

Year One

Comparative and fair testing

Observation over time

Pattern seeking

Identifying, classifying and grouping

Research using secondary sources

Which type of compost grows the tallest sunflower?	How does a daffodil bulb change over the year?	Do trees with bigger leaves lose their leaves first in autumn?	How can we sort the leaves that we collected on our walk?	What are the most common British plants and where can we find them?
Which tree has the biggest leaves?	How does my sunflower change each week?	Is there a pattern in where we find moss growing in the school grounds?	How can we organise all the zoo animals?	How are the animals in Australia different to the ones that we find in Britain?
Is our sense of smell better when we can't see?	How does the oak tree change over the year?	Do you get better at smelling as you get older?	What are the names for all the parts of our bodies?	Do all animals have the same senses as humans?
In which season does it rain the most?	How does my height change over the year?	Does the wind always blow the same way?	How would you group these things based on which season you are most likely to see them in?	Are there plants that are in flower in every season? What are they?
Which materials are the most flexible?	What happens to materials over time if we bury them in the ground?	Is there a pattern in the types of materials that are used to make objects in a school?	We need to choose a material to make an umbrella. Which materials are waterproof?	How are bricks made?
Which materials are the most absorbent?	What happens to shaving foam over time?		Which materials will float and which will sink?	Which materials can be recycled?

Year Two

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Do cress seeds grow quicker inside or outside?	What happens to my bean after I have planted it?	Do bigger seeds grow into bigger plants?	How can we identify the trees that we observed on our tree hunt?	How does a cactus survive in a desert with no water?
Do amphibians have more in common with reptiles or fish?	How does a tadpole change over time?	What conditions do woodlice prefer to live in?	Which offspring belongs to which animal?	What do you need to do to look after a pet dog/cat/lizard and keep it healthy
Do bananas make us run faster?	How does the school pond change over the year?	Which age group of children wash their hands the most in a day?	How would you group these plants and animals based on what habitat you would find them in?	What food do you need in a healthy diet and why?
Is there the same level of light in the evergreen wood compared with the deciduous wood?	How much food and drink do I have over a week?	Which habitat do worms prefer – where can we find the most worms?	How would you group things to show which are living, dead, or have never been alive?	How does the habitat of the Arctic compare with the habitat of the rainforest?
Which shapes make the strongest paper bridge?	How long do bubble bath bubbles last for?	Do magnetic materials always conduct electricity?	Which materials are shiny and which are dull?	How have the materials we use changed over time?
Which material would be best for the roof of the little pig's house?	What will happen to our snowman?		Which materials will let electricity go through them, and which will not?	How are plastics made?
	Would a paper boat float forever?			

Year Three

Comparative and fair testing

Observation over time

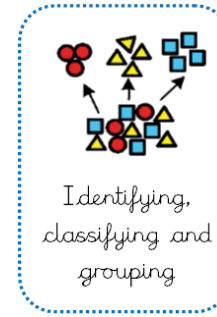
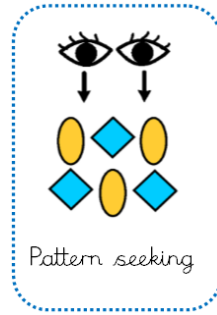
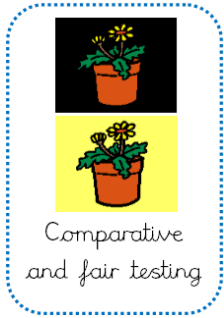
Pattern seeking

Identifying, classifying and grouping

Research using secondary sources

Which conditions help seeds germinate faster?	How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals?	What happens to celery when it is left in a glass of coloured water?	What colour flowers do pollinating insects prefer?	How many different ways can you group our seed collection?	What are all the different ways that seeds disperse?
How does the skull circumference of a girl compare with that of a boy?	How does the angle that your elbow/knee is bent affect the circumference of your upper arm/thigh?	How do flowers in a vase change over time?	Do male humans have larger skulls than female humans?	How do the skeletons of different animals compare?	Why do different types of vitamins keep us healthy and which foods can we find them in?
Which soil absorbs the most water?	How does adding different amounts of sand to soil affect how quickly water drains through it?	How does tumbling change a rock over time?	Is there a pattern in where we find volcanos on planet Earth?	Can you use the identification key to find out the name of each of the rocks in your collection?	Who was Mary Anning and what did she discover?
Which pair of sunglasses will be best at protecting our eyes?	How does the number of layers of transparent plastic affect how much light can pass through?	What happens when water keeps dripping on a sandcastle?	Are you more likely to have bad eye sight and to wear glasses if you are older?	How would you organise these light sources into natural and artificial sources?	How does the Sun make light?
Which magnet is strongest?	How does the mass of an object affect how much force is needed to make it move?	If we magnetise a pin, how long does it stay magnetised for?	Does the size and shape of a magnet affect how strong it is?	How can we group the food that we eat?	How have our ideas about forces changed over time?
Which surface is best to stop you slipping?	How does the distance between the shadow puppet and the screen affect the size of the shadow?	When is our classroom darkest?		Which materials are magnetic?	How does a compass work?
		Is the Sun the same brightness all day?			

Year Four



How does the average temperature of the pond water change in each season?	Does the amount of light affect how many woodlice move around?	How does the variety of invertebrates on the school field change over the year?	How has the use of insecticides affected bee population?	What are the names for all the organs involved in the digestive system?	Why are people cutting down the rainforests and what effect does that have?
In our class, are omnivores taller than vegetarians?	How does the mass of a block of ice affect how long it takes to melt?	How does an egg shell change when it is left in cola?	Are foods that are high in energy always high in sugar?	How can we organise teeth into groups?	How do dentists fix broken teeth?
Does seawater evaporate quicker than fresh water?	How does the surface area of a container of water affect how long it takes to evaporate?	Which material is best for keeping our hot chocolate warm?	Is there a pattern in how long it takes different sized ice lollies to melt?	Can you group these materials and objects into solids, liquids, and gases?	What are hurricanes, and why do they happen?
Which material is best to use for muffling sound in ear defenders?	How does the volume of a drum change as you move further away from it?	How does the level of water in a glass change when left on the windowsill?	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?	Can we use the classification keys to identify all the animals that we caught pond dipping?	How has electricity changed the way we live?
Are two ears better than one?	How does the thickness of a conducting material affect how bright the lamp is?	How does the mass of an ice cube change over time?	Which room has the most electrical sockets in a house?	How would you group these electrical devices based on where the electricity comes from?	How does a light bulb work?
Which metal is the best conductor of electricity?	How does the length of a guitar string/tuning fork affect the pitch of the sound?	How long does a battery light a torch for?		How would you sort these objects/materials based on their temperature?	Do all animals have the same hearing range?
		When is our classroom the quietest?			

Year Five

Comparative and fair testing

Observation over time

Pattern seeking

Identifying, classifying and grouping

Research using secondary sources

Which seed shape takes the longest time to fall?	How does the level of salt affect how quickly brine shrimp hatch?	How do brine shrimp change over their lifetime?	Is there a relationship between a mammal's size and its gestation period?	Can you identify all the stages in the human life cycle?	What are the differences between the life cycle of an insect and a mammal?
Who grows the fastest, girls or boys?	How does age affect a human's reaction time?	How does a bean change as it germinates?	Are the oldest children in our school the tallest?	Compare this collection of animals based on similarities and differences in their lifecycle.	Why do people get grey/white hair when they get older?
Which type of sugar dissolves the fastest?	How does the temperature of tea affect how long it takes for a sugar cube to dissolve?	How does our compost heap change over time?	Do all stretchy materials stretch in the same way?	Can you group these materials based on whether they are transparent or not?	What are microplastics and why are they harming the planet?
How does the length of daylight hours change in each season?	How does the angle of launch affect how far a paper rocket will go?	How does a container of salt water change over time?	Is there a pattern between the size of a planet and the time it takes to travel around the Sun?	How could you organise all the objects in the solar system into groups?	How have our ideas about the solar system changed over time?
Which shoe is the most slippy?	How does the surface area of a container affect the time it takes to sink?	How does a sugar cube change as it is put in a glass of water?	Do all objects fall through water in the same way?	Can you label and name all the forces acting on the objects in each of these situations?	What unusual objects did Jocelyn Bell Burnell discover?
Which shape parachute takes the longest to fall?	How does the surface area of a parachute affect the time it takes to fall to the ground?	How does a nail in salt water change over time?		Can you observe and identify all the phases in the cycle of the Moon?	How do submarines sink if they are full of air?
		How long does a pendulum swing for before it stops?			

Year Six

Comparative and fair testing

Observation over time

Pattern seeking

Identifying, classifying and grouping

Research using secondary sources

Which is the most common invertebrate on our school playing field?	How does the temperature affect how much gas is produced by yeast?	What happens to a piece of bread if you leave it on the windowsill for two weeks?	Do larger flowers have more petals?	How would you make a classification key for vertebrates/invertebrates or microorganisms?	What do different types of microorganisms do? Are they always harmful?
Which type of exercise has the greatest effect on our heart rate?	How does the length of time we exercise for affect our heart rate?	How does my heart rate change over the day?	Is there a pattern between what we eat for breakfast and how fast we can run?	Which organs of the body make up the circulation system, and where are they found?	How have our ideas about disease and medicine changed over time?
What is the most common eye colour in our class?	Can exercising regularly affect your lung capacity?	How do different animal embryos change?	Is there a pattern between the size and shape of a bird's beak and the food it will eat?	Compare the skeletons of apes, humans, and Neanderthals – how are they similar, and how are they different?	What happened when Charles Darwin visited the Galapagos islands?
Which material is most reflective?	How does the angle that a light ray hits a plane mirror affect the angle at which it reflects off the surface?	How much exercise do I do in a week?	Is there a pattern to how bright it is in school over the day? And, if there is a pattern, is it the same in every classroom?	Can you classify these observations into evidence for the idea of evolution, and evidence against?	Why do some people need to wear glasses to see clearly?
Which make of battery lasts the longest?	How does the voltage of the batteries in a circuit affect the brightness of the lamp?	Does the temperature of a light bulb go up the longer it is on?	Does the temperature of a light bulb go up the longer it is on?	Can you identify all the colours of light that make white light when mixed together? What colours do you get if you mix different colours of light together?	How has our understanding of electricity changed over time?
Which type of fruit makes the best fruity battery?	How does the voltage of the batteries in a circuit affect the volume of the buzzer?	Which brand of battery lasts the longest?		How would you group electrical components and appliances based on what electricity makes them do?	How do astronomers know what stars are made of?
		How does my shadow change over the day?			