

2020-2021	A1	A2	SP1	SP2	SU1	SU2
FS	<p><u>Linked to topic on ME and my world</u> Understanding the world People and Communities and The World 40-60mnths Identifying themselves - Observing similarities and differences between themselves, places, objects, materials, living things people and families, - Observing/exploring familiar surroundings/ environments, animals and plants. Explaining why some things occur and talk about changes</p>	<p><u>Linked to topic on Me and My World-Toys</u> 30-50mnths Knows something that make them unique - Remembers and talks about their own experiences - Can talk about their observations - Talks about why things happen and how things work - Knows how to operate simple equipment - Shows interest in technical toys - Introduce subject specific words and use all our senses to explore beliefs, practices and forms of expression (RE)</p>	<p><u>Linked to Topic Hot and Cold</u> 30-50mnths Can talk about some of the things that they have observed Talk about why things happen and how things work 30-50mnths Can identify similarities and differences in relation to friends and family Use their imagination and curiosity to develop their appreciation of, and wonder at the World in which they live</p>		<p><u>Linked to Topic Hot and Cold Places</u> Introduce subject specific words and use all senses Use their imagination and curiosity to develop their appreciation of, and wonder at the World in which they live</p>	<p><u>Linked to How have I changed since starting school</u> 40-60mnths Observing similarities and differences between themselves Use their imagination and curiosity to develop their appreciation of, and wonder at the World in which they live Learning about how we have been and continue to be interconnected with our planet: inventions, climate change</p>
Y1	<p><u>Autumn 2 - Seasonal Changes:</u> In which season does it rain the most? Are there different flowering plants for different seasons Does the wind always blow the same way</p>			<p><u>Spring 2/Summer 1 - Seasonal changes</u> Are there different flowering plants for different seasons?</p>		
Research	<p><u>Autumn 1 +2- Materials:</u> How are bricks made? Which materials can be recycled?</p>		<p><u>Spring 1 Humans and Senses</u></p>	<p><u>Summer 1- Plants and growth - link to Spring time</u></p>	<p><u>Summer 2 - Animals</u> How are the animals in (country) different to the ones that we find in Britain?</p>	

			What are the most common British plants and where can we find them?		
Identifying and Classifying	We need to choose a material to make an umbrella. Which materials are waterproof?	What are the names for all the parts of our bodies?		How can we identify the trees that we observed on a tree hunt?	How can we organise all the zoo animals?
Pattern Seeking	Is there a pattern in the types of materials that are used to make objects in school?	Do you get better at smelling as you get older?		Is there a pattern in where we find moss (or other flowers) growing in the school grounds?	
Fair testing					
How scientific ideas have changed over time	How are building materials different to when Queen Elizabeth I was on the throne?	How did French doctor Renè Laennec's ideas improve medicine?		How did Beatrix Potter help our understanding of mushrooms and toadstools?	What strange ideas did Italian scientist Luigi Galvani have about animals in 1780? Why did he think that?
Observing Over Time	What happens to materials over time if we bury them in the ground?	How does my height change over the year?		How does my sunflower change each week? How does the oak tree change over the year?	

Comparative Testing	Which materials are the most absorbent? Which materials are the most flexible? In which season does it rain the most?	Is our sense of smell better when we can't see?		Which type of compost grows the tallest sunflower? Which tree has the biggest leaves?	
Y2 Research	<u>Materials</u> How have the materials (toys) we have used changed over time? Are all plastics the same?	<u>Animals (inc Humans) Offspring and survival</u> What do you need to do to look after a pet and keep it healthy? <u>Humans, Health + Hygiene</u> What food do you need in a healthy diet and why?	<u>Living things and their habitats</u> How does the habitat of the open grassland compare to the habitat of a woodland?	<u>Plants</u> How does a cactus survive in a desert with no water?	
Identifying and Classifying	Which materials are shiny? Which are dull? Which materials will let electricity go through them, and which will not?	Which offspring belongs to which animals?	How would you group these plants and animals based on what habitat you would find them in?	How can we identify the trees that we observed on our tree hunt?	
Pattern Seeking	Do magnetic materials conduct electricity?	Which age group of children wash their hands the most in a day?	What conditions do woodlice prefer to live in?	Do bigger seeds grow into bigger plants?	
Fair testing					
How scientific ideas have	How have the materials that humans used to make tools changed since the Stone Age?	How did George Washington Carver use science to	What ideas did botanist Arthur Tansley have about habitats in 1935?		

changed over time	How has glass making changed since it was first made in ancient Egypt?	improve farming in America? When the first fizzy drink machine was invented in 1775, scientist Joseph Priestley said it was the cure to many health problems. What ideas do scientists have about fizzy drinks today?				
Observing Over Time	Would a paper boat float forever?	How much food and drink do I have over a week?			What happens to my bean after I have planted it?	
Comparative Testing	Which materials would be the best for making the little pig's roof?	Do amphibians have more in common with reptiles or fish?		Do cress seeds grow quicker inside or outside?		Do bananas make us run faster?
Y3 Research	<u>Rocks and Fossils</u> Who is Mary Anning and what did she discover?	<u>Forces and Magnets</u> How does a compass work?	<u>Animals Including Humans</u> What different vitamins do we need to keep us healthy?	<u>Plants</u> What are all the different ways that seeds disperse?	<u>Light</u> What natural sources of light are there?	
Identifying and Classifying	Can you use the identification key to find out the name of each of the rocks in your collection?		How can we group the food that we eat?	How many different ways can you group our seed collection?	How would you organise these light sources into natural and artificial sources?	

see also Science Units sheet

Pattern Seeking	Is there a pattern in where we find volcanoes on planet earth?	Does the size and shape of a magnet affect how strong it is?	Do male humans have larger skulls than female humans?	What colour flowers do pollinating insects prefer?	Are you more likely to have bad eye sight and to wear glasses if you are older?	
Fair Testing	How does adding different amounts of sand affect how quickly water drains through it?	How does the mass of an object affect how much force is needed to make it move?	How does the length of your arm affect how far you can throw?	How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals?	How does the distance between the shadow puppet and the screen affect the size of the shadow?	
How scientific ideas have changed over time	How did Mary Anning's work help us to understand prehistoric life?	How have our ideas about magnets changed over time?	How did the chemist, Marie Maynard Daly, use science to help us improve our diets?		How have our ideas about eclipses changed over time?	
Observing Over Time	How does tumbling change a rock over time?	If we magnetise a pin, how long does it stay magnetised for?	What changes as butter is made?	What happens to celery when it is left in a glass of coloured water?	When is our classroom darkest?	
Comparative Testing	Which soil absorbs the most water?	Which materials are magnetic?	Which drink is the healthiest?	Which location is the best to grow a bean?	Which material reflects the most light?	
Y4 Research	<u>Animals including humans</u> How do dentists fix broken teeth?	<u>Sound</u> Do all animals have the same hearing range?		<u>States of Matter</u> Research - What are hurricanes and why do they happen?	<u>Electricity</u> How many electrical appliances have you got at home and what would you do without them?	<u>Living things and their habitats</u>
Identifying and Classifying	Can we use identification keys to identify all the animals that we caught pond dipping?		Can you group these materials and objects into solids, liquids, and gases?	How would you group these electrical devices based on where the electricity comes from?	Can we use the classification keys to identify all the animals that we caught pond dipping?	

Pattern Seeking	Are foods that are high in energy always high in sugar?	Is there a link between how loud it is in school and the time of day? If there is a pattern, is it the same in every area of the school?	Is there a pattern in how long it takes different sized ice lollies to melt?	Which room has the most electrical sockets in a house?	How has the use of insecticides affected bee population?
Fair Testing	Does the amount of light affect how many woodlice move around?	How does the length of a guitar string/tuning fork affect the pitch of the sound?	How does the mass of a block of ice affect how long it takes to melt?	How does the thickness of a conducting material affect how bright the lamp is?	Does the amount of light affect how many woodlice move around?
How scientific ideas have changed over time	How has a visit to the dentist changed over time?	How has our understanding and use of ultrasound changed over time?		Who actually invented the light bulb, Thomas Edison or Joseph Swan?	How did Jane Goodall learn about the habits and behaviours of chimpanzees and why does she still need to work to protect their habitat?
Observing Over Time	How does the variety of invertebrates on the school field change over the year?	When is our classroom the quietest?	How does the level of water in a glass change when left on the windowsill?	How long does a battery light a torch for?	How does the variety of invertebrates on the school field change over the year?
Comparative Testing	In our class, are omnivores taller than vegetarians?	Which material is best to use for muffling sound in ear defenders?		Which metal is the best conductor of electricity?	Which material is best for keeping our hot chocolate warm?
Y5 Research	<u>Properties and changes in materials</u> What are micro plastics and why are they harming the plastics?	<u>Earth and Space</u> How do we know the earth is round? What unusual objects did ??? discover?	<u>Living things and their habitats</u> What are the differences between the lifecycle of an insect and a mammal?	<u>Animals (including humans)</u> Why do people get grey/white as they get older?	<u>Forces</u> How do submarines sink if they are full of air?

Identifying and Classifying	Can you group these materials based on whether they are transparent or not?	How could you organise all the objects in the solar system into groups?	Compare the collection of animals based on their similarities and differences in the life cycle.	Can you identify all the stages in the human life cycle?	Can you label and name all the forces acting on the objects in each of these situations?
Pattern Seeking	Do all stretchy materials stretch in the same way?	Is there a pattern between the size of a planet and the time it takes to travel around the Sun?	Is there a relationship between a mammal's size and its gestation period?	Are the oldest children in our school the tallest?	Do all objects fall through water in the same way?
Fair Testing	How does the temperature of tea affect how long it takes for a sugar cube to dissolve?		How does the level of shrimp affect how quickly a brine shrimp hatch?	How does age affect a human's reaction time?	How does the angle of launch affect how far a paper rocket will go?
How scientific ideas have changed over time	What did Stephanie Kwolek discover and why was it important?	How have our ideas about the solar system changed over time?	How did the experiments and ideas of Jan Ingenhousz help improve our understanding of plants?	How has life expectancy changed since the middle ages?	How have our ideas about gravity changed over time?
Observing Over Time	How does a container of salt water change over time?		How does brine shrimp change over their lifetime?		How long does a pendulum swing for before it stops?
Comparative Testing	Which type of sugar dissolves the fastest?		Which seed takes the longest time to fall?		Which shape parachute takes the longest to fall?
Y6 Research	<u>Animals including Humans</u>	<u>Living Things</u> What do different types of microorganisms do	<u>Electricity</u> How can we make electricity?	<u>Evolution</u>	<u>Light</u> Why do some people have to wear glasses to see clearly?

	How have some diseases been eradicated over time?	and are they always harmful?			
Identifying and Classifying		How would you make a classification key for vertebrates/invertebrates or microorganisms?	How would you group electrical components and appliances based on what electricity makes them do?	How would you make a classification key for vertebrates/invertebrates or microorganisms.	What colours do you get if you mix different colours of light together?
Pattern Seeking	Is there a pattern between what we eat for breakfast and how fast we can run?	Do all flowers have the same number of petals?	Does the temperature of a light bulb go up the longer it is on?		Is there a pattern with how bright it is in school across the day? And if there is a pattern, is it the same in every classroom?
Fair Testing	How does the length of time we exercise for affect our heart rate?	How does the temperature affect how much gas is produced by yeast?	How does the voltage of the batteries in a circuit affect the brightness of the lamp?		How does the angle that a light ray hits a plane mirror affect the angle at which it reflects off the surface?
How scientific ideas have changed over time	What ideas did Edward Jenner have about small pox and how did he test them?		How has our understanding of electricity changed over time?	How did Carl Linneaus' ideas help us to group plants?	Cameras detect light - how has our understanding of light and its effects changed camera design throughout history?
Observing Over Time	How does my heart rate change over the day?	What happens to a piece of bread if you leave it on the windowsill for two weeks?	Which brand of battery lasts the longest?		Does the temperature of a light bulb go up the longer it is on?
Comparative Testing	Which type of exercise has the greatest effect on our heart rate?	Which is the most common invertebrate on our school playing field?	Which make of battery lasts the longest?		Which material is most reflective?

Subject: **SCIENCE Working Scientifically**

2021-2022

see also Science Units sheet