <p>To recognise that vibrations from sounds travel through a medium to the ear.</p> <ul style="list-style-type: none"> • I can explain how sounds travel to our ears. • I can begin to understand how the ear functions to detect sound. <p>To find patterns between the pitch and volume of a sound and features of the object that produced it.</p> <ul style="list-style-type: none"> • I can understand that sound is a form of energy and will know that the more energy that is put into creating a sound, the louder the sound that is made. • I can identify the relationship between the volume of a sound and the strength of the vibrations that produced it. 	<p>To sort and classify materials into groups of solids and liquids.</p> <ul style="list-style-type: none"> • I can discuss and explore the properties that make a material a solid or a liquid. • I can use these features to classify different materials. • I can explain my reasons for the classification of materials. <p>To describe the properties of solids, liquids and gases.</p> <ul style="list-style-type: none"> • I can show the difference between the particles in solids, liquids and gases. <p>To describe the properties of solids, liquids and gases.</p> <ul style="list-style-type: none"> • I can show the difference between the particles in solids, liquids and gases. <p>LI: To investigate gases and explain their properties.</p> <ul style="list-style-type: none"> • I can explain some uses of gases. • I can investigate the weight of a gas. <p>To compare and group materials according to whether they are solids, liquids or gases.</p> <ul style="list-style-type: none"> • I understand the properties of solids, liquids and gases. • I can use these properties to classify the materials. • I can explain my reasons for the classification of materials. <p>To observe that some materials change state when they are heated or cooled.</p> <ul style="list-style-type: none"> • I understand how heat can cause solids to change to liquids and vice versa. <p>To carry out an investigation into the melting points of different solids.</p> <ul style="list-style-type: none"> • I understand how heat can cause solids to change to liquids. • I can measure temperature accurately using a thermometer. 	<p>To group and classify invertebrates using a branching database.</p> <ul style="list-style-type: none"> • I can create a branching key to classify invertebrates. <p>To understand how living things survive when their environment changes.</p> <ul style="list-style-type: none"> • I can understand how animals adapt to survive in their environment. <p>To recognise that human impact on the environment can pose a danger to living things.</p> <ul style="list-style-type: none"> • I know that human changes to the environment can either negative or positive. <p>To recognise that human impact on the environment can pose a danger to living things.</p> <ul style="list-style-type: none"> • I can understand human impact on the environment and hypothesise changes. <p>To understand the effect humans can have on the environment.</p> <ul style="list-style-type: none"> • I can make a hypothesis and prediction. <p>To use scientific evidence to justify my ideas.</p> <ul style="list-style-type: none"> • I can discuss and explain my thinking. • I can use evidence to justify my ideas. • I can recall prior learning.
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	<p>To recognise that sounds get fainter as the distance from the sound source increases.</p> <ul style="list-style-type: none"> •I can take accurate measurements using a decibel metre. •I can identify patterns within my results and use the results to draw a conclusion. <p>To consider reasons for needing to reduce sound.</p> <ul style="list-style-type: none"> •I can identify some of the ways we try to reduce the sounds that we hear. <p>To investigate which materials provide the best insulation against sound.</p> <ul style="list-style-type: none"> •I can consider reasons for needing to reduce sound. •I can plan an investigation that will find out which material will best reduce sound. •I can consider the different variables of my test and plan how to ensure my investigation is fair. •I can record the results of the investigation and use the results to draw a conclusion. 	<ul style="list-style-type: none"> •I can record my results and use these to write a conclusion. <p>To investigate which factors affect evaporation.</p> <ul style="list-style-type: none"> •I can carry out a fair test, identifying which variables to change and which to keep the same. •I can record my results and use these to write a conclusion. •I can explain the effect of temperature on the process of evaporation. <p>To identify and describe the different stages of the water cycle.</p> <ul style="list-style-type: none"> •I can explain the role of evaporation and condensation in the water cycle. 	
Year 5	<p><u>Earth and Space</u></p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies.</p> <ul style="list-style-type: none"> •I can recognise that the Earth, Sun and Moon are spherical. •I can give examples of evidence to prove that the Earth, Sun and Moon are spherical. •I can describe why people have not always believed that the Earth was spherical. <p>To learn about the shape and relative sizes of the Earth, Sun and Moon.</p> <ul style="list-style-type: none"> •I can choose three spheres to represent the relative sizes of the Sun, Earth and Moon. •I know the actual sizes of the Sun, Earth and Moon. •I know approximately how far away from each other the Earth, Sun and Moon are. <p>To describe the movement of the moon relative to the earth and the sun.</p>	<p><u>Properties & Changes of Materials</u></p> <p>To demonstrate understanding of solids, liquids and gases.</p> <ul style="list-style-type: none"> •I can make links with my prior knowledge. •I know the differences between states of matter. •I know the definitions of solids, liquids and gases. <p>To understand that some materials change state when they are heated or cooled.</p> <ul style="list-style-type: none"> •I can make links with my prior knowledge. •I know the differences between states of matter. •I know the definitions of solids, liquids and gases. •I can describe the processes that occur when materials are heated or cooled. <p>To understand the properties of materials.</p> <ul style="list-style-type: none"> •I can scientific vocabulary to describe the properties. <p>To compare and group together everyday materials on the basis of their properties.</p>	<p><u>Animals inc. humans (Growth and Development of Humans)</u></p> <p>To understand the stages of the human life cycle.</p> <ul style="list-style-type: none"> •I can understand the different stages of a human life cycle. <p>To create a timeline to show the changes in human growth and development.</p> <ul style="list-style-type: none"> •I can explain the changes that take place at each stage in the human life cycle. <p>To compare gestation periods of different animals.</p> <ul style="list-style-type: none"> •I can make predictions about animal gestation periods. •I can order animal gestation periods from the shortest to longest. <p>To compare gestation periods of different mammals.</p> <ul style="list-style-type: none"> •I can use data to create a bar graph.

	<ul style="list-style-type: none"> •I understand that the moon orbits the earth. •I can explain that the earth spins on its axis. •I know that an axis is an imaginary line that goes through the planet's center from top to bottom. •I can explain that the earth revolves around the sun. <p>To understand the phases of the moon.</p> <ul style="list-style-type: none"> •I know that the moon is a natural satellite that orbits the earth. •I can describe the different phases of the moon. <p>To learn about the different planets in the solar system.</p> <ul style="list-style-type: none"> •I know the order of the planets in the solar system. •I know some facts about different planets. <p>To group and classify different planets in the solar system.</p> <ul style="list-style-type: none"> •I know that each planet spins around its own axis. •I know that an axis is an imaginary line that goes through the planet's centre from top to bottom. •I know that when a planet spins around its own axis, that is called "rotating." •I know that when planets orbit or travel around the sun, that is called "revolving." <p>To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <ul style="list-style-type: none"> •I can explain that the earth spins on its axis. •I know that an axis is an imaginary line that goes through the planet's centre from top to bottom. •I can explain that the earth revolves around the sun. <p>To express my opinions, using my knowledge of Earth and space to support my ideas.</p> <ul style="list-style-type: none"> •I know that the Earth spins on its axis once every 24 hours, making the Sun appear as though it is travelling across the sky. •I can explain why night and day do not happen at the same time in different parts of the world. 	<ul style="list-style-type: none"> •I can make a prediction. •I can test the material appropriately to find the answer. •I can sort the material into the correct group on the Venn diagram, paying close attention to the intersecting sections. <p>To carry out an investigation into thermal insulators.</p> <ul style="list-style-type: none"> •I can make a prediction. •I can take accurate results using appropriate measuring equipment. <p>To give reasons for the particular uses of everyday materials.</p> <ul style="list-style-type: none"> •I can identify the properties of different materials. •I can give reasons why materials are suitable, using scientific vocabulary. <p>To understand that some materials will dissolve in a liquid to form a solution.</p> <ul style="list-style-type: none"> •I can define the terms soluble, insoluble, solubility, solute, solvent and solution. •I can plan and carry out simple enquiries about solubility. •I can present my findings. <p>To plan a fair test to investigate dissolving.</p> <ul style="list-style-type: none"> •I can define the terms soluble, insoluble, solubility, solute, solvent and solution. •I can plan and carry out simple enquiries about solubility. •I can present my findings. <p>To understand how to separate soluble and insoluble materials from liquids.</p> <ul style="list-style-type: none"> •I can define the terms soluble, insoluble, solubility, solute, solvent and solution. •I can explain why filtering is used to separate insoluble materials from liquids. •I can explain why evaporation is used to separate soluble materials from liquids. 	<ul style="list-style-type: none"> •I can compare gestation periods of different mammals. <p>To look for patterns between life expectancy and gestation periods of animals.</p> <ul style="list-style-type: none"> •I can create a double bar graph using two sets of data. •I can look for patterns in my results. <p>To understand the changes that are experienced during puberty. (Link with PSHE relationships topic)</p> <ul style="list-style-type: none"> •I can explain the physical and emotional changes that happen during puberty. <p>To sort and classify the changes experiences during puberty.</p> <ul style="list-style-type: none"> •I can explain the physical changes that happen during puberty. •To understand that I need to keep myself clean during puberty. <p>To use our knowledge and understanding to write an information text about puberty.</p> <ul style="list-style-type: none"> •I can recall all my knowledge about puberty, using scientific vocabulary. •I can explain the physical changes that happen during puberty. •To understand that I need to keep myself clean during puberty. <p>To understand the changes that occur in old age.</p> <ul style="list-style-type: none"> •I can explain the changes that happen in old age •To understand that you can still be happy, healthy and active in old age. •To understand how life choices may delay/affect the aging process <p><u>Living Things & Their Habitats (Life cycles and reproduction)</u></p>
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	<p>To use the idea of the Earth's rotation to explain the apparent movement of the sun across the sky.</p> <ul style="list-style-type: none"> • I can explain that the earth spins on its axis. • I know that an axis is an imaginary line that goes through the planet's centre from top to bottom. • I can explain that the earth revolves around the sun. <p>To use data to draw conclusions about the sun at different times of the year.</p> <ul style="list-style-type: none"> • I can understand that the time of sunrise and sunset depends on the time of year. • I can understand the sun rises earlier and sets later in the summer making the days longer. • I know that this is because the earth is orbiting the sun. <p style="text-align: center;"><u>Forces</u></p> <p>To understand what gravity is and what effect it has.</p> <ul style="list-style-type: none"> • I can explain the effect of gravity on unsupported objects. • I can explain the effect gravity has on the planets. • I can explain the effect of the Earth's gravity. <p>To research how the first theory of gravity was developed.</p> <ul style="list-style-type: none"> • I can use a range of secondary resources to research a famous scientist. • I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • I can use the features of a biography to write my own about Isaac Newton. • I can include key facts and scientific vocabulary. <p>To explore the effect that gravity has on objects.</p> <ul style="list-style-type: none"> • I can explain the effect of gravity on unsupported objects. • I can accurately measure the force of gravity pulling on objects. 	<p>To investigate different materials for filtering.</p> <ul style="list-style-type: none"> • I can make links with my prior knowledge. • I can use scientific vocabulary. • I can test materials to see if they would be suitable for filtering. <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated.</p> <ul style="list-style-type: none"> • I can separate mixtures using sieves, filters and evaporation. • I can plan and carry out simple enquiries to answer questions. • I can describe real life situations when mixtures are separated. <p>To understand which changes are reversible and irreversible.</p>	<p>To identify the parts of a flower and describe their functions.</p> <ul style="list-style-type: none"> • I can name and identify the parts of a flower. • I can describe their functions. <p>To make careful observations and identify patterns.</p> <ul style="list-style-type: none"> • I can identify the parts of a flower. • I can draw a diagram. • I can record my observations and look for patterns. <p>To describe reproduction in flowering plants.</p> <ul style="list-style-type: none"> • I know the difference between sexual and asexual reproduction. • I can explain the sexual reproduction process. • I can use scientific vocabulary accurately. <p>To describe the process of asexual reproduction in plants.</p> <ul style="list-style-type: none"> • I can describe asexual reproduction in plants. • I can explain different ways to make new plants. <p>To understand the life cycle of a mammal.</p> <ul style="list-style-type: none"> • I understand the different stages in a mammal's life cycle. • I can order the stages of a mammal's life cycle. • I can explain the growth and development changes. <p>To understand the life cycle of a bird.</p> <ul style="list-style-type: none"> • I can order the stages of a bird's life cycle. • I can explain the growth and development changes. <p>To understand metamorphosis and the life cycle of an insect.</p> <ul style="list-style-type: none"> • I understand what metamorphosis is. • I can order the stages of the life cycle of a butterfly. <p>To understand the life cycle of an amphibian.</p> <ul style="list-style-type: none"> • I can compare the life cycle of an insect and an amphibian. • I can explain the stages of the life cycle of a frog.
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	<p>To identify the effects of friction acting between moving surfaces.</p> <ul style="list-style-type: none"> • I can define friction. <p>I can carry out an investigation, making sure that it is a fair test.</p> <ul style="list-style-type: none"> • I can make an informed prediction using my prior knowledge. <p>To record data and results accurately in a bar graph.</p> <ul style="list-style-type: none"> • I can present data accurately. <p>To identify and explain the effects of air resistance.</p> <ul style="list-style-type: none"> • I know that air resistance is a force that slows objects moving through the air. • I can plan, carry out and assess experiments to investigate air resistance. • I can draw conclusions from my investigations. <p>To identify and explain the effects of air resistance. (1) To plan and carry out a fair test to investigate air resistance. (2)</p> <ul style="list-style-type: none"> • I know that air resistance is a force that slows objects moving through the air. • I can plan, carry out and assess experiments to investigate air resistance. • I draw conclusions from my investigations. <p>To identify and explain the effects of water resistance.</p> <ul style="list-style-type: none"> • I can understand that water resistance slows an object moving through water. • I can understand that streamlined objects move faster through water. <p>To recognise that levers and pulleys allow a smaller force to have a greater effect.</p> <ul style="list-style-type: none"> • I can recognise that that levers and pulleys allow a small force to have a greater effect. • I can make and improve models that use pulleys or levers. • I can explore the effects of changing parts of their model. 		<p>To describe the similarities and differences between the life cycles of animals and plants.</p> <ul style="list-style-type: none"> • I can use all of my prior knowledge to help me form an opinion. • I can use scientific evidence to justify my ideas. <p>To research the work of naturalists.</p> <ul style="list-style-type: none"> • I can research the work of Jane Goodall. • I understand why chimpanzees are endangered.
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	<p>To recognise that gears allow a smaller force to have a greater effect.</p> <ul style="list-style-type: none"> •I can recognise that the speed or amount of force transmitted is affected by changing the size of the gears in a transmission. •I can make transmissions where two or more gears work together. 		
Year 6	<p><u>Animals Inc. Humans (How our Body Works)</u></p> <p>To name and identify the parts of the human circulatory system.</p> <ul style="list-style-type: none"> •I can use secondary sources to research a topic. •I can describe the functions of the different parts of the circulatory system. <p>To explain how water and nutrients are transported within the body.</p> <ul style="list-style-type: none"> •I can explain the role of the different parts of the circulatory system in transporting nutrients and water in the body. • I can state how the digestive system breaks down nutrients. <p>To name and identify the parts of the human circulatory system, describing their functions.</p> <ul style="list-style-type: none"> •I can accurately label a scientific diagram. •I can describe the functions of the different parts of the circulatory system. •I can describe the ways in which nutrients and water are transported within humans. <p>To describe the functions of the main parts of the circulatory system.</p> <ul style="list-style-type: none"> •I can name and identify the parts of the human circulatory system. •I can describe the main functions of the heart, blood and blood vessels. 	<p><u>Living Things & Their habitats (Classifying Plants and Animals)</u></p> <p>To research the characteristics of different vertebrates.</p> <ul style="list-style-type: none"> •I understand why we classify living things. •I can name the five vertebrate groups. •I can identify animals that belong to each group. •I can discuss the similarities and differences between the animal groups. <p>To describe the characteristics of different vertebrate groups.</p> <ul style="list-style-type: none"> •I can name the five vertebrate groups. •I can identify animals that belong to each group. •I can discuss the similarities and differences between the animal groups. <p>To identify the characteristics of different vertebrate and invertebrate groups.</p> <ul style="list-style-type: none"> •I know the difference between vertebrates and invertebrates. •I can identify animals that belong to each animal group. •I can discuss the similarities and differences between the animal groups. <p>To classify animals using a branching database.</p> <ul style="list-style-type: none"> •I can ask appropriate scientific questions. •I can classify animals based on their observable characteristics. 	<p><u>Evolution and Inheritance</u></p> <p>Researching fossils that show how species have changed over millions of years. Thinking Skills: ‘What if...?’ – What if fossils didn’t exist?</p> <p>Look at fossil evidence (e.g. of a horse) and use this to explain how the animal has evolved over a long period of time (ASE PPT Evolution and Inheritance – Muharem slide 23).</p> <p>Human evolution – children compare humans, Neanderthals and apes in terms of physical appearance and skeleton (using images to observe similarities and differences).</p> <p>Thinking Skills: ‘Positive, Negative, Interesting’ – Woolly mammoths are brought back from extinction.</p> <p>What differences are environmental and what differences are inherited from our parents? Sort characteristics based on whether they can be inherited or not.</p> <p>How might offspring vary? Look at two parents and draw three different combinations of inherited characteristics.</p> <p>Thinking Skills: ‘What if...?’ – What if all humans looked the same?</p>

	<p>To investigate our own heart rate and compare this to others of a similar age.</p> <ul style="list-style-type: none"> •I can use data loggers accurately. •I can gather results, recording the data in tables and graphs. •I can compare my results and look for patterns in the data. <p>To investigate the effect exercise has on heart rate.</p> <ul style="list-style-type: none"> •I can plan a scientific enquiry. •I can explain which variables will be controlled. •I can record, report and present results appropriately. •I can report the degree of trust I have in my results. <p>To identify those aspects of a diet that are healthy and unhealthy.</p> <ul style="list-style-type: none"> •I can identify the impact diet can have on the body, using scientific evidence. <p>To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <ul style="list-style-type: none"> •I can describe the parts of the body affected by drugs. •I can explain the impact of a healthy diet and exercise on the human body. •I can explain how scientific evidence can change ideas. <p><u>Electricity (Changing Circuits)</u></p> <p>Create a range of circuits (e.g. circuit that lights a bulb, circuit that sounds a buzzer etc.) - systematically identifying the effect of changing one component at a time in a circuit.</p> <p>Match circuit symbols with their names.</p>	<ul style="list-style-type: none"> •I can classify animals using my prior knowledge (e.g. about diet, habitat, life cycle etc.) <p>To compare animals from different animal groups.</p> <ul style="list-style-type: none"> •I can discuss the similarities and differences between animals. •I can identify the characteristics of an animal. <p>To give reasons for classifying an animal based on its characteristics.</p> <ul style="list-style-type: none"> •I can identify the characteristics of different types of animals. •I can explain why classifying some animals, like a platypus, can be difficult. <p>To classify an imaginary animal based on specific characteristics.</p> <p>To understand how plants are classified based on their characteristics.</p> <ul style="list-style-type: none"> •I can discuss the similarities and differences between the plant groups. •I can identify similarities and differences between plants and animals. <p>To identify different types of micro-organisms.</p> <ul style="list-style-type: none"> •I can describe helpful and harmful micro-organisms. •We can present our findings to the class, using relevant scientific language and illustrations. <p>To investigate the conditions that cause mould to grow on bread.</p> <ul style="list-style-type: none"> •I can plan a scientific enquiry. •I can explain which variables will be controlled and which will be changed. <p>To record results and use these to draw a conclusion.</p> <ul style="list-style-type: none"> •I can record, report and present results appropriately. •I can make accurate observations and draw labelled diagrams. 	<p>How is a cactus suited to its environment? – recording information and drawing a diagram.</p> <p>How is an animal suited to its environment? Give groups of children an animal to focus on. Children to think of adaptations that meant it was suited to its environment and then consider what would be the impact of not having this characteristic (ASE PPT Muharem slide 14).</p> <p>Think of an unusual environment (e.g. volcano) or one with extreme conditions (e.g. desert). Consider what adaptations an animal would need to survive here, giving reasons why (ASE PPT Muharem slide 15).</p> <p>Research the evolution of the peppered moth.</p> <p>How are birds adapted to suit their environment? Pattern seeking investigation to replicate the work of Darwin in the Galapagos Islands. Use various tweezers to represent beaks (e.g. pointed tweezers, slanted tweezers, tongs, chopsticks, clothespin) to pick up ‘bird food’ (e.g. rice, mini marshmallow, toothpicks etc.) (ASE PPT – Muharem slides 17 – 19).</p> <p>Predict how humans might evolve over years to come based on new technologies and changes to the environment in which we live (e.g. warmer global temperature, rising sea levels).</p> <p><u>Light (How We See Things)</u></p> <p>To recognise that light appears to travel in straight lines.</p> <p>To understand how we see things.</p> <ul style="list-style-type: none"> •I recognise that light travels in straight lines. •I can understand that a light source is needed to see. <p>To explain how we see things.</p>
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	<p>Draw circuits they have made, using the correct symbols.</p> <p>Thinking Skills: Concept Cartoon 5.7 Circuits (Chapter 5 – Electricity and Magnetism)</p> <p>Investigate the relationship between cells/voltage and lamp brightness - Explain that Local neighbourhood watch representatives have noticed that there is a lack of street lighting in the area which may be attracting burglars. Investigate making the area brighter by adding more bulbs (ASE PPT Electricity – Julie slide 13). Investigate making the area brighter by adding more bulbs and more cells (slide 14).</p> <p>Write a report to the neighbourhood watch group setting out the investigation undertaken and their recommendation for improvements to street lighting. Compare the effectiveness of adding bulbs versus cells, giving reasons for their final choice.</p> <p>How does voltage (number of batteries) affect the volume of a buzzer?</p> <p>Design and make a burglar alarm – the door acts as the switch. When the door is open, the circuit is complete and the buzzer sounds. Draw their circuit using the correct symbols. Create and test their circuits. Present their final burglar alarms.</p>	<p>To identify the positive and negative impact of micro-organisms on living things.</p> <ul style="list-style-type: none"> •I understand how micro-organisms can be helpful or harmful. 	<ul style="list-style-type: none"> •I can demonstrate that light travels in a straight line. •I can explain that light travels in straight lines from light sources to our eyes or from light sources to objects and then to our eyes. <p>To explain how we see things.</p> <ul style="list-style-type: none"> •I can demonstrate that light travels in a straight line. •I can explain that light travels in straight lines from light sources to our eyes or from light sources to objects and then to our eyes. <p>To explain how we see things.</p> <ul style="list-style-type: none"> •I can demonstrate that light travels in a straight line. •I can explain that light travels in straight lines from light sources to our eyes or from light sources to objects and then to our eyes. <p>To recognise that light appears to travel in straight lines.</p> <ul style="list-style-type: none"> •I can understand how mirrors reflect light, and how they can help us see objects. <p>I can explain why shadows have the same shape as the object that casts them.</p> <ul style="list-style-type: none"> •I recognise that light travels in straight lines. •I can explain how a shadow is formed. <p>To investigate how the size of shadows can be changed.</p> <ul style="list-style-type: none"> •I can plan a scientific enquiry. •I can gather results accurately using appropriate equipment. <p>To record data accurately, using this to formulate a conclusion.</p> <ul style="list-style-type: none"> •I can identify patterns in the results. •I can present my findings to the class.
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