

## Scientific Enquiry Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception		<p><b><u>Mini People and Mini Beasts</u></b></p> <p><b>Scientific Question:</b> How can we sort the people according to their characteristics? e.g. hair colour Identifying, classifying and grouping</p> <p><b>Scientific Enquiry:</b> Sort images of people according to their characteristics e.g. hair colour. Identifying, classifying and grouping</p> <p>Look for minibeasts in different areas of the school grounds. Pattern seeking</p>			<p><b><u>How things grow</u></b></p> <p><b>Scientific Question:</b> What plants and animals do we have in our school environment? How do they change over time? Research Observation over time</p> <p><b>Scientific Enquiry:</b> Name and describe plants and animals found in the school grounds. Identifying, classifying and grouping</p> <p>Observe the lifecycle of a butterfly. Observing over time</p> <p>Observe the flower as it grows. Observing over time Comparative and fair testing</p>	<p><b><u>Seasonal Change</u></b></p> <p><b>Scientific Question:</b> Which clothes are suitable for which season? Identifying, classifying and grouping</p> <p><b>Scientific Enquiry:</b> How does a puddle change over time? Observing over time</p> <p>Find out about the weather and seasons. Research</p>

<p><b>Year 1</b></p>	<p><b><u>Animals, including humans.</u></b></p> <p><b>Scientific Question:</b> How can we organise all of the animals in the zoo? <b>Identifying, classifying and grouping</b></p> <p><b>Scientific Enquiry:</b> Do people with long arms have long legs? <b>Pattern seeking</b></p> <p>Can we identify the different flavours of crisps using our senses? <b>Comparative and fair testing</b></p>	<p><b><u>Seasonal Change (Autumn)</u></b></p> <p><b>Scientific Question:</b> How can we sort the leaves that we have collected on our walk? <b>Identifying, classifying and grouping</b></p> <p><b>Scientific Enquiry:</b> Record weather measurements using a weather diary. <b>Observation over time</b></p>	<p><b><u>Seasonal Change (Winter)</u></b></p> <p><b>Scientific Question:</b> What is the weather like in Winter? Research</p> <p><b>Scientific Enquiry:</b> Record weather measurements using a weather diary. <b>Observation over time</b></p> <p>Which was the coldest season? Autumn or Winter? <b>Pattern seeking</b></p>	<p><b><u>Plants</u></b></p> <p><b>Scientific Question:</b> How has the sunflower changed each week? <b>Observation over time</b></p> <p><b>Scientific Enquiry:</b> Children to classify the seeds based on their own criteria. <b>Identifying, classifying and grouping</b></p> <p><b><u>Seasonal Change (Spring)</u></b> What changes do we see during Spring? <b>Observation over time</b></p> <p><b>Scientific Enquiry</b> Does it rain more in Spring? Record weather measurements using a weather diary. <b>Observation over time</b></p>	<p><b><u>Everyday Materials</u></b></p> <p><b>Scientific Question:</b> Which materials can be recycled? Research</p> <p><b>Scientific Enquiry:</b> Testing objects made of different materials to see how effective they are. <b>Comparative and fair testing</b></p> <p>Classify objects made from the same material. <b>Identifying, classifying and grouping</b></p>	<p><b><u>Seasonal Change (Summer)</u></b></p> <p><b>Scientific Question:</b> How would you group these things based on which season you are most likely to see them in? <b>Identifying, classifying and grouping</b></p> <p>How does the oak tree change over the year? <b>Observation over time</b></p> <p><b>Scientific Enquiry:</b> Record weather measurements using a weather diary. <b>Observation over time</b></p> <p>Do we have more sunny days in the summer? <b>Pattern Seeking</b></p>
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<p><b>Year 2</b></p>	<p><b><u>Animals, including humans</u></b></p> <p><b>Scientific Question:</b> How can humans live a healthy lifestyle? Research Identifying, classifying and grouping</p> <p><b>Scientific Enquiry:</b> Lifecycle of a frog. Observation over time</p> <p>Names of offspring, create top trump cards. Research</p>	<p><b><u>Living things and their habitats</u></b></p> <p><b>Scientific Question:</b> How does the habitat of the Arctic compare with the Desert? Research</p> <p><b>Scientific Enquiry:</b> Sort objects/living things into a based on the category living, dead, never been alive. Identifying, classifying and grouping</p> <p>Where do you see more daisies/buttercups? Pattern seeking</p> <p>Which animals live in which habitat? Research</p>	<p><b><u>Plants</u></b></p> <p><b>Scientific Question:</b> What do seeds need in order to grow best? Comparative and fair testing</p> <p><b>Scientific Enquiry:</b> Which comes first, the root or the shoot? Pattern seeking</p> <p>Explore different seed packets to see what each one needs to grow. Research</p> <p>Planting seeds (cress) to observe how they grow. Observation over time</p> <p>Classify seeds using our own criteria (two headings). Identifying, classifying and grouping</p>	<p><b><u>Materials</u></b></p> <p><b>Scientific Question:</b> How have the materials we use changed over time? Research</p> <p><b>Scientific Enquiry:</b> Investigate which materials would be best to make a coat (Link to work on scientist Charles Macintosh). Comparative and fair testing</p> <p>Who is Charles Macintosh and how has his work impacted on our lives? Who is Ole Kirk Christiansen and how has his work impacted on our lives? Research</p>

<p><b>Year 3</b></p>	<p><b><u>Animals, including humans</u></b></p> <p><b>Scientific Question:</b> How can we group the food that we eat? Identifying, classifying and grouping</p> <p><b>Scientific Enquiry:</b> Can people with longer legs run faster? Pattern seeking</p> <p>Look at food packaging to identify the amount of nutrients in different food items. Research</p>	<p><b><u>Rocks</u></b></p> <p><b>Scientific Question:</b> Which soil absorbs the most water? Comparative and fair testing</p> <p><b>Scientific Enquiry:</b> How does soil separate into different layers in water. Observation over time</p> <p>Research on igneous, metamorphic and sedimentary rocks and which rocks may fall into these categories. Research</p> <p>Children to use make observations of rocks using microscopes and a hand lens. Classify using their own criteria. Identifying, classifying and grouping</p> <p>Investigate what happens when rocks are rubbed together and what changes occur when they are in water. Comparative and fair testing</p>	<p><b><u>Forces and Magnets</u></b></p> <p><b>Scientific Question:</b> Which surface is best to stop you slipping? Explain why. Comparative and fair testing</p> <p><b>Scientific Enquiry:</b> Find out how magnets are used in everyday life. Research</p>	<p><b><u>Light</u></b></p> <p><b>Scientific Question:</b> How does the distance between the shadow puppet and the screen affect the size of the shadow? Comparative and fair testing Pattern seeking Observation over time</p> <p><b>Scientific Enquiry:</b> How does the amount of light affect how much and how well we can see? Research</p>	<p><b><u>Plants</u></b></p> <p><b>Scientific Question:</b> Explain the lifecycle of a flowering plant. Research Observation over time</p> <p><b>Scientific Enquiry:</b> Classify flowers, children to create their own criteria. Identifying, classifying and grouping</p> <p>Observe celery/white carnations in coloured water. Observation over time Comparative and fair testing</p>
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<p><b>Year 4</b></p>	<p><b><u>Animals, including humans</u></b></p> <p><b>Scientific Question:</b> How are animals' teeth and diet linked and why? Research Pattern seeking</p> <p><b>Scientific Enquiry:</b> Classify teeth to aid with making food chains. Considering diet and different types of teeth construct a food chain. Identifying, classifying and grouping</p>	<p><b><u>States of matter</u></b></p> <p><b>Scientific Question:</b> Is there a pattern in how long it takes different sized ice lollies to melt? Pattern seeking Observation over time</p> <p><b>Scientific Enquiry:</b> Watch different sized frozen liquids melt. Observation over time</p>	<p><b><u>Circuits and Electricity</u></b></p> <p><b>Scientific Question:</b> What happens to the brightness of the bulbs when more cells are added? Comparative and fair testing</p> <p><b>Scientific Enquiry:</b> Test materials to classify into insulators and conductors. Patten seeking</p> <p>Which room in the house has the most electrical sockets. Research</p>	<p><b><u>Living things and their habitats</u></b></p> <p><b>Scientific Question:</b> Why are people cutting down the rainforests and what effect does that have? Research</p> <p><b>Scientific Enquiry:</b> Do animals with .. have..? Do plants with.. have..? (Wings, feathers, webbed feet) Identifying, classifying and grouping Pattern seeking</p>	<p><b><u>Sound</u></b></p> <p><b>Scientific Question:</b> How does the volume of a drum change as you move further away from it? Comparative and fair testing</p> <p><b>Scientific Enquiry:</b> How does distance effect sound? Making string telephones. Pattern seeking</p>

<p><b>Year 5</b></p>	<p><b><u>Properties and changes of materials</u></b></p> <p><b>Scientific Question:</b> What different ways can we use to separate materials? Comparative and fair testing Observation over time</p> <p><b>Scientific Enquiry:</b> Group everyday materials according to their properties and uses. Identifying, classifying and grouping</p> <p>Snowman's coat- Insulation. Comparative and fair testing</p>	<p><b><u>Forces</u></b></p> <p><b>Scientific Question:</b> How does the surface area of a parachute affect the time it takes to fall to the ground? Comparative and fair testing</p> <p><b>Scientific Enquiry:</b> Investigate air resistance, water resistance, friction, leaves, pulleys and gears. Comparative and fair testing</p> <p>Compare the Scientists Newton and Galileo focusing on their findings about gravity. Research</p>	<p><b><u>Earth and Space</u></b></p> <p><b>Scientific Question:</b> Is there a pattern between the size of a planet and the time it takes to travel around the Sun? Pattern seeking</p> <p><b>Scientific Enquiry:</b> Observe the phases of the moon. Pattern seeking</p> <p>Heliocentric vs Geocentric models. Link to Scientists Copernicus and Ptolemy. Research</p> <p>Who is Katherine Johnson and how has her work impacted on our lives today? Research</p>	<p><b><u>Living things and their habitats</u></b></p> <p><b>Scientific Question:</b> What are the differences between the life cycle of an insect and mammal? Research Identifying, classifying and grouping</p> <p><b>Scientific Enquiry:</b> Classifying animals based on their live cycles. Identifying, classifying and grouping</p> <p><b><u>Animals including humans</u></b></p> <p><b>Scientific Question:</b> What can adults do now that they couldn't when they were a young child? Research</p> <p><b>Scientific Enquiry:</b> Develop questions to ask an expert e.g. a nurse. Research</p>
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<p><b>Year 6</b></p>	<p><b><u>Living things and their habitats</u></b></p> <p><b>Scientific Question:</b> How would you make a classification key for vertebrates/invertebrates?  <b>Identifying, classifying and grouping</b></p> <p><b>Scientific Enquiry:</b>  Classify animals according to Carl Linnaeus's system.  <b>Identifying, classifying and grouping</b></p>	<p><b><u>Animals, including humans</u></b></p> <p><b>Scientific Question:</b>  How does our heart rate change throughout the day?  <b>Observation over time</b></p> <p><b>Scientific Enquiry:</b>  Observe pulse rate before, during and after exercise.  <b>Observation over time</b></p> <p>Do adults have lower pulse rates?  Do boys have higher pulse rates?  <b>Pattern seeking</b></p>	<p><b><u>Light</u></b></p> <p><b>Scientific Question:</b>  How do we know that light travels in straight lines?  <b>Comparative and fair testing</b>  Research</p> <p><b>Scientific Enquiry:</b>  Investigate how to manipulate a beam of light using mirrors.  <b>Comparative and fair testing</b></p>	<p><b><u>Electricity</u></b></p> <p><b>Scientific Question:</b>  What affects the brightness of the bulb in an electrical circuit?  <b>Comparative and fair testing</b>  <b>Pattern seeking</b></p> <p><b>Scientific Enquiry:</b>  Investigate adding more bulbs, buzzers, cells etc to a circuit.  <b>Comparative and fair testing</b></p>	<p><b><u>Evolution and inheritance</u></b></p> <p><b>Scientific Question:</b>  How has a given animal evolved over time?  <b>Research</b></p> <p><b>Scientific Enquiry:</b>  Research the different finches and their beaks linked to Charles Darwin and how the environment/habitat affects them.  <b>Research</b></p>
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