



Experiment ideas for KS1 and KS2



Year 1 and 2

	<u>Observation over time</u>	<u>Comparative and fair testing</u>	<u>Research using secondary sources</u>	<u>Pattern seeking</u>	<u>Identification and classification</u>
<b>Plants</b>	What happens to my bean after I have planted it?	Which type of compost grows the tallest sunflower?	How does a cactus survive in a desert with no water?	Do trees with bigger leaves lose their leaves first in autumn?	How can we identify the trees that we observed on our tree hunt?
<b>Animals including humans</b>	How does my height change over the year?	Do bananas make us run faster?	Do all animals have the same senses as humans?	Do you get better at smelling as you get older?	Which offspring belongs to which animal?
<b>Living things and their habitats</b>	How does the school pond change over the year?	Is there the same level of light in the evergreen wood compared with the deciduous wood?	How does the habitat of the Arctic compare with the habitat of the rainforest?	Which habitat do worms prefer – where can we find the most worms?	How would you group these plants and animals based on what habitat you would find them in?
<b>Everyday materials</b>	How long do bubble bath bubbles last for?	Which materials are the most absorbent?	Which materials can be recycled?	Is there a pattern in the types of materials that are used to make objects in a school?	Which materials will float and which will sink?
<b>Seasonal change</b>	How does the oak tree change over the year?	In which season does it rain the most?	What plants grow during each season in the UK?	Does the wind always blow the same way?	How can we sort the leaves that we collected on our walk?



Experiment ideas for KS1 and KS2



Year 3 and 4

	<u>Observation over time</u>	<u>Comparative and fair testing</u>	<u>Research using secondary sources</u>	<u>Pattern seeking</u>	<u>Identification and classification</u>
<b>Plants</b>	What happens to celery when it is left in a glass of coloured water?	How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals?	What are all the different ways that seeds disperse?	What colour flowers do pollinating insects prefer?	How many different ways can you group our seed collection?
<b>Animals including humans</b>	How does an egg shell change when it is left in cola?	How does the skull circumference of a girl compare with that of a boy?	How do dentists fix broken teeth?	Are foods that are high in energy always high in sugar?	How can we organise teeth into groups?
<b>Living things and their habitats</b>	How does the variety of invertebrates on the school playground / garden change over the year?	How does the average temperature of the pond water change in each season?	Why are people cutting down the rainforests and what effect does that have?	Does the number of plants in an area impact the number of birds that visit?	Can we use the classification keys to identify all the animals that we caught pond dipping?
<b>Rocks</b>	How does tumbling change a rock over time?	How does adding different amounts of sand to soil affect how quickly water drains through it?	How have our ideas about rock formation changed 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?
<b>States of matter</b>	How does the level of water in a glass change when left on the windowsill?	How does the surface area of a container of water affect how long it takes to evaporate?	What are hurricanes, and why do they happen?	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?
<b>Light</b>	Is the Sun the same brightness all day?	How does the number of layers of transparent plastic affect how much light can pass through?	How does the Sun make light?	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?
<b>Sound</b>	When is our classroom the quietest?	How does the length of a guitar string/tuning fork affect the pitch of the sound?	Do all animals have the same hearing range?	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 you classify a range of musical instruments based on how the sound is created?
<b>Forces and magnets</b>	If we magnetise a pin, how long does it stay magnetised for?	How does the mass of an object affect how much force is needed to make it move?	How does a compass work?	Does the size and shape of a magnet affect how strong it is?	Which materials are magnetic?
<b>Electricity</b>	How long does a battery light a torch for?	How does the thickness of a conducting material affect how bright the lamp is?	How has electricity changed the way we live?	Which room has the most electrical sockets in a house?	How would you group these electrical devices based on where the electricity comes from?



Experiment ideas for KS1 and KS2



Year 5 and 6

	<u>Observation over time</u>	<u>Comparative and fair testing</u>	<u>Research using secondary sources</u>	<u>Pattern seeking</u>	<u>Identification and classification</u>
<b>Animals including humans</b>	How does my heart rate change over the day?	How does age affect a human's reaction time?	How have our ideas about disease and medicine changed over time?	Is there a relationship between a mammal's size and its gestation period?	Can you identify all the stages in the human life cycle?
<b>Living things and their habitats</b>	How does a bean change as it germinates?	Which is the most common invertebrate in our school playground / garden?	What are the differences between the life cycle of an insect and a mammal?	Is there a pattern between the size and shape of a bird's beak and the food it will eat?	How would you make a classification key for vertebrates/invertebrates or microorganisms?
<b>Evolution and inheritance</b>	How do different animal embryos change?	Who grows the fastest, girls or boys?	Why do people get grey/white hair when they get older?	Is there a pattern between what we eat for breakfast and how fast we can run?	Compare the skeletons of apes, humans, and Neanderthals – how are they similar, and how are they different?
<b>Properties and changes of materials</b>	How does our compost heap change over time?	How does the temperature of tea affect how long it takes for a sugar cube to dissolve?	What are micro-plastics and why are they harming the planet?	Do all stretchy materials stretch in the same way?	Can you group these materials based on whether they are transparent or not?
<b>Light</b>	How does my shadow change over the day?	Which material is most reflective?	Why do some people need to wear glasses to see clearly?	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 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?
<b>Forces and magnets</b>	How long does a pendulum swing for before it stops?	Which shape parachute takes the longest to fall?	How do submarines sink if they are full of air?	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?
<b>Earth and space</b>	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 have our ideas about the solar system changed 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?
<b>Electricity</b>	Which brand of battery lasts the longest?	How does the voltage of the batteries in a circuit affect the brightness of the lamp?	How has our understanding of electricity changed over time?	Does the temperature of a light bulb go up the longer it is on?	How would you group electrical components and appliances based on what electricity makes them do?