

Kentmere Academy and Nursery- Knowledge and Skills-Science

Year Group	Learning Objective	Knowledge	Skills
EYFS	<p>To know the similarities/differences between families.</p> <p>To discuss about their birth and the similarities and differences between themselves and others.</p> <p>To understand the function of the human body.</p> <p>To use the senses to recognise foods.</p> <p>To talk about their likes and dislikes.</p> <p>To understand growth and change.</p> <p>To understand the changes in Winter.</p> <p>To understand where water comes from.</p> <p>To understand the changes in water.</p> <p>To understand how to look after animals and the environment.</p> <p>To test an idea and make predictions, explaining their thinking.</p>	<p>I can use appropriate vocabulary to explain how people are the same and how they are different.</p> <p>I can explain how people might change as they get older.</p> <p>I can discuss some of the things the body can do.</p> <p>I can identify the different parts of the body.</p> <p>I can explain some of the functions of our body parts.</p> <p>I can name some of the senses.</p> <p>I can use my senses to describe things.</p> <p>I can use my senses to describe things I like and dislike.</p> <p>To understand what is healthy/unhealthy in regard to food.</p> <p>I can describe the effects of winter.</p> <p>I can suggest ways that winter effects animals.</p> <p>I can explore the natural environment and look for things of interest and explain what I found.</p> <p>I can identify the different seasons.</p> <p>I can explain what happens to water when it freezes or melts.</p> <p>I can think of sources in which water comes from.</p> <p>To understand about the life cycle of plants.</p> <p>I can think of living things that need water.</p> <p>I can name some animals living in Africa.</p> <p>I can describe what they look like.</p> <p>I can suggest why they live in Africa and not United Kingdom.</p> <p>I can make predictions and explain my reason.</p> <p>I can discuss the results of the investigation.</p> <p>I can explain if my prediction was correct or not.</p>	<p>I can identify how we are the same and how we are different.</p> <p>I can sequence pictures of how people look as they get older.</p> <p>I can label some of the different parts of the body.</p> <p>I can explain which sense is linked to which body part.</p> <p>I can identify healthy and unhealthy food.</p> <p>I can observe the natural environment to explain what happens in winter.</p> <p>I can search the environment for natural objects and explain why they are natural.</p> <p>I can observe carefully for living things in the environment.</p> <p>I can identify water in liquid and solid states.</p> <p>I can order the stages of the water cycle.</p> <p>I can read about animals living in Africa and recall some facts.</p> <p>I can contribute ideas to a science investigation.</p> <p>I can carry out an investigation.</p> <p>I can make careful observations.</p>

Cycle A- Year 1/2

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 1/2 Animals including humans	Dinosaur Planet!	Autumn 1 Week 1	I can sort animals and find similarities within groups of animals.	I can discuss features of reptiles. I can write a caption to demonstrate my knowledge about the reptile.	I can identify different reptiles. I can label a reptile. I can answer questions about reptiles.
	Dinosaur Planet!	Autumn 1 Week 2	To investigate which animals are carnivore, herbivore or omnivores and how we might know this from their physical appearance.	I can explain what herbivore means. I can explain what carnivore means. I can identify carnivore teeth. I can identify herbivore teeth.	I can sort and categorise teeth into herbivore or carnivore from their physical appearance. I can make an accurate model of a dinosaur's tooth from clay using my knowledge of carnivores and herbivores.
	Dinosaur Planet!	Autumn 1 Week 3	To carry out a fair investigation to find which drinks cause tooth decay.	I can discuss how I care for my teeth. I can explain how teeth can rot. I can talk about what happened.	I can make a prediction. I can carry out a fair test.
	Dinosaur Planet!	Autumn 1 Week 4	To label parts of the dinosaur's body and to sequence the life cycle of a reptile.	I can explain the life cycle of reptiles. I can identify a range of common animals from the local and wider environment.	I can name parts of a dinosaur I can order the life cycle of a reptile I can identify difference in body structure of reptiles

	Dinosaur Planet!	Autumn 1 Week 5	To understand and use scientific words to ask or answer a scientific question. To carry out a fair investigation to find the material which protects the egg best.	I can name some suitable materials to protect the egg. I can plan a fair test. I can talk about what happened. I can write a conclusion from the results.	I can make a prediction. I can work in group to carry out an investigation. I can record the results.
	Dinosaur Planet!	Autumn 1 Week 6	To investigate which animals are carnivore, herbivore or omnivores and how we might know this from their poo.	I can name animals. I can explain what an omnivore, herbivore and carnivore are. I can discuss my findings.	I can make predictions from what I observe. I can record my observations. I can use an identification sheet to help me classify the animal poo.
Year 1/2 Everyday materials	Muck, Mess and Mixtures	Autumn 2 Week 1	To make careful observations and record them in a table To investigate what happens when materials are mixed with water.	I can explain what happens when materials are mixed with water. I can use appropriate vocabulary (mix, dissolve, pour, float).	I can handle the ingredients and make suggestions about how they might change when added to water. I can make a prediction. I can record my results in a pre-prepared table.
	Muck, Mess and Mixtures	Autumn 2 Week 2	To understand the importance of creating a fair test. To investigate which product creates the longer lasting bubbles.	I understand that I can only change one thing (independent factor). I know which product creates the longest lasting bubbles. I can discuss the results of the test.	I can make a prediction about which product will make the best bubbles. I can talk about how to set up a fair test. I can carry out a fair test.

	Muck, Mess and Mixtures	Autumn 2 Week 3	To understand the importance of creating a fair test. To investigate which utensil will create the biggest bubbles.	I understand that I can only change one thing (independent factor). I know which utensil creates the biggest bubbles. I can talk about what I observe. I can discuss the results of the test.	I can make a prediction about which product will make the biggest bubbles. I can record what I observe accurately.
	Muck, Mess and Mixtures	Autumn 2 Week 4	To understand the importance of creating a fair test. To investigate which order will the foods melt in the quickest.	I understand what melting is. I can explain what makes the melting process happen. I can name some foods that melt I understand that I can only change one thing (independent factor). I can talk about what I observe.	I can predict which order the food will melt in the quickest. I can describe the changes over time.
	Muck, Mess and Mixtures	Autumn 2 Week 5	To describe how the shape of some materials can be changed by twisting, bending, squashing or stretching.	I can explain what malleable means. I understand that materials can be changed by twisting, bending, and squash.	I can change the shape of the material using a push or pull force. I can use the key vocabulary (bend, stretch, squash, twist, malleable). I can describe the changes that I see.
	Muck, Mess and	Autumn 2 Week 6	To understand changes, happen over time through melting and freezing.	I understand the changes that will happen over time. I can explain what a thermometer	I can use a thermometer to gather data. I can record the data collected.

	Mixtures		To use scientific equipment to collect data.	is used for. I can talk about what I observe.	I can use simple scientific language to describe the freezing process.
<p>Year 1/2</p> <p>Living Things and their Habitats</p>	Bright Lights, Big City	Spring 1 Week 1	To know the characteristics differences between things that are living, dead and have never been alive.	I can answer questions about things that are living, dead or have never been alive. I can explain some of the life processes. I can say if something is living, dead or has never been alive. I can give reasons for my answers.	I can explain how life processes can tell us if something is living, dead or has never been alive. I can sort things into living and non-living. I can compare the differences between things that are living, dead and have never been alive.
	Bright Lights, Big City	Spring 1 Week 2	To investigate a range of habitats.	I understand which objects are those that are living, dead and those that have never been alive. I can explain the meaning of the vocabulary habitat. I can name a range of habitats.	I can classify objects as those that are living, dead and those that have never been alive. I can draw a map of a local habitat. I can draw and label the trees and plants. I can record or suggest which animals live there.
	Bright Lights, Big City	Spring 1 Week 3	To be able to identify animals in their habitat.	I can explain the meaning of the vocabulary microhabitat. Using my knowledge on habitats I can suggest where you might find microhabitats. I can make suggestions for an enquiry into habitats.	I can find microhabitats. I can identify and name the minibeasts I find there. I can record information about minibeasts in a table. I can present my results in a pictogram.

				I can use information I have gathered to answer a question.	I can use my findings to compare 2 microhabitats.
	Bright Lights, Big City	Spring 1 Week 4	To investigate if most living things live in the habitats to which they are suited to	I can ask simple questions about habitats. I can describe a habitat and explain why the animals live in it. I can describe the conditions of a habitat. I can use research to find answers to questions.	I can identify features of different animals. I can identify the needs of different plants and animals. I can research different habitats using secondary resources. I can draw and label a habitat.
	Bright Lights, Big City	Spring 1 Week 5	To identify how different habitats, provide for the basic needs of different animals and plants.	I can explain how living things in a habitat depend on each other. I can explain how an animal survives in its habitat. I can explain why the plants in a habitat need the animals. I can explain why the animals in a habitat need the plants.	I can identify how living things depend on each other to survive I can identify the needs of different plants and animals. I can identify how an animal is suited to its habitat. I can label a habitat to identify how living things live together.
	Bright Lights, Big City	Spring 1 Week 6	To investigate where a living thing is in a food chain from its diet.	I can name some sources of food. I can explain what carnivores, herbivores and omnivores are. I can give examples of carnivores, herbivores and omnivores. I am beginning to understand and use the words consumer and	I can use a food chain to show how animals get their food. I can order living things in a food chain.

				predator appropriate.	
<p>Year 1/2</p> <p>Seasons</p>	<p>Bright Lights, Big City</p>	<p>Spring 2</p> <p>Week 1</p>	<p>To recognise the differences between the four seasons.</p>	<p>I can name the four seasons.</p> <p>I can discuss the main weather features.</p> <p>I can talk about what happens in the world around me during the four seasons.</p>	<p>I can identify and classify.</p> <p>I can use observations and ideas to suggest answers to questions.</p>
	<p>Bright Lights, Big City</p>	<p>Spring 2</p> <p>Week 2</p>	<p>To talk about the weather and record the weather conditions.</p>	<p>I can observe and talk about the weather conditions.</p> <p>I can use symbols and writing to record my results.</p> <p>I understand that weather conditions change with the seasons.</p>	<p>I can use a range of equipment to help me explore and answer questions.</p> <p>I can gather and record data to help answer questions.</p> <p>I can communicate ideas in different ways.</p>
	<p>Bright Lights, Big City</p>	<p>Spring 2</p> <p>Week 3</p>	<p>To understand why there is a sunrise and a sunset.</p>	<p>I know the sun gives us light and heat (energy).</p> <p>I understand why that the sun rises in the morning and sets at night.</p> <p>I can talk about some of the dangers from the sun.</p> <p>I know that the earth rotates around the sun.</p>	<p>I can use drawing and painting to develop and share ideas, knowledge and experiences.</p> <p>I can develop a range of art techniques using colour, pattern, texture, line, shape, form and space.</p>

	Bright Lights, Big City	Spring 2 Week 4	To understand why animals, hibernate during the winter.	I can talk about what hibernation means. I can name some animals that hibernate through the winter. I know why birds struggle to find food during the winter and how we can help them.	I can observe closely, using simple equipment. I can identify and classify. I can use observations and ideas to suggest answers to questions. I can design a purposeful, functional product.
	Bright Lights, Big City	Spring 2 Week 5	To know which birds, we can see most of around school.	I can recognise and name common British birds. I know which birds live around school. I can represent and compare information in different ways. I can recognise that questions can be answered in different ways.	I can observe closely, using simple equipment. I can identify and classify. I can use observations and ideas to suggest answers to question. I can gather and record data to help answer questions.
<u>Year 1/2</u> Plants	The Scented Garden	Summer 1 Week 1	To consider the conditions that seeds need to germinate.	I know what germination means. I can talk about fair tests.	I can make predictions. I can set up an experiment to test what seeds need to germinate.
	The Scented Garden	Summer 1 Week 2 continued from week 1	To explain the conditions that plants and seeds need to grow and stay healthy.	I can describe how plants need water, light and a suitable temperature to grow and stay healthy. I can discuss the results.	I can make careful observations. I can gather and record data to help answer questions.

	The Scented Garden	Summer 1 Week 3	To understand seed dispersal.	I can explain why plants have seeds and why they must be spread. I can talk about different ways that seeds can be spread.	I can give examples of different plants and how they disperse seeds.
	The Scented Garden	Summer 1 Week 4	To label the main parts of a plant and explain their function.	I can name the different parts of the plant. I can explain the functions of the different parts of the plant. I can take part in discussions about plants and explain my answers.	I can label the different parts of plants and trees.
	The Scented Garden	Summer 1 Week 5	To sequence the different stages in a plant's life.	I can talk about the different stages of the plant's life cycle. I can explain words like pollination and reproduce.	I can sequence pictures in order of the life cycle of the plant.
	The Scented Garden	Summer 1 Week 6	To describe how plants, grow, identifying what a plant needs for healthy growth and survival.	I can talk about what may happen to the carrot top, potato, pineapple top and celery top when it is planted and given the right conditions to grow. I can talk about the conditions needed for plants to grow.	I can make predictions. I can make observations. I can link my findings to make a conclusion.

	The Scented Garden	Summer 1 Week 7	To identify and name common plants and trees.	I can identify the basic structure of a tree. I know what is meant by 'deciduous' and 'evergreen'. I can name some common flowers.	I can label the basic structure of a tree. I can group trees according to their qualities.
Year 1/2 Animals including Humans	Bounce	Summer 2 Week 1	To notice that animals, including humans, have offspring which grow into adults.	I can name different animals. I know the name of some animal babies. I know that animals have babies and that these grow into adults of the same species.	I can use appropriate vocabulary to describe how animals grow and change. I can match pictures according to different characteristics. I can use simple information sources to identify and answer questions.
	Bounce	Summer 2 Week 2	To find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	I know that humans need food and water to survive. I know that humans breathe oxygen (air). I can talk about other things that humans need.	I can identify the difference between a want and a need. I can use primary and secondary sources to answer questions.
	Bounce	Summer 2 Week 3	To describe the importance for humans of eating the right amounts of different types of food.	I can name different types of food. I can start to name different food groups. I know whether foods are healthy or unhealthy.	I can sort foods into different groups. I can identify whether foods are healthy or unhealthy according to simple criteria. I can use the information I find to answer simple questions.

	Bounce	Summer 2 Week 4	To describe the importance for humans of hygiene, by learning about good hygiene habits.	I can name some things I can do to keep myself clean. I can give at least one reason why humans should keep themselves clean.	I can use a scientific equipment to make observations (magnifying glass). I can record my observations. I can link my findings to make a conclusion.
	Bounce	Summer 2 Week 5	To describe the importance for humans of exercise, by finding out why humans need to exercise.	I can say a reason why humans need to exercise. I can say one effect that exercise has on the human body.	I can record information about exercise. I can use the information to answer questions.
	Bounce	Summer 2 Week 6	To use everyday language and begin to use simple scientific words to ask or answer a scientific question. To carry out a fair investigation to find the ball which bounces the highest.	I can name sports that different balls are used in. I can identify similarities and differences between balls. I know that certain things have to be done to make a fair test.	I can make predictions. I can set up an experiment. I can make careful observations. I can gather and record data to help answer questions. I can use equipment to measure carefully and accurately.

Cycle B- Year 1/2

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 1/2 Everyday materials	Moon Zoom	Autumn 1 Week 1	To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. To distinguish between an object and the material from which it's made.	I can name different materials. I know the difference between an object and the material it is made from.	I can recognise what different items are made from. I can sort items according to the material they are made from.
	Moon Zoom	Autumn 1 Week 2	To describe how the shape of some materials can be changed by twisting, bending, squashing and stretching.	I know that I can change the shape of different materials. I can look at a selection of materials and make predictions about which could be changed.	I can test my predictions. I can change the shape of the dough by rolling, twisting, stretching. I can comment on my results. I can perform simple tests and talk about the results.
	Moon Zoom	Autumn 1 Week 3	To describe properties of a material using everyday language or simple science vocabulary (e.g. hard/soft or bendy/not bendy).	I can describe some materials. I can comment on similarities and differences between materials. I know some synonyms (hot -warm).	I can observe closely, using simple equipment. I can identify and classify. I can use my observations and ideas to suggest answers to questions.

	Moon Zoom	Autumn 1 Week 4	To group and sort materials according to their simple physical properties.	I have my own ideas about how to sort materials. I can list different properties. I can name different materials.	I can sort materials. I can explain my choices.
	Moon Zoom	Autumn 1 Week 5	To identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard.	I can name materials. I can make a prediction. I can carry out a fair test. I can talk about what happened.	I can ask simple questions and recognise that they can be answered in different ways. I can perform simple tests. I can use my observations and ideas to suggest answers to questions. I can gather and record data to help answer questions.
	Moon Zoom	Autumn 1 Week 6	To investigate which balloon travels the furthest.	I can comment on what is the same and different about each balloon. I can make a prediction.	I can carry out a fair test. I can talk about the results. I can use my observations and ideas to suggest answers to questions. I can gather and record data to help in answering questions.
	Moon Zoom	Autumn 1 Week 7	To compare how things, move on different surfaces.	I can name materials. I can make a prediction. I can carry out a fair test. I can talk about what happened.	I can ask simple questions and recognise that they can be answered in different ways. I can perform simple tests. I can use my observations and ideas to suggest answers to questions. I can gather and record data to help

					answer questions.
	Moon Zoom Extra Lesson	Autumn 1 Week 8	To use secondary sources to research the planets and the solar system.	I can name the planets. I can tell you some facts about the planets.	I can use secondary sources to research the planets. I can use a range of techniques to find out information. I can communicate the information in different ways.
Year 1/2 Animals Including Humans	Memory Box	Autumn 2 Week 1	To name the parts of the body	I can name the main body parts. I know some of the important parts inside my body. I can talk about what different parts of my body help me to do.	I can use secondary sources to research body parts. I can observe closely using simple equipment. I can represent my learning in different ways.
	Memory Box	Autumn 2 Week 2	To investigate the heights of the children in our class.	I can make a prediction. I can carry out a fair test. I can talk about what happened.	I understand how to measure accurately. I can compare the heights of children in our class using words like taller and shorter.
	Memory Box	Autumn 2 Week 3	To know that the eye is an organ we use to see.	I understand that our eyes use light to help us see. I understand that sometimes people need help to see and that there are tools that help us to do so.	To identify some of the different parts of the eye and what their purpose is.

	Memory Box	Autumn 2 Week 4	To investigate our senses (touch)	I can talk about a fair test. I can make a prediction. I can name the 5 senses.	I can name the 5 senses. I can complete tasks using just my sense of touch.
	Memory Box	Autumn 2 Week 5	To investigate the best material to protect our ears.	I know that sounds travel through our ears to send messages to our brain. I know that some people need help to hear and that some people cannot hear at all.	I can describe the sounds that I hear using appropriate vocabulary. I can identify sounds that are loud and quiet. I can choose appropriate materials for the test. I can order the materials from the results of the test best to worse.
	Memory Box	Autumn 2 Week 6	To know that our senses help me to understand the world around us.	I know that our senses help us to understand the world around us. I know that our senses can warn us of danger. I understand that our senses send messages to our brains.	I can identify the 5 senses and explain where on the body they can be found. I can explore each of my senses and use the correct vocabulary to describe how the sense is being used.
<u>Year 1/2</u> Everyday materials	Towers, Tunnels and Turrets	Spring 1 Week 1 Everyday Materials	To identify, group and sort everyday materials according to their simple physical properties.	I can discuss materials and their uses. I can explain my choices. I can describe the properties of materials.	I can recognise what different objects are made from. I can sort materials according to their physical properties.

	Towers, Tunnels and Turrets	Spring 1 Week 2	To relate a material's physical properties to its uses. To investigate how the weight of an object affects the damage done.	I can make a prediction. I can talk about a fair test. I can talk about the results.	I can carry out an investigation. I can record my observations I can use my observations and ideas to suggest answers to questions. I can use the results to form a conclusion.
	Towers, Tunnels and Turrets	Spring 1 Week 3 Continue into week 4	STEM To investigate how the shape of a tower affects the stability.	I can make a prediction. I can talk about a fair test. I can talk about the results.	I can carry out an investigation. I can record my observations. I can use my observations and ideas to suggest answers to questions. I can use the results to form a conclusion.
	Towers, Tunnels and Turrets	Spring 1 Week 5	To investigate the shape of the bridge and the weight it can hold.	I can make a prediction. I can talk about a fair test. I can talk about the results.	I can carry out an investigation. I can record my observations. I can use my observations and ideas to suggest answers to questions. I can use the results to form a conclusion.
	Towers, Tunnels and Turrets	Spring 1 Week 6	To investigate which objects float and which sink.	I can make a prediction. I can talk about a fair test. I can talk about the results.	I can name and describe the objects and the materials they are made from. I can carry out a fair test. I can describe what I observe.

Year 1/2	Towers, Tunnels and Turrets	Spring 2 Week 1	To consider the conditions that seeds need to germinate.	I know what germination means. I can make predictions. I can talk about fair tests.	I can set up an experiment to test what seeds need to germinate. I can record the results
Plants	Towers, Tunnels and Turrets	Spring 2 Week 2 Continue week 1	To explain the conditions that plants and seeds need to grow and stay healthy.	I can describe how plants need water, light and a suitable temperature to grow and stay healthy.	I can use my observations and ideas to suggest answers to questions. I can use the results to form a conclusion.
	Towers, Tunnels and Turrets	Spring 2 Week 3	To know the lifecycle of a plant.	I can discuss the lifecycle of a plant. I know that plants die. I know the stages of a plant's development.	I can order the lifecycle of a plant.
	Towers, Tunnels and Turrets	Spring 2 Week 4	To label the main parts of a plant and explain their function.	I can name the different parts of the plant. I can explain the different functions of the plants' parts.	I can take part in discussions about plants and explain my answers.
	Towers, Tunnels and Turrets	Spring 2 Week 5	To investigate the sensitivity of a plant.	I can make a prediction. I can talk about a fair test. I can talk about the results.	I can carry out an investigation. I can record my observations. I can use the results to form a conclusion.
	Towers, Tunnels and	Spring 2	To know the difference between an evergreen and deciduous tree.	I know what is meant by 'deciduous' and 'evergreen'. I can name some common flowers.	I can identify the basic structure of a tree. I can group trees according to their

	Turrets	Week 6	To identify and name common plants and trees.		qualities.
<u>Year 1/2</u> Seasons	Splendid Skies	Summer 1 Week 1	To talk about the weather and how it affects our daily lives.	I can talk about the weather and generate questions. I can recognise the symbols used by forecasters.	I can make observations and respond appropriately. I can create weather forecasts about the weather at school. I can ask questions and recognise that they can be answered in different ways.
	Splendid Skies	Summer 1 Week 2	To observe, record and discuss the weather.	I understand how the observed weather is typical (or not) of the weather for the season. I can name the four seasons in order.	I can create a collage of the current season, weather and wildlife and compare to other seasons in the year. I can use my observations and ideas to suggest answers to questions.
	Splendid Skies	Summer 1 Week 3	To understand that the day length changes each day and varies from season to season.	I know that the sun changes position in the sky throughout the day. I know that the days are longer in the summer and shorter in the evening. I know that shadows are the absence of light.	I can investigate shadows and their shapes. I can consider whether my shadow always looks the same. I can observe closely, using simple equipment. I can collect data to help in answering questions.

	Splendid Skies	Summer 1 Week 4	To consider what effect rain has on us and our daily lives.	I can use the scientific vocabulary: weather, rainfall, precipitation, data I can make predictions about the results from the rainfall gauges	I can design and make a weather station. I can record the rainfall over a period of time.
	Splendid Skies	Summer 1 Week 5	To observe and record wind direction over time and notice patterns between rainfall and wind, and changes in direction.	I can use the scientific vocabulary: wind, direction, gauge, patterns, data and explain what they mean.	I can make a windsock to measure wind direction.
	Splendid Skies	Summer 1 Week 6	To consider warm and cold weather and measure temperature.	I understand air temperature changes across the seasons. I can use the scientific vocabulary: wind, direction, gauge, patterns and data.	I can make a thermometer box to use outside to measure temperature.
Year 1/2	Coastline Living Things and their Habitats	Summer 2 Week 1	To compare the differences between things that are living, dead and things that have never been alive.	I can discuss the features of those things that are living, dead and things that have never been alive. I can explain the differences between things that are living, dead and things that have never been alive.	I can observe and identify the differences between things that are living, dead and things that have never been alive using nature. I can find, classify and label specimens into categories.

	<p>Coastline</p>	<p>Summer 2 Week 2</p>	<p>To investigate micro habitats in the local surroundings.</p>	<p>I can suggest how the living things living in the microhabitats are suited to them. I understand that different habitats provide basic needs for different animals and plants. I can ask enquiry questions. I can use appropriate adjectives to describe the microhabitats. I can answer questions using my observations.</p>	<p>I can explore microhabitats in the local surroundings making and recording my observations. I can identify a variety of microhabitats observing the different features and conditions. I can feedback my observations.</p>
	<p>Coastline</p>	<p>Summer 2 Week 3&4</p>	<p>To investigate habitats on the coastline.</p>	<p>I can suggest how the living things living in the habitats are suited to them. I understand that different habitats provide basic needs for different animals and plants. I can ask enquiry questions. I can explain the similarities and differences between the habitats in the local surroundings and those on the coastline. I can answer questions using my observations.</p>	<p>I can explore habitats along the coastline making and recording my observations. I can identify a variety of habitats observing the different features and conditions. I can feedback my observations.</p>

	Coastline	Summer 2 Week 5	STEM To understand that creatures adapted to their habitats.	<p>I can design an appropriate habitat using my prior learning and research.</p> <p>I can explain the characteristics of my habitat.</p> <p>I can name the animals that would live in my habitat.</p> <p>I can explain how the animal is adapted to live in my habitat.</p>	<p>I can research a habitat using secondary resources.</p> <p>I can select from and use a wide range of materials and components, including construction materials, textiles according to their characteristics to create a mini habitat.</p> <p>I can label the features of the habitat.</p>
	Coastline	Summer 2 Week 6	To understand the role of a food chain in nature.	<p>I can discuss what a food chain is.</p> <p>I understand that living things need other living things to survive.</p> <p>I can use knowledge of food chains to roleplay the dependence of more than two living things.</p>	<p>I can observe food chains in the local environment and identify what would happen in the rest of the food chain.</p> <p>I can use equipment to record my observations.</p>

Cycle A- Year 3/4

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 3/4 Rocks and soils	Tremors	Autumn 1 Week 1	To know there are different types of rocks.	<p>I know there are three types of rocks.</p> <p>I know that rocks vary in appearance and can be classified from their appearance.</p> <p>I can describe and compare different types of rock and group them accordingly into igneous, sedimentary or metamorphic.</p>	<p>I can identify man made rocks and natural rocks.</p> <p>I can use a range of equipment to help me make careful observations.</p> <p>I can classify rocks into 3 categories from their appearance.</p>
	Tremors	Autumn 1 Week 2	<p>Modelled investigation</p> <p>To investigate what happens in the rock cycle.</p>	<p>I know rocks are underneath all surfaces but may not be seen.</p> <p>I can explain how rocks can change over time.</p> <p>I know that these changes can produce different types of rocks.</p> <p>I can name the 3 rock types produced.</p> <p>I can explain the rock cycle.</p>	<p>I can apply my knowledge about rocks to plan a practical enquiry into how rocks change over time.</p> <p>I can make careful observations.</p> <p>I can record my observations using scientific vocabulary.</p> <p>I can report my findings.</p>

	Tremors	Autumn 1 Week 3	Intermediate Investigation To explore how and why rocks change over time.	I know that igneous rocks can change over long periods of time. I understand that the wind and water can erode rocks. I know that some rocks erode more easily than others.	I can ask relevant questions and use scientific enquiries to answer them. I can conduct a fair test. I can use equipment to help me collect data. I can record the data as a graph. I can use results to draw simple conclusions.
	Tremors	Autumn 1 Week 4	Independent Investigation To investigate properties of rocks.	I can explain the vocabulary durability and permeability. I can predict the outcome of my investigation. I can write a conclusion for my findings.	I can apply my knowledge of rocks to contribute to planning and conducting a fair investigation. I can make careful observations. I can record my findings accurately. I can report my findings.
	Tremors	Autumn 1 Week 5	To understand how fossils are formed	I can explain the difference between bones and fossil. I understand fossils take millions of years to produce. I can use scientific vocabulary to explain the process; decompose, sediment, fossilisation, decay, compression and erosion. I can explain why fossils are important.	I can order the steps of how fossils are formed. I can make an imitation fossil and explain the process over millions of years.

	Tremors	Autumn 1 Week 6	<p>Research</p> <p>To understand the role of a palaeontologist and explain the contributions of Mary Anning to palaeontology.</p>	<p>I can explain what a palaeontologist does.</p> <p>I can explain why Mary Anning's fossil findings were important.</p> <p>I can describe how palaeontology has changed our understanding of prehistoric animals.</p>	<p>I can use secondary sources to research the life of Mary Anning.</p> <p>I can use the research to write a biography about Mary Anning.</p>
	Tremors	Autumn 1 Week 7	<p>STEM</p> <p>To know what soil is made up of and use that knowledge to create a compost bin.</p>	<p>I can explain how soil is formed.</p> <p>I can explain the different characteristics of soil.</p> <p>I can name the different layers of soil (top, sub, rock) from their characteristics.</p> <p>I can explain the different layers of a compost bin and what they are made from.</p> <p>I can explain why compost bins are important for the environment.</p>	<p>I can investigate soil.</p> <p>I can identify different soil characteristics.</p> <p>I can make a compost bin.</p>
<u>Year 3/4</u>	Potions	Autumn 2 Week 1	<p>To compare and group solids, liquids and gases.</p>	<p>I understand there are three states of matter.</p> <p>I know each state has different properties.</p>	<p>I can group materials together according to whether they are solids, liquids or gases.</p> <p>I can orally present my findings about solids, liquids and gases.</p>

Potions	Autumn 2 Week 2	To compare and group solids, liquids and gases.	To understand there are three states of matter. I know each state has different properties.	I can group materials together according to whether they are solids liquids or gases. I can orally present my findings about solids, liquids and gases.
Potions	Autumn 2 Week 3	Modelled Investigation To investigate whether different chocolates melt at the same temperature.	I understand that chocolate-like some solids- can turn from a solid to a liquid. I understand that this change can be reversed. I understand that heat can cause chocolate to change into a liquid and how cooling can change the liquid back into a solid.	I can conduct an investigation into how chocolate changes its state. I can measure the temperatures of melting chocolate using a data logger. I can conduct a fair test. I can record my results on a bar graph.
Potions	Autumn 2 Week 4	Intermediate Investigation To investigate how water changes its state.	I can know the different states water can be in. I know the temperature at which water changes state.	I can identify and observe the processes that cause water to change state. I can ask relevant questions and use scientific enquiry to answer them. I can make systematic and careful observations and take accurate measurements using a data logger.

	Potions	Autumn 2 Week 5	Independent Investigations To explain the effect of temperature on the process of evaporation.	I can explain how temperature effects the evaporation process.	I can plan an investigation to discover how water evaporates. I can carry out a comparative test. I can make systematic, careful and accurate observations and measurements and report my findings.
	Potions	Autumn 2 Week 6 & 7	Research To understand the process of the water cycle.	I can explain the vocabulary evaporation and condensation. I can explain the process involved in the water cycle.	I can draw a diagram of the water cycle. I can write about the water cycle in the correct order using scientific vocabulary; evaporation, condensation, precipitation, collection.
Year 3/4 Electricity	Gods and Mortals	Spring 1 Week 1	To recognise producers and consumers of electricity.	I can explain electricity is. I can give examples of methods that generate electricity. I can explain the difference between renewable and non-renewable sources and give examples.	I classify items as being a source of electricity consumers or producer.
	Gods and Mortals	Spring 1 Week 2	To investigate the difference between mains and battery powered circuits.	I can identify electrical appliances and non-electrical appliances. I can sort appliances based on whether they use mains or battery circuits.	I can categorise given appliances by finding a key feature. I classify appliances into mains or battery powered circuits using a Venn diagram.

				<p>I can explain why main circuits are dangerous.</p> <p>I can discuss how to keep safe when using mains circuits.</p>	
	<p>Gods and Mortals</p>	<p>Spring 1</p> <p>Week 3</p>	<p>Modelled investigation</p> <p>To construct a simple circuit.</p>	<p>I can use the correct scientific vocabulary when explaining how to make a complete circuit.</p> <p>I can explain what can cause an incomplete circuit.</p>	<p>I can identify the basic parts of a simple circuit and match them to their scientific symbol.</p> <p>I can set up a simple practical enquiry which uses the findings to answer the question and produce a conclusion.</p> <p>I can construct a simple circuit.</p> <p>From my observations I can record my findings using a diagram and key.</p>
	<p>Gods and Mortals</p>	<p>Spring 1</p> <p>Week 4</p>	<p>Intermediate Investigation</p> <p>To investigate the brightness of a bulb on a simple circuit.</p>	<p>I can explain why a bulb does/does not light up in some circuits.</p> <p>I can explain what is needed to make a bulb light brighter.</p>	<p>I can identify the basic parts of a simple circuit and match them to their scientific symbol.</p> <p>I can set up a simple practical enquiry which uses the findings to answer the question and produce a conclusion.</p> <p>I can construct a simple circuit.</p> <p>I can investigate how to make the bulb brighter.</p> <p>I can make careful observations and take accurate readings from a data</p>

					logger. I can record my findings using a bar graph.
	Gods and Mortals	Spring 1 Week 5	To recognise some common conductors and insulators, and associate metals with being good conductors.	I can explain what the vocabulary insulates and conduct means. I can explain the purpose of conductors and insulators. I can explain why some materials conduct electrical currents and why others don't.	I can set up a simple practical enquiry. I can sort materials by their properties into conductors or insulators. I can test materials to check if they are conductors or insulators. I can report back my findings.
	Gods and Mortals	Spring 1 Week 6	To explain how a switch works and why they are needed.	I can explain that a switch turns the electric current on and off. I can explain the function of a switch. I can explain why a circuit with a switch is not the same as an incomplete circuit.	I can create a circuit containing a switch. I can investigate whether the position of the switch affects the current in a circuit.
Year 3/4 Electricity	Gods and Mortals	Spring 2 Week 1	Independent Investigation To plan, conduct, record and report on an investigation into switches.	I can use my knowledge on electricity to plan a fair test. I can use the findings to form a conclusion.	I can create a range of switches for a circuit. I can create a circuit for my switch. I can investigate which switch breaks and reconnects the circuit in the

					fastest time. I can accurately record my findings in a table.
Gods and Mortals	Spring 2 Week 2 & 3	Research To explore when the light bulb was invented and research who was the true inventor of the commercial light bulb.	I can name some of the different inventors of the light bulb. I can summarise using the facts researched, who is the rightful inventor of the bulb. I can explain how the light bulb has changed over time.	I can research how the light bulb was invented. I can produce a timeline of the invention of the light bulb. I can write a report about the two main inventors of the light bulb.	
Gods and Mortals	Spring 2 Week 4	Modelled Investigation To investigate whether the length of wire effects the resistance in a circuit.	I can think of a focused question to plan an enquiry on. I can decide which type of enquiry is needed to answer the question. I can explain why a fair test is important to conducting the enquiry.	I can identify the basic parts of a simple series electrical circuit (cells, wires, bulb, wires). I can set up a simple enquiry. I can choose the appropriate equipment to the conduct the enquiry. I can make systematic and careful observations taking accurate readings using a voltmeter. I can record my findings using a bar graph.	

	<p>Gods and Mortals</p>	<p>Spring 2 Week 5</p>	<p>STEM To construct a working circuit which includes a range of electrical components.</p>	<p>I can apply my knowledge of electrical systems to ensure the circuit is complete and functional in my product [circuits incorporating switches, bulbs, buzzers and motors]. I can use the STEM engineering process to plan, design, evaluate and improve my product.</p>	<p>I can identify the basic parts of a simple series electrical circuit (cells, wires, bulb, wires). I can use research and develop design criteria to inform the design of an innovative, functional, appealing product that is fit for purpose, aimed at particular individuals or groups. I can select and use a wider range of materials and components, according to their functional properties and aesthetic qualities. I can evaluate my ideas and product against a design criterion and consider the views of others to improve my work.</p>
	<p>Gods and Mortals</p>	<p>Spring 2 Week 6</p>	<p>Science week and Greater Manchester Engineering Challenge To research, plan and create a sustainable community working to a design brief.</p>	<p>I can explain what a community is and discuss what makes a positive community. I can include sustainable materials, renewable sources and ecological methods and explain their benefits. I can include features which will promote the well-being of the residents in the community. I can evaluate my ideas and design against the design criteria and</p>	<p>I can use research and use the engineering process to plan and create a sustainable community. I can use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. I can generate, develop, model and communicate ideas through discussion and annotated sketches. I can select a range of materials</p>

				consider the view of others.	according to their functional properties and aesthetic qualities.
<p>Year 3/4</p> <p>Living things and their habitats year 3</p>	Tribal Tales	<p>Summer 1</p> <p>Week 1</p>	To understand that organisms can be grouped in a variety of ways.	<p>I can explain what an organism is.</p> <p>I can suggest ways to classify organism.</p> <p>I can explain the difference between vertebrates and invertebrates.</p> <p>I can explain what the vocabulary exoskeletons and endoskeletons mean.</p> <p>I can name the 7 life processes.</p>	<p>I can categorise living things into groups by their characteristics.</p> <p>I can sort living things into a Venn diagram and Carroll diagrams.</p>
	Tribal Tales	<p>Summer 1</p> <p>Week 2</p>	To compare the features of organism groupings.	<p>I can name the main classification groups for animals.</p> <p>I can name some animals for each group.</p>	<p>I can compare and classify different organisms based on shared characteristics.</p> <p>I can interpret a classification key.</p>
	Tribal Tales	<p>Summer 1</p> <p>Week 3</p>	To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment by creating classification keys.	<p>I can use the characteristics of living things to sort them using a classification key.</p> <p>I can explain why it is useful to classify living things.</p> <p>I understand why it is important to make accurate observations when</p>	<p>I can observe features of living thing and sort them into different groups</p> <p>I can show the characteristics of living things in a table.</p> <p>I can interpret a classification key.</p> <p>I can construct my own classification key.</p>

				describing features of living things.	
	Tribal Tales	Summer 1 Week 4	Modelled Investigation To carefully observe and record the invertebrates in the local area.	<p>I can explain what vocabulary habitat and micro-habitat mean.</p> <p>I can explain what an invertebrate is and give examples.</p> <p>I can use my knowledge to plan an enquiry into the population of vertebrates in a local area.</p> <p>I can make a prediction based on the scientific enquiry question.</p>	<p>I can choose an area that will be rich in invertebrates.</p> <p>I can conduct a scientific enquiry to find species of invertebrates in my local environment.</p> <p>I can record my findings.</p> <p>I can compare my findings with others.</p>
	Tribal Tales	Summer 1 Week 5	Intermediate Investigation To investigate the preferred habitat of a snail.	<p>I can generate questions about animals.</p> <p>I can consider links to specific animals and their habitat.</p> <p>I can make a prediction based on the scientific enquiry question.</p> <p>I can use the findings to form a conclusion.</p> <p>I can begin to explore what may happen if an animal's habitat was at risk.</p>	<p>I can consider the needs of a creature when creating a habitat.</p> <p>I can plan an enquiry to research the preferred habitat of a snail in which snails' safety is paramount.</p> <p>I can observe where the snail prefers to live.</p> <p>I can record the findings.</p> <p>I can compare my findings with others.</p>

	Tribal Tales	<p>Summer 1</p> <p>Week 6</p>	<p>Independent Investigation</p> <p>To investigate if we can identify an animal from the diet remains left in faeces.</p>	<p>I can make a prediction about an animal from the remains of diet left in its faeces.</p> <p>I can identify whether the animal is a carnivore, herbivore or omnivore</p> <p>I can use the findings to form a conclusion.</p> <p>I understand why scientists use animal waste to learn about animals.</p>	<p>I can generate questions about animals and their diet from the faeces they produce.</p> <p>I can identify the diet of an animal using a key.</p> <p>I can use the evidence of food of what animals eat to answer the enquiry question.</p>
	Tribal Tales	<p>Summer 1</p> <p>Week 7</p>	<p>To recognise that environments can change and that this can sometimes pose dangers to living things by learning about environmental dangers and endangered species.</p>	<p>I can explain the difference between natural and man-made dangers that occur in the environment.</p> <p>I can say how changes to the environment have affected endangered species.</p> <p>I can explain what vocabulary poaching, invasive species and pollution mean.</p> <p>I can name some endangered species.</p> <p>I can suggest ways in which we can help endangered animals.</p>	<p>I can research the dangers and the impacts on animal habitats around the world using secondary sources.</p> <p>I can write a report using information I have gathered through research.</p> <p>I can present my findings to the class.</p>

<p>Year 3/4</p> <p>Animals including Humans year 4</p>	<p>Burps, Bottoms and Bile</p>	<p>Summer 2</p> <p>Week 1</p>	<p>To know the basic parts of the human digestive system.</p>	<p>I can explain what digestion is.</p> <p>I can describe simple functions of the basic parts of the human digestive system.</p>	<p>I can identify and label parts of the human digestion system.</p> <p>I can use everyday items to demonstrate the digestive system.</p>
	<p>Burps, Bottoms and Bile</p>	<p>Summer 2</p> <p>Week 2</p>	<p>Modelled Investigation</p> <p>To describe the simple functions of the human digestive system.</p>	<p>I can name the parts of the human digestive system.</p> <p>I can describe the role of each part of the human digestive system.</p> <p>I can use my knowledge to plan an enquiry into the function of the digestive system.</p> <p>I can make a prediction based on the scientific enquiry question.</p>	<p>I can use everyday items to demonstrate the digestive system.</p> <p>I can conduct a scientific enquiry to answer relevant questions.</p> <p>I can record the data in a table.</p> <p>I can use results to draw simple conclusions.</p>
	<p>Burps, Bottoms and Bile</p>	<p>Summer 2</p> <p>Week 3</p>	<p>Intermediate Investigation</p> <p>To investigate if all foods cause flatulence.</p>	<p>I can explain about fair testing.</p> <p>I can investigate whether beans cause wind or not.</p> <p>I can predict what effects the beans will have.</p>	<p>I can make careful observations.</p> <p>I can record the results accurately in a table</p> <p>I can record my data in a graph.</p>
	<p>Burps, Bottoms and Bile</p>	<p>Summer 2</p> <p>Week 4</p>	<p>To Identify the different types of teeth in humans and their simple functions.</p>	<p>I can discuss how to keep teeth healthy.</p> <p>I can explain the importance of keeping teeth healthy.</p> <p>I can explain their function and why they are different.</p> <p>I can explain how teeth types vary</p>	<p>I can identify and label different types of teeth.</p> <p>I can use evidence from an animal's diet to identify which teeth belong to which animal.</p> <p>I can compare the teeth of a herbivore and carnivore and explain why they are</p>

				from human to animal and animal to animal.	different.
	Burps, Bottoms and Bile	Summer 2 Week 5	Independent Investigation I can investigate the effects different drinks can have on teeth.	I can explain the importance of keeping our teeth healthy. I think of an appropriate investigation question for the enquiry. I can predict what effects the drinks will have on our teeth. I can use the results of the investigation to discuss differences, similarities and changes.	I can investigate which drink is the healthiest choice for me. I can use equipment appropriate to the investigation. I can make careful observations. I can record my findings accurately. I can report my findings.
	Burps, Bottoms and Bile	Summer 2 Week 6	To construct and interpret a variety of food chains, identifying producers, predators and prey.	I can explain the vocabulary producer, predator and prey. I know which animals are producers, predators and prey. I can explain what a food chain is. I can discuss the impacts of changes to food chains. I know humans have a responsibility to care about the impact on food chains.	I can make links between plants and animals in food chains. I can interpret a food chain. I can construct a food chain. I can draw and label my own food chain.

Cycle B- Year 3/4

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 3/4 Animals Including Humans	Scrum Diddly umptious	Autumn 1 Week 1	To identify that a healthy diet is needed in order to stay healthy.	I can explain what humans need to enable them to grow, move and be healthy. I understand what is meant by the term 'balanced diet'. I can explain which food groups we should eat the most of and which we should eat less of.	I can sort foods into different food groups by the types of nutrients they contain. I can plan a healthy meal which contains the correct amounts of each food group.
	Scrum Diddly umptious	Autumn 1 Week 2	To identify that a healthy diet is needed in order to stay healthy.	I can explain what humans need to enable them to grow, move and be healthy. I understand what is meant by the term 'balanced diet'. I can explain which food groups we should eat the most of and which we should eat less of.	I can sort foods into different food groups by the types of nutrients they contain. I can plan a healthy meal which contains the correct amounts of each food group.

	<p>Scrum Diddly umptious</p>	<p>Autumn 1 Week 3</p>	<p>Modelled Investigation To predict and find out which fruit and vegetable contain the most water.</p>	<p>I can explain what the vocabulary hydrate and dehydrate mean. I can use my knowledge to plan a fair test. I can make a prediction based on the scientific enquiry question. I can use the findings to form a conclusion.</p>	<p>I can use equipment to collect data. I can record accurately the weight of the fruit and vegetables using weighing scales. I can record the results as a graph. I can report my back my findings.</p>
	<p>Scrum Diddly umptious</p>	<p>Autumn 1 Week 4</p>	<p>To identify than humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>I can name some parts of the body and explain their purpose. I can explain the three keys. functions of the human skeletal system. I understand that muscles are needed to help the movement of the body.</p>	<p>I can research the correct names of bones in the human body. I can use some common and some scientific names of the bones. I can construct the human skeletal system and correctly label it.</p>
	<p>Scrum Diddly umptious</p>	<p>Autumn 1 Week 5</p>	<p>Intermediate Investigation LO: To investigate if different bones in the human body are proportional.</p>	<p>I can identify bones in the body using scientific and common names. I can explain what the vocabulary proportional and ratio mean. I can make a prediction based on the scientific enquiry question. I can explain the patterns I find.</p>	<p>I can locate specific bones in the body. I can take accurate measurements using standard units. I can identify patterns and proportional relationships between bones. I can compare my findings with others.</p>

	Scrum Diddly umptious	Autumn 1 Week 6	To sort animals based on their skeletons.	I can explain what the vocabulary vertebrates and invertebrates mean and give examples. I can name the three different types of skeletons. I can explain the pros and cons of different types of skeletons.	I can identify pairs of muscles in the human body. I can identify when a muscle is contracting or relaxing. I can label the muscles in the human body.
	Scrum Diddly umptious	Autumn 1 Week 7	To understand why we need muscles to move.	I can explain how muscles support the body. I can explain how muscles allow movement. I understand the difference between voluntary and involuntary muscles.	I can identify pairs of muscles in the human body. I can identify when a muscle is contracting or relaxing. I can label the muscles in the human body.
Year 3/4 Light	I am Warrior	Autumn 2 Week 1	To recognise that we need light in order to see things and that dark is the absence of light.	I can explain that dark is caused by the absence of light. I can explain that I need light to see things. I can explain and give examples of natural light and manmade light.	I can identify a range of light sources. I can classify sources of light in a Venn diagram.

I am Warrior	Autumn 2 Week 2	Modelled Investigation To investigate which surfaces are more reflective.	I can explain what the vocabulary translucent, opaque and transparent mean. I can give examples of for each of the words. I can explain how surfaces might reflect light. I can make a prediction based on the scientific enquiry question.	I can make careful observations. I can record my observations using scientific vocabulary. I can identify reflective surfaces. I can identify the properties of materials that reflect light. I can report my findings.
I am Warrior	Autumn 2 Week 3	Intermediate Investigation To investigate whether lights can travel through all, some or no materials.	I can explain what the vocabulary translucent, opaque and transparent mean and give examples. I can explain how light travels. I can make a prediction based on the scientific enquiry question. I can use the findings to form a conclusion.	I can sort different materials according to whether they are opaque, transparent or translucent. I can use these materials in my investigation. I can conduct a fair test. I can make careful observations. I can compare my findings with others.
I am Warrior	Autumn 2 Week 4	Independent Investigation To find patterns in the way that the size of shadows changes.	I can explain how a shadow is formed. I can make a prediction based on the scientific enquiry question. I can explain the patterns I find. I can use the findings to form a conclusion.	I can plan and conduct an enquiry about the way shadows change size. I can use scales which are appropriate to the investigation. I can conduct a fair test. I can make careful observe and identify patterns in the way shadows change size.

	I am Warrior	Autumn 2 Week 5	STEM To create a puppet, show which demonstrates my knowledge of light and shadows.	I can explain that shadows are formed when light from a light source is blocked by an opaque object. I can demonstrate how changing the orientation of an object or material it is made from can affect the nature and shape of the puppet.	I can build and apply a repertoire of knowledge, understanding and skills to design and make high-quality puppet for a specific use. I can write a script for my puppet show which will include stage direction to show a range of skills using light and shadows.
	I am Warrior	Autumn 2 Week 6	Research To recognise that light from the sun can be dangerous and that there are ways to protect our eyes.	I can explain the benefits and dangers of the sunlight. I can describe ways to protect our eyes from the sunlight.	I can research what Ultraviolet radiation is and the dangers using secondary sources. I can produce a pair of sunglasses with a design which offer a high level of protection against the sun.
Year 3/4 Sound	Traders and Raiders	Spring 1 Week 1	To identify how sounds are made, associating some of them with something vibrating.	I can explain what the vocabulary; loud, quiet and silent mean. I can listen carefully for different sounds in the environment and explain what might be making them. I can use appropriate vocabulary to describe the sounds.	I can identify and describe sound sources from the local environment I can begin to associate sounds with something vibrating. I can make predictions about which areas in the environment will be noisy and quiet and explain my reasoning.

	Traders and Raiders	Spring 1 Week 2	To identify how sounds are made, associating them with vibrating.	<p>I can explain what the vocabulary; transmit, medium, source and sound waves mean.</p> <p>I know that there are many kinds of sound and that there are many ways of making sound.</p> <p>I can explain how sound is made through vibrations from a source.</p> <p>I know that sound travels through different mediums and can name the 3 mediums.</p>	<p>I can identify how sounds are made, associating some of them with something vibrating.</p> <p>I can identify and explain sounds made by different instruments.</p> <p>I can use appropriate vocabulary to describe the sounds.</p>
	Traders and Raiders	Spring 1 Week 3	<p>Modelled investigation</p> <p>To investigate if our ears can detect the direction a sound travel from.</p>	<p>I can describe how vibrations make sounds.</p> <p>I know that vibrations from sounds travel through a medium to the ear.</p> <p>I can make a prediction based on the scientific enquiry question.</p>	<p>I can plan and conduct an enquiry into whether our ears help us work out which direction a sound comes from.</p> <p>I can compare the distance of the sound to the volume of the sound.</p> <p>I can record the findings.</p> <p>I can compare my findings with others.</p>
	Traders and Raiders	Spring 1 Week 4	<p>Research</p> <p>To understand how we hear sound.</p>	<p>I can explain how the sound travels through the ear.</p> <p>I can name some parts of the outer ear and their function.</p>	<p>I can research how our ears work using secondary sources.</p> <p>I can take notes about how sound travels through the ear.</p> <p>I can label a diagram to show the different parts of the internal ear.</p> <p>I can order the sequence of sound travels through the outer ear.</p>

	Traders and Raiders	Spring 1 Week 5	Intermediate Investigation To understand how sounds, change over distance.	I can explain what the vocabulary; transmit, particles, vibrations mean. I can explain how sound travels through a string telephone. I can make a prediction based on the scientific enquiry question. I can use the findings to form a conclusion.	I can create a string telephone to use in my investigation. I can contribute my knowledge of sound to an enquiry to research how sounds travel over distance. I can investigate how sounds change over distance. I can identify sounds from a distance. I can record the findings in a table. I can compare my findings with others.
	Traders and Raiders	Spring 1 Week 6	To explain how sound changes over distance using a string telephone	I can explain to the reader how sound travels through the string telephone. I can include a range of key vocabulary in my explanation. I can suggest fun ways the string telephone can be investigated further through science.	I can write a set of instructs to inform the reader how to make a string telephone. I can draw and label a diagram to show what it should look like.
Year 3/4 Sound	Traders and Raiders	Spring 2 Week 1	STEM To explore ways to change the pitch of a sound.	I can explain what the vocabulary pitch, frequency and amplitude mean. I know that sound is a form of energy and that the more energy put into creating a sound the louder the sound is made. I can discuss the patterns	I can identify and describe high and low sounds. I can observe and describe patterns between the pitch of a sound and features of the object that made the sound. I can create a musical instrument and explain how it makes high and low

				identified between the pitch and volume of a sound and the shape of the wave it makes.	sounds. I can investigate the pitch and volume by exploring the instrument and the sound it makes.
Traders and Raiders	Spring 2 Week 2	Independent investigation To investigate ways to absorb sound.	<p>I can explain that sound needs something to travel through.</p> <p>I can name the three states that sound can travel through.</p> <p>I can explain why some materials might absorb sounds better than others.</p> <p>I can predict which material will make the best soundproof and explain the reason why.</p> <p>I can use the results of the investigation to discuss differences and similarities of the materials.</p> <p>I can use the findings to form a conclusion.</p>	<p>I can investigate the best material for absorbing sound.</p> <p>I can use equipment appropriate to the investigation.</p> <p>I can make careful observations.</p> <p>I can record my findings accurately from a data logger.</p> <p>I can report my findings.</p>	
Traders and Raiders	Spring 2 Week 3	To know sound can damage our hearing and ways we can protect ourselves.	<p>I can name the unit of measure used for sound.</p> <p>I know which levels of sound is dangerous to our hearing.</p> <p>I can explain ways in which we can protect our hearing.</p>	<p>To research how you can protect your hearing and keep yourself safe against noise pollution.</p> <p>To be able to estimate the decibel level of noises.</p> <p>To use a data logger to measure in decibels the volume of sounds.</p>	

	Traders and Raiders	Spring 2 Week 4	STEM To make a musical instrument to make different sounds and pitches.	I can use my knowledge of sound to answer questions about the instrument I have created. I can explain how my musical instrument makes different sounds and pitch.	I can create a musical instrument to play different sounds. I can create a musical instrument that will play sounds of different pitch and loudness. I can explore how music is created, produced and communicated, through the inter-related dimensions: pitch, duration, and structure.
	Traders and Raiders	Spring 2 Week 5	Spare lesson I can investigate and find patterns between the pitch of a sound and features of the object that produced it.	I can explain how the sound is made from the object. I can explain the difference between pitch and volume. I can explain the links between the features of an object and the pitch it makes.	I can plan and conduct an investigation to recognise patterns between pitch and volume. I can use the results to explain a pattern. I can order the objects from the pitch they make high to low.
	Traders and Raiders	Spring 2 Week 6	British Science and Greater Manchester Challenge Week		

<p><u>Year</u> <u>3/4</u></p> <p>Plants</p>	Flow	<p>Summer 1 Week 1</p>	<p>To know the different parts of a flowering plant and explain their functions.</p>	<p>I can name the different parts of a flowering plant. I can explain the function of different parts of flowering plants. I can explain what the vocabulary pollination and germination mean. I can explain the process of pollination. I can explain how pollination leads to fertilisation.</p>	<p>I can label the parts of a plant and write a description of its function. I can identify the different parts of plants which give us food.</p>
	Flow	<p>Summer 1 Week 2</p>	<p>To understand and order the stages of the life cycle of a flowering plant.</p>	<p>I can explain what a life cycle is I can understand the processes of pollination, fertilisation and germination. I can discuss the process of seed dispersal and why it is important I can name the seven methods of seed dispersal.</p>	<p>I can order the different stages of the life cycle of a flowering plant. I can act out the seven methods of seed dispersal.</p>
	Flow	<p>Summer 1 Week 3</p>	<p>Modelled Investigation To set up an investigation to find out what seeds need to germinate.</p>	<p>I can name some of the needs for a plant to live and grow. I can think about how these needs may vary from plant to plant. I can think of a question to investigate what seeds need to germinate. I can make a prediction based on</p>	<p>I explore the requirements of plants for life and growth. I can plan what I will do to set up my investigation. I can set up my investigation carefully I can conduct the enquiry making careful observations. I can record my findings.</p>

				the scientific enquiry question.	I can compare my findings with others.
	Flow	Summer 1 Week 4	Intermediate Investigation To set up an investigation to find out if seeds can germinate anywhere.	<p>I can explain the acronym MRS GREN in relation to the needs of plants.</p> <p>I can explain what the vocabulary terrain means and give examples.</p> <p>I can ask relevant questions to set up an investigation.</p> <p>I can make a prediction based on the scientific enquiry question.</p> <p>I can use the findings to form a conclusion.</p>	<p>I can make systematic and careful observations.</p> <p>I can record findings to help answer the question.</p> <p>I can identify differences and similarities related to scientific processes.</p> <p>I can compare my findings with others.</p>
	Flow	Summer 1 Week 5	Independent Investigation To investigate the way in which water is transported within plants.	<p>I can name to parts of a flower.</p> <p>I can explain the function of the different parts.</p> <p>I can discuss the requirements of plants for life and growth.</p> <p>I can use my knowledge of plants to set up a comparative investigation.</p> <p>I can predict how water is transported in a plant.</p>	<p>I can use a range of equipment to record the findings.</p> <p>I can make systematic and careful observations.</p> <p>I can make accurate notes and measurements for the enquiry.</p> <p>I can record findings to help answer the question.</p> <p>I can present my results in a graph.</p> <p>I can compare my findings with others.</p>

<p><u>Year</u> <u>3/4</u></p> <p>Forces</p>	<p>Flow</p>	<p>Summer 1</p> <p>Week 6</p>	<p>Great Big Bug Hunt</p> <p>STEM</p> <p>To create a greenhouse using ecological friendly materials.</p>	<p>I can explain the benefits of a greenhouse.</p> <p>I can develop a design brief to outline the requirements of a greenhouse.</p> <p>I can consider a design to create a miniature greenhouse to germinate seeds.</p> <p>I can mind map ideas and communicate these ideas to my team.</p>	<p>I can use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>I can select appropriate recycled materials to construct the green house.</p> <p>I can construct a greenhouse fit for purpose.</p> <p>I can germinate seeds in the greenhouse.</p> <p>I can compare and evaluate how effect the green house is.</p>
	<p>Mighty Metals</p>	<p>Summer 2</p> <p>Week 1</p>	<p>To identify the forces acting on objects.</p>	<p>I can explain what the vocabulary gravity, contact, force mean.</p> <p>I can name the different types of force.</p> <p>I can explain why gravity is a force that doesn't need contact.</p>	<p>I can identify when a push or pull is acting on an object.</p> <p>I can show the different ways forces can act in different sports.</p> <p>I can explore forces and explain that gravity can act without contact.</p>
	<p>Mighty Metals</p>	<p>Summer 2</p> <p>Week 2</p>	<p>Modelled Investigation</p> <p>To investigation the effects of friction on different surfaces.</p>	<p>I can explain the force of friction.</p> <p>I can ask relevant questions to set up an investigation.</p> <p>I can make a prediction based on the scientific enquiry question.</p> <p>I can explain the results of friction for the different materials.</p>	<p>I can conduct the enquiry making careful observations.</p> <p>I can record my findings.</p> <p>I can compare my findings with others.</p>

	Mighty Metals	Summer 2 Week 3	Intermediate Investigation To sort out magnetic materials and non-magnetic materials.	I can explain that magnets produce a force that attracts some materials. I can name some magnetic materials and some non-magnetic materials. I can explain what characteristics a magnetic material has. I can ask relevant questions to set up an investigation. I can make a prediction based on the scientific enquiry question. I can use the findings to form a conclusion.	I can compare and categorise everyday materials on the basis of whether they are attracted to a magnet. I can explore which materials are magnetic or not. I can use equipment to separate items that are magnetic and non-magnetic.
	Mighty Metals	Summer 2 Week 4	To investigate and observe whether magnets attract or repel from each other.	I can name the 2 poles of a magnet. I can explain what the vocabulary; attract, repel and poles mean. I can say which poles repel or attract.	I can explore forces and explain that magnetism can act without contact. I can investigate how magnetic forces can move things at a distance without forces touching. I can make systematic and careful observations.
	Mighty Metals	Summer 2 Week 5	Independent Investigation To investigate the strength of	I can identify different types of magnets. I can ask relevant questions to set	I can make systematic and careful observations. I can record accurately the results.

			magnets.	<p>up an investigation.</p> <p>I can make a prediction based on the scientific enquiry question.</p> <p>I can discuss the findings to help answer the question.</p> <p>I can use the findings to form a conclusion.</p>	<p>I can present my results in a graph.</p> <p>I can compare my findings with others.</p>
	Mighty Metals	Summer 2 Week 6	<p>Research</p> <p>To research the life of Isaac Newton and explain the impact of his work.</p>	<p>I can summarise using the facts researched some of the work Isaac Newton contribute to.</p> <p>I can explain Newtons three scientific laws of motion and what led to his hypothesis.</p>	<p>I can use secondary sources to research the life of Isaac Newton.</p> <p>I can use the research to write a biography about Isaac Newton.</p>

Cycle A- Year 5/6

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 5/6 Light	Tomorrow's World	Autumn 1 Week 1	To recognise that light appears to travel in straight lines.	I understand how a light bulb is a source of artificial light. I can explain how light travels.	I can identify sources of light.
	Tomorrow's World	Autumn 1 Week 2	To explain that objects are seen because they give out or reflect light into the eye.	I can explain how light is reflected to help us to see. I understand that our eyes can be tricked.	I can name some parts of the eye. I can describe how our eyes change to adjust to light.
	Tomorrow's World	Autumn 1 Week 3	To understand how mirrors can reflect light.	I can explain how light reflects from mirrors.	I can answer questions that are reflected into a mirror. I can make a periscope.
	Tomorrow's World	Autumn 1 Week 4	Modelled investigation To investigate the creation of shadows.	I can use the idea that light travels in straight lines to explain the creation of shadows. I can contribute my ideas to setting up an investigation. I can make a prediction linking to the question of the enquiry.	I can take accurate measurements and record data. I can record my results in a bar graph.

	Tomorrow's World	Autumn 1 Week 5	To explore and explain refraction in terms of light travel.	I can explain what I can see. I can explain refraction in my own words.	I can make careful observations when refraction happens. I can set up an enquiry to answer a scientific question. I can use a range of scientific equipment to conduct the investigation. I can report my findings and use the results to present a conclusion.
	Tomorrow's World	Autumn 1 Week 6	To explore and explain refraction in terms of light travel and explain how light can be bent.	I can explain what I can see. I can explain the refraction through water in my own words.	I can plan, conduct and record findings to answer scientific questions. I can carry out an investigation testing refraction of light through water. I can make careful observations when refraction occurs. I can use the findings from the enquiry to write a conclusion.
	Tomorrow's World	Autumn 1 Week 6	Research Enquiry To research, plan and write a biography on Thomas Edison.	I can explain the life of Thomas Edison and why he is famous. I can use the correct scientific vocabulary to explain Thomas Edison's work. I can explain how Thomas Edison's work has impacted the world of	I can research Thomas Edison using secondary resources. I can write a biography using the secondary resources.

				science.	
<p>Year 5/6</p> <p>Earth and Space</p>	<p>Stargazers</p>	<p>Autumn 2</p> <p>Week 1</p>	<p>To learn about the Solar System.</p>	<p>To understand what our Solar System is.</p> <p>To know what the Solar System comprises of.</p> <p>To understand how the Solar System was created.</p>	<p>I can ask relevant questions to extend my knowledge and understanding.</p> <p>I can name the 8 planets of the Solar System.</p> <p>I can memorise an acronym for remembering the order of the planets from the sun.</p>
	<p>Stargazers</p>	<p>Autumn 2</p> <p>Week 2</p>	<p>Modelled Investigation</p> <p>To create an outdoor Solar System</p>	<p>To know the actual distance (km) of each planet from the sun.</p> <p>To know the actual diameter (km) of the sun and each planet.</p> <p>To understand the relative size of each planet compared to the size of the sun.</p>	<p>I can describe the movement and position of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>I can work as a team to re-create the Solar System.</p>
	<p>Stargazers</p>	<p>Autumn 2</p> <p>Week 3</p>	<p>Intermediate Investigation</p>	<p>To understand that the Earth is approximately spherical and why.</p> <p>To know that gravity is the key force responsible for Earth.</p> <p>To understand past evidence used to deduce the shape of the Earth before space travel.</p>	<p>I can explain and develop ideas in response to others' comments.</p> <p>I can use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas.</p> <p>I can plan a scientific enquiry to answer questions, including</p>

					recognising and controlling variables where necessary.
	Stargazers	Autumn 2 Week 4	To learn about the Moon's phases and why this happens.	<p>To understand the position and movement of the moon, relative to the Earth and Sun.</p> <p>To know what a moon is, how they maintain an orbit around a planet and which planets in our solar system have them.</p> <p>To understand that the Sun lights up only one side of the Moon.</p> <p>To know the different names for the phases of the Moon.</p>	<p>I can I can physically demonstrate the relationship between the Sun, Earth and Moon with a group.</p> <p>I can explain why there are different phases of the Moon.</p> <p>I can name some of the different names for the phases of the Moon.</p> <p>I can make a spinner to show the phases of the Moon.</p>
	Stargazers	Autumn 2 Week 5	To learn about the Earth's rotation and what this means for different countries.	<p>To understand why we get day and night.</p> <p>To know that the Earth rotates once every 24 hours.</p> <p>To understand why other parts of the world have different time zones.</p>	<p>I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>I can compare times in other parts of the world and relate this to the use of time zones.</p>
	Stargazers	Autumn 2	<p>Independent Investigation</p> <p>To investigate craters</p>	<p>I know what a crater is.</p> <p>I know what a crater looks like.</p> <p>I understand how craters are formed.</p>	<p>I can use spoken language to develop understanding through speculating, hypothesising and exploring ideas.</p> <p>I can plan a scientific enquiry to</p>

		Week 6		I understand that craters can vary in size and shape.	answer questions.
Year 5/6 Forces	A Child's War	Spring 1	To learn about air resistance and gravity.	To know that unsupported objects fall towards the Earth because of the force of gravity. To understand that air resistance is a type of friction between the air and another material. To know that gravity and air resistance are opposing forces. To know how Newton and Galileo first discovered gravity and air resistance.	I can identify and define the opposing forces that act upon objects moving through the air. I can explain the simple physics involved when describing how a parachute works.
		Week 1			
	A Child's War	Spring 1	To research and design a parachute	To understand the history of parachutes. To know some interesting facts about parachutes. To understand that the surface area of the parachute is important in creating significant air resistance. To know the shape of a good and	I can design parachutes using my scientific knowledge. I can predict the speed with which parachutes of different surface areas will fall through the air. I can predict the reason for any difference in terms of the forces acting on the parachutes.
		Week 2			

				bad parachute.	
	A Child's War	Spring 1 Week 3	To investigate paralog descent velocity.	<p>To understand how and why paralog were used during WW2.</p> <p>To understand the components of the Investigation Board (Question, Prediction, Independent Factors, Dependent Variable, Fair Test, Method, Results and Conclusion).</p> <p>To know what descent velocity is and how it can be measured.</p> <p>To know that this investigation is a STEM project (Science, Technology, Engineering and Mathematics).</p>	<p>I can compare the speed with which canopies of different shapes and surface area fall through the air.</p> <p>I can take measurements with precision, taking repeat readings for accuracy.</p> <p>I can explain the reason for any difference in terms of the forces acting on the parachutes.</p> <p>I can use test results to make predictions to set up further comparative and fair tests.</p>
	A Child's War	Spring 1 Week 4	To investigate helicopter descent velocity.	<p>To understand how and why helicopters are used.</p> <p>To understand the history of helicopters.</p> <p>To understand the components of the Investigation Board (Question, Prediction, Independent Factors, Dependent Variable, Fair Test and Method).</p> <p>To know that this investigation is a STEM project (Science, Technology, Engineering and</p>	<p>I can explain how gravity and air resistance affect helicopters.</p> <p>I can follow instructions to make my own paper helicopter.</p> <p>I can plan a scientific enquiry to answer questions, including recognising and controlling variables.</p> <p>I can discuss scientific evidence (Galileo) to support the prediction that more weight on the helicopter will cause a lower descent velocity.</p>

				Mathematics).	
	A Child's War	Spring 1 Week 5	To investigate helicopter descent velocity.	To understand how to carefully and scientifically carry out the investigation; measurements are accurate, and variables are controlled to ensure it is a fair test. To know what is expected in the Results and Conclusion sections of an Investigation Board.	I can compare the speed with which paper helicopters fall through the air. I can explain the reason for any difference in terms of forces acting on the paper helicopter. I can use test results to make predictions to set up further comparative and fair tests.
	A Child's War	Spring 1 Week 6	To learn about aerodynamics, specifically relating to aeroplanes and plan an investigation.	To understand what aerodynamics are. To know how air pressure and air resistance affects aerodynamic shapes To know the forces that act up on aeroplane in motion.	I can use my knowledge of aerodynamics to select an appropriate paper aeroplane to make for my investigation. I can plan my own independent investigation.
<u>Year 5/6</u> Forces	A Child's War	Spring 2 Week 1	To investigate using paper aeroplanes.	To know the forces that act upon a paper aeroplane in motion. To understand why some paper aeroplanes were more successful than others. I know how to carry out an investigation independently.	I can follow written step-by-step instructions and make my own paper aeroplane. I can fly my own paper aeroplane in a carefully planned scientific investigation. I can accurately record my results.

	<p>A Child's War</p>	<p>Spring 2 Week 2</p>	<p>To investigate water resistance</p>	<p>To understand what water resistance is. To identify the effects of water resistance on moving objects. To know what sinking velocity is and how it can be measured. To understand the components of the Investigation Board (Question, Prediction, Independent Factors, Dependent Variable, Fair Test, Method, Results and Conclusion).</p>	<p>I can compare the sinking velocity of different shapes with different surface areas. I can take measurements with precision, taking repeat readings for accuracy. I can explain the reason for any difference in terms of the water resistance acting upon the objects. I can use test results to make predictions to set up further comparative and fair tests.</p>
	<p>A Child's War</p>	<p>Spring 2 Week 3</p>	<p>To learn about up thrust and buoyancy.</p>	<p>To know what up thrust is To understand how buoyancy works To know why some objects float.</p>	<p>I can use my prior knowledge of surface area and water resistance to create a boat that is buoyant. I can use previous test results to make predictions to set up further comparative and fair tests. I can orally report and present findings from a practical enquiry.</p>
	<p>A Child's War</p>	<p>Spring 2 Week 4</p>	<p>To learn about mechanisms.</p>	<p>I know what a mechanism is and why they are used. I know that a lever, gear and pulley are types of mechanisms. I understand the forces involved with each mechanism.</p>	<p>I can name some real-life examples of different mechanisms. I can explain the similarities and differences between the lever, gear and pulley mechanism.</p>

	A Child's War	Spring 2 Week 5	To investigate the pulley mechanism.	I know what a pulley is. I understand how a pulley works. I know that a pulley allows a smaller force to have a greater effect.	I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. I can identify scientific evidence that has been used to support ideas.
	A Child's War	Spring 2 Week 6	To investigate friction.	I know what friction is. I know that a Newton Meter measures friction and that it was named after Sir Isaac Newton. I know that the unit of measure is called a Newton and it is abbreviated to an N. I understand which surfaces create more friction and why. I understand that the higher the Newton, the higher the friction.	I can use a Newton Meter I can take measurements, using a Newton Meter with increasing accuracy and precision, taking repeat readings when appropriate. I can record data and results of increasing complexity using a table and line graph on Microsoft Excel.
<u>Year 5/6</u> Animals including Humans	Hola Mexico	Summer 1 Week 1	Year 5 objective To investigate the changes as humans, develop to old age	I understand that aging is a continual process over time I can explain the main changes that take place in old age. I can distinguish between facts and stereotype about old age.	I can identify the changes that take place from birth to old age I can classify the changes according to physical and other changes.

	Hola Mexico	Summer 1 Week 2	<p>Year 6 objective</p> <p>To identify and name parts of the human circulatory system.</p>	<p>I can name the four systems in the human body.</p> <p>I can name the parts of the circulatory system.</p> <p>I can explain the function of the parts in the circulatory system.</p>	<p>I can identify the functions of the four systems in the human body.</p> <p>I can identify the parts of the circulatory system.</p>
	Hola Mexico	Summer 1 Week 3	<p>Year 6 objective</p> <p>To investigate how water and nutrients are transported within the body.</p>	<p>I can explain how water and nutrients are transported within the body.</p> <p>I can understand how the digestive system breaks down nutrients.</p> <p>I can explain the role of circulatory system in transporting nutrients and water in the body.</p>	<p>I can identify the which nutrients are found in different types of food</p> <p>I can identify the different functions of the digestive system.</p> <p>I can create a diagram of how water and nutrients are transported.</p> <p>I can present my findings.</p>
	Hola Mexico	Summer 1 Week 4	<p>Year 6 objective</p> <p>To investigate how diet and exercise impact on human bodies.</p>	<p>I can describe the impact of diet and exercise on the human body.</p> <p>I can explain how nutrients supports the human body.</p> <p>I can explain what exercise is and the effect different exercises can have on the body.</p>	<p>I can sort healthy and unhealthy foods in a Venn diagram.</p> <p>I can identify what a healthy lifestyle consists of.</p> <p>I can create a leaflet to present my findings.</p>

	Hola Mexico	Summer 1 Week 5	Year 6 objective To plan a scientific enquiry into the effects of exercise.	I can decide on the most appropriate type of investigation. I can make a prediction which is based upon the scientific question. I can explain which variables will be controlled. I can make a conclusion from the results of the enquiry.	I can record, report and present results appropriately. I can write a report about my findings that includes a conclusion. I can report the degree of trust I have in my results.
	Hola Mexico	Summer 1 Week 6	Year 6 objective To understand the impact of drugs and alcohol on the body.	I can explain the impact of drugs and alcohol on the body. I can describe how scientific evidence highlighted the dangers of smoking.	I can identify the parts of the body affected by drugs. I can identify the parts of the body affected by alcohol. I can identify the parts of the body affected by smoking.
<u>Year 5/6</u> Evolution and Inheritance	Sow, grow and farm	Summer 2 Week 1	To understand and explain the scientific concept of inheritance.	I understand that all living things are made of cells. I can explain some of the features of a cell. I can explain how inherited characteristics can lead to variation.	I can identify inherited characteristics that are passed on from parent to offspring. I can match the parents to their offspring in different mammals.
	Sow, grow and farm	Summer 2 Week 2	To demonstrate understanding of the scientific meaning of adaptation.	I can understand that adaptations are mutations. I can explain the meaning of the vocabulary variation and adaptation.	I can identify adaptive traits. I can identify how animals are suited to their habitats. I can match living things with their habitat and an adaptive trait.

				<p>I can explain how variation happens.</p> <p>I can explain the difference between accidental adaptations and adaptive traits.</p>	
	<p>Sow, grow and farm</p>	<p>Summer 2</p> <p>Week 3</p>	<p>To understand the key ideas of theory of evolution.</p>	<p>I can demonstrate understanding of how ideas about evolution developed over time.</p> <p>I can name some of the Scientist that came up with the theory of evolution.</p>	<p>I can use secondary sources to research the theorist of Evolution.</p> <p>I can identify scientific evidence that has been used to support or refute ideas.</p> <p>I can summarise how ideas of theory of evolution have changed over time of the different categories natural selection, adaption and evolution, inherited and adaptive traits.</p>
	<p>Sow, grow and farm</p>	<p>Summer 2</p> <p>Week 4</p>	<p>To investigate if fossils provide evidence from the past.</p>	<p>I can explain how a living thing has evolved over time.</p> <p>I understand that living things change over time.</p> <p>I can explain how living things can provide information from the past.</p> <p>I can explain why some living things have more fossils than others.</p>	<p>I can order the fossilisation process.</p> <p>I can examine fossil evidence.</p> <p>I can identify advantages and disadvantages of observing fossil records.</p>

	Sow, grow and farm	Summer 2 Week 5	To investigate how human beings evolved.	<p>I can identify adaptive traits in humans as a species.</p> <p>I can describe the known stages of human evolution.</p> <p>I can name some of the controversies of human evolution.</p>	<p>I can identify adaptive traits in humans as a species.</p> <p>I can compare similarities and differences between a modern human and Australopithecus Afarensis.</p>
	Sow, grow and farm	Summer 2 Week 6	To investigate how adaptations can result in both advantages and disadvantages.	<p>I can explain how human intervention affects evolution.</p> <p>I can understand that some living things have acquired more adaptive traits than others.</p> <p>I can demonstrate understanding of the issues raised by human intervention in the evolutionary process.</p>	<p>I can identify advantages and disadvantages of specific interventions.</p> <p>I can identify how humans have created new varieties of living things through selective breeding.</p>

Cycle B- Year 5/6

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 5/6 Living things and their habitat	Off with her head	Autumn 1 Week 1	To investigate the life cycle of a butterfly, recognising and controlling variables.	I know what butterflies need to grow best. I can make a prediction using scientific vocabulary. I can make a conclusion from the findings.	I can use my knowledge about the environment to plan the investigation. I can record the results accurately. I can orally report and present findings from the practical enquiry.
Year 5	Off with her head	Autumn 1 Week 2	I can plan and carry out an investigation into plant growth.	I know what plants need to grow best I can make a prediction using scientific vocabulary. I can make a conclusion from the findings.	I can plan an investigation. I can think scientifically about the environment. I can record the results accurately. I can orally report and present findings from the practical enquiry.
	Off with her head	Autumn 1 Week 3	To be able to name the parts and functions of a flower.	I explain what a flower is and its purpose. I can explain which is the female and male part of the flower. I can explain how flower reproduce.	I can identify and explain the main functions of a flower.
	Off with her head	Autumn 1 Week 4	To know and explain how flowering plants reproduce.	I can explain how insects are important to pollination. I understand how and where pollen is produced.	I can explain the role of each part of the flower in pollination. I can explain other ways that plants are pollinated.

	Off with her head	Autumn 1 Week 5	I can understand and group mammals based on how they reproduce.	I can explain the differences between mammals and how they reproduce. I can explain the different mammal groups. I can give examples of each animal group.	I can research the different animal groups. I can name the different mammal group by classification.
	Off with her head	Autumn 1 Week 6	To understand the life cycle of a butterfly.	I can explain the different stages of a butterfly life cycle. I can explain what metamorphosis means.	I can order the life cycle of a butterfly. I can apply what I've learnt to ensure the correct conditions to raise a caterpillar into a butterfly.
<p><u>Year 5/6</u></p> <p>Living things and their habitat</p> <p>Year 6</p>	Frozen Kingdom	Autumn 2 Week 1	To understand the characteristics of a living organism.	I understand the difference between living and non-living organisms.	I can use the acronym MRS NERG to help classify living organisms. I understand the acronym MRS NERG and can explain the seven characteristics of living organisms.
	Frozen Kingdom	Autumn 2 Week 2	To plan and carry out an investigation looking at the characteristics and classification of vertebrates.	I can make a scientific prediction and explain why I think this. To understand how to carefully and scientifically carry out the investigation; measurements are accurate, and variables are controlled to ensure it is a fair test. To know what is expected in the	I know and understand the five ways of classifying vertebrates. I can use research questions to discover scientific facts. I can use and understand a classification chart to decide which classification a vertebrate belongs to.

				Results and Conclusion sections of an Investigation Board.	
	Frozen Kingdom	Autumn 2 Week 3	To research micro-organisms and create a fact file.	<p>I can explain what a micro-organism is.</p> <p>I can name some scientific examples of micro-organisms.</p> <p>I can name some items that contain useful micro-organisms.</p> <p>I can name some items that contain harmful micro-organisms.</p>	<p>I can research and collect data on micro-organisms.</p> <p>I can create a fact file on different micro-organisms.</p>
	Frozen Kingdom	Autumn 2 Week 4	To plan and carry out an investigation into handwashing. To plot and interpret data from a line graph.	<p>I can work well in my group, sharing and listening to ideas.</p> <p>I can think of and plan an interesting investigation to carry out into handwashing.</p> <p>I can explain my results scientifically.</p>	<p>I can carry out the investigation scientifically.</p> <p>I can complete a full Investigation Board.</p> <p>I can plot data onto a line graph accurately.</p> <p>I can interpret the data on the line graph.</p>
	Frozen Kingdom	Autumn 2 Week 5	To be able to classify plants and animals, giving reasons for the classification based on specific characteristics.	<p>I can explain ways into which plants and trees can be classified.</p> <p>I can give reasons for the classification based on specific characteristics.</p>	<p>I can classify plants and trees.</p> <p>I can record my classifications onto a table.</p>

	Frozen Kingdom	Autumn 2 Week 6	To investigate the effect of insulation on keeping the body warm.	I understand what insulation is. I can make a scientific prediction and explain why I think this. I can explain my results scientifically and form a conclusion.	I can plan and carry out an investigation into body insulation. I can take measurements accurately and record them in a table.
<u>Year 5/6</u> Electricity	Revolution	Spring 1 Week 1	To understand, build and draw simple circuits.	I know what a circuit needs in order for it to work. I know the circuit symbols and can draw simple circuits.	I can draw a simple circuit using the correct symbols. I can build simple circuits using a range of components.
	Revolution	Spring 1 Week 2	To construct a circuit in which a switch turns a specific device on or off.	I know that a switch can be used to make or break a circuit to turn things on or off. I can explain how my switch works. I can explain what materials conduct electricity.	I can create my own circuit with a switch. I can draw conclusions about why some materials conduct electricity and some don't.
	Revolution	Spring 1 Week 3	To investigate if wire length affects the brightness of a bulb.	I can make a prediction and provide a reason to support this. I can explain my results and conclusion. I can suggest further comparative tests that could be completed.	I can carry out a scientific comparative enquiry. I can record the results accurately. I can draw on the results to form a conclusion.
	Revolution	Spring 1 Week 4	To investigate if total voltage affects the brightness of a bulb.	I can use previous learning to set up a practical enquiry. I can make a prediction and provide	I can think of a question to conduct a practical enquiry from. I can carry out a scientific

				<p>a reason to support this. I can explain my results and conclusion.</p>	<p>comparative enquiry. I can record the results accurately I can draw on the results to form a conclusion</p>
	<p>Revolution</p>	<p>Spring 1 Week 5</p>	<p>To conduct an investigation with a buzzer</p>	<p>I can use previous learning to set up a practical enquiry. I can make a prediction and provide a reason to support this. I can explain my results and conclusion.</p>	<p>I can think of a scientific question and plan a practical enquiry to answer the question. I can plan my investigation with my group. I can complete an investigation board independently. I can record the results accurately I can draw on the results to form a conclusion.</p>
	<p>Revolution</p>	<p>Spring 1 Week 6</p>	<p>To create a poster explaining the dangers of electricity.</p>	<p>I understand why electricity can be dangerous. I can name particular everyday tasks involving electricity that can be dangerous. I can warn children about the dangers of electricity.</p>	<p>I can spot electrical hazards and know how to rectify them. I can produce an informative, eye-catching poster to warn others of the dangers of electricity.</p>
<p>Year 5/6 Electricity</p>	<p>Revolution</p>	<p>Spring 2 Week 1</p>	<p>To investigate how motor speed can be increased.</p>	<p>I understand the role of the motor. I can think of electrical appliances that use a motor. I can make a prediction and provide</p>	<p>I can think of a scientific question and plan a practical enquiry to answer the question. I can make a simple circuit with a</p>

				a reason to support this. I can explain my results and conclusion.	motor. I can carry out an investigation testing motor speed.
	Revolution	Spring 2 Week 2	To understand, build and draw a range of circuits.	I know what a circuit needs in order for it to be complete. I can explain what would cause a circuit to be incomplete. I know all the circuit symbols.	I can draw a circuit to include all the correct symbols for the components of the circuit. I can draw a range of circuits. I can build a range of circuits using many components. I can build a range of circuits.
	Revolution	Spring 2 Week 3	To investigate whether circuits will work or not.	I can use my knowledge of circuits to explain what makes a complete and in complete circuit. I can make my predictions and provide a reason to support this. I can explain my results and conclusion.	I can look carefully at a circuit diagram and explain whether it will work or not. I can test my predictions by making the circuit with real components. I can record my results in a table.
	Revolution	Spring 2 Week 4	To know what combined voltage is.	I understand that cells have different voltage. I can explain what combine voltage is. I can calculate the combined voltage.	I can apply my knowledge to complete a table to show the different total and combine voltage ranges.

	Revolution	Spring 2 Week 5	To investigate static electricity.	<p>I can explain what static electricity is.</p> <p>I can explain different ways in which static electricity is produced.</p> <p>Using my knowledge, I can contribute ideas to a practical enquiry into ways static electricity can be produced.</p> <p>I can explain my results scientifically and form a conclusion.</p>	<p>I can carry out various experiments to test static electricity.</p> <p>I can complete an investigation board independently.</p> <p>I can record the results accurately.</p> <p>I can draw on the results to form a conclusion.</p>
	Revolution	Spring 2 Week 6	To construct a functional working radio.	<p>I can explain the engineering process</p> <p>I can use my knowledge of circuits and electricity to construct a radio.</p> <p>I can apply my knowledge of electrical systems to ensure the circuit is complete and functional in my product [circuits incorporating switches, resistors and amplifiers].</p>	<p>I can identify the different components of a circuit of a radio (cell, wires, speaker, switch).</p> <p>I can use the engineering design process to help build a radio.</p>
<u>Year 5/6</u> Materials and their properties	Pharaohs	Summer 1 Week 1	To investigate man-made materials and their properties.	<p>I can think of different ways in which materials can be grouped.</p> <p>I can explain reasons for my groupings.</p> <p>I can explain my findings .</p>	<p>I can make careful observations.</p> <p>I can compare and group together everyday materials on the basis of their properties.</p> <p>I can record them in a table.</p>

	Pharaohs	<p>Summer 1</p> <p>Week 2</p>	To investigate the solubility of materials.	<p>I can define and explain a solute, solvent and solution.</p> <p>I can describe the process of dissolving.</p> <p>I can explain the difference between soluble and insoluble.</p> <p>I can explain my results scientifically and form a conclusion.</p>	<p>I can make different solutions.</p> <p>I can record the results accurately.</p> <p>I can draw on the results to form a conclusion.</p>
	Pharaohs	<p>Summer 1</p> <p>Week 3</p>	To investigate the separation of materials by filtering.	<p>I can explain what a filter is.</p> <p>I understand why filtering is needed and can give some examples.</p> <p>I can explain my results scientifically and form a conclusion.</p>	<p>I can plan and carry out an investigation into filtering muddy water.</p> <p>I can complete an investigation board independently.</p> <p>I can record the results accurately.</p> <p>I can draw on the results to form a conclusion.</p>
	Pharaohs	<p>Summer 1</p> <p>Week 4</p>	To investigate the separation of materials by sieving, filtering and evaporating.	<p>I can explain which separation method is appropriate to use depending on the materials.</p> <p>I understand why filtering is needed and can give some examples.</p> <p>I can explain my results scientifically and form a conclusion.</p>	<p>I can separate a range of materials.</p> <p>I can complete an investigation board independently.</p> <p>I can record the results accurately.</p> <p>I can draw on the results to form a conclusion.</p>

	Pharaohs	<p>Summer 1</p> <p>Week 5</p>	<p>To identify irreversible changes.</p>	<p>I can explain the meaning of the vocabulary reversible and irreversible.</p> <p>I can explain that some changes in materials result in the formation of new materials.</p>	<p>I can identify irreversible chemical changes.</p> <p>I can describe what new materials are created in irreversible chemical change.</p> <p>I can sort reversible and irreversible materials.</p>
	Pharaohs	<p>Summer 1</p> <p>Week 6</p>	<p>To investigate that some changes result in the formation of new materials.</p>	<p>I can explain the meaning of the vocabulary reversible and irreversible.</p> <p>I can explain that some changes in materials result in the formation of new materials.</p> <p>I can explain my findings.</p>	<p>I can cook and bake, observing the irreversible changes that occur.</p> <p>I can identify the processes as changes take place.</p> <p>I can draw and label the changes that are observed.</p>
<p>Year 5/6</p> <p>Materials</p>	Scream Machine	<p>Summer 2</p> <p>Week 1</p>	<p>To investigate rusting</p>	<p>I understand what rusting is and how it happens.</p> <p>I can suggest ideas to prevent rusting.</p> <p>I can make my predictions and provide a reason to support this.</p> <p>I can explain my results and conclusion.</p>	<p>I can plan and carry out an investigation into rusting.</p> <p>I can record the results accurately.</p> <p>I can draw on the results to form a conclusion.</p>
	Scream	Summer	<p>To investigate thermal conductivity.</p>	<p>I understand what thermal conductivity is.</p>	<p>I can plan and carry out an investigation into rusting.</p>

	Machine	2 Week 2	To create a bar graph of my results on Microsoft Excel.	<p>I can explain the difference between a thermal conductor and a thermal insulator.</p> <p>I understand how thermal conductivity is different to electrical conductivity.</p> <p>I can explain my findings and form a conclusion.</p>	<p>I can record the results accurately</p> <p>I can draw on the results to form a conclusion.</p> <p>I can input data and information on Microsoft Excel.</p> <p>I can analyse and evaluate data and information on Microsoft Excel.</p> <p>I can present data and information on Microsoft Excel.</p>
	Scream Machine	Summer 2 Week 3	To investigate the relationship between floor material and ball bounce.	<p>I can think of a range of suitable materials and explain the benefits to the investigation.</p> <p>I can make my predictions and provide a reason to support this.</p> <p>I can explain my results with a conclusion.</p>	<p>I can think of a question to conduct a practical enquiry from.</p> <p>I can carry out a scientific enquiry.</p> <p>I can record the results accurately.</p> <p>I can draw on the results to form a conclusion.</p>
	Scream Machine	Summer 2 Week 4&5	<p>Research</p> <p>To research inventors who have developed useful new materials and the impact of the new material.</p>	<p>I can name some inventors who have developed useful new materials.</p> <p>I can choose an inspirational inventor and explain how their invention has impacted on life today.</p> <p>I can explain why the inventor is inspirational.</p> <p>I can explain how the new material was invented.</p>	<p>I can research inventors of new materials using secondary resources.</p> <p>I can write a biography on an inspirational inventor of new materials.</p>

	<p>Scream Machine</p>	<p>Summer 2 Week 6</p>	<p>STEM- link with forces To plan, design and construct a roller coaster using appropriate functional materials.</p>	<p>I can apply my knowledge of materials to construct a roller coaster which will hold the weight of a moving marble. I can use the STEM engineering process to plan, design, evaluate and improve my product.</p>	<p>I can use research and develop design criteria to inform the design of an innovative, functional, appealing product that is fit for purpose, aimed at individuals or groups. I can select and use a wider range of materials and components, according to their functional properties and aesthetic qualities. I can evaluate my ideas and product against a design criterion and consider other's views to improve my work.</p>
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