

Cumwhinton School Curriculum – Science Y3 SPR

Year 3	NC Content	<p><u>Plants</u> Pupils should be taught to: identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant investigate the way in which water is transported within plants explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p> <p><u>Animals, including humans</u> Pupils should be taught to: identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p><u>Rocks</u> Pupils should be taught to: compare and group together different kinds of rocks on the basis of their appearance and simple physical properties describe in simple terms how fossils are formed when things that have lived are trapped within rock recognise that soils are made from rocks and organic matter</p> <p><u>Light</u> Pupils should be taught to: recognise that they need light in order to see things and that dark is the absence of light notice that light is reflected from surfaces recognise that light from the sun can be dangerous and that there are ways to protect their eyes recognise that shadows are formed when the light from a light source is blocked by an opaque object find patterns in the way that the size of shadows change</p> <p><u>Forces and magnets</u> compare how things move on different surfaces notice that some forces need contact between 2 objects, but magnetic forces can act at a distance observe how magnets attract or repel each other and attract some materials and not others compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials describe magnets as having 2 poles predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p>
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Science

Scientific Knowledge & Understanding

Science Enquiry & Working Scientifically

Uses & Implications of Science today and for the future

Mapping across the Year			
	AUTUMN	SPRING	SUMMMER
<p>Scientific Knowledge & Understanding</p>	<p><u>Animals including Humans</u> Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat Identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p><u>Forces and Magnets</u> Compare how things move on different surfaces Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance Observe how magnets attract or repel each other and attract some materials and not others Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials Describe magnets as having 2 poles Predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p>	<p><u>Rocks</u> Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that soils are made from rocks and organic matter</p>	<p><u>Plants</u> Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant Investigate the way in which water is transported within plants Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p> <p><u>Light</u> Recognise that they need light in order to see things and that dark is the absence of light Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and that there are ways to protect their eyes Recognise that shadows are formed when the light from a light source is blocked by an opaque object Find patterns in the way that the size of shadows change</p>
<p>Science Enquiry & Working Scientifically</p>	<p><u>Animals including Humans</u> Identifying differences, similarities or changes related to simple scientific ideas and processes Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p><u>Forces and Magnets</u> Asking relevant questions and using different types of scientific enquiries to answer them Setting up simple practical enquiries, comparative and fair tests Making systematic and careful observations. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p><u>Rocks</u> Identifying differences, similarities or changes related to simple scientific ideas and processes Asking relevant questions and using different types of scientific enquiries to answer them Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p>	<p><u>Plants</u> Setting up simple practical enquiries, comparative and fair tests Making systematic and careful observations. Identifying differences, similarities or changes related to simple scientific ideas and processes Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p><u>Light</u> Asking relevant questions and using different types of scientific enquiries to answer them Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Using straightforward scientific evidence to answer questions or to support their findings.</p>
<p>Uses & Implications of Science today and for the future</p>	<p><u>Animals including Humans</u> Use food labels to explore the nutritional content of a range of food items. Identify similarities & differences Find out the types of food that contain the different nutrients. Use food labels to answer enquiry questions e.g. How much fat do different types of pizza contain? How much sugar is in soft drinks? Gather & record data in charts, tables & graphs. Plan a daily diet to contain a good balance of nutrients Explore the nutrients contained in fast food.</p> <p><u>Forces and Magnets</u> Carry out investigations to explore how objects move on different surfaces e.g. spinning tops/coins, rolling balls/cars, clockwork toys, soles of shoes etc.</p>	<p><u>Rocks</u> Observe how rocks change over time e.g. gravestones or old buildings.</p>	<p><u>Plants</u> Investigate what happens to plants when they are put in different conditions e.g. in darkness, in the cold, deprived of air, different types of soil, different fertilisers, varying amounts of space. Use the results to draw conclusions about what plants need to survive. Spot flowers, seeds, berries and fruits outside throughout the year. Identify similarities & differences.</p> <p><u>Light</u> Explore how objects with different surfaces (e.g. shiny vs matt) are more or less visible. Investigate the role of reflectors in road safety.</p>

CONCEPTUAL SCHOOL AMBITION DRIVERS

	EYFS & KS1	LKS2	UKS2
AUT	Diversity	Fairness	Individuality
SPR	Truth	Change	Resilience
SUM	Responsibility	Equality	Sustainability

Science - SPRING YEAR 3

INNOVATION - Change

Scientific Knowledge & Understanding Science Enquiry & Working Scientifically Uses & Implications of Science today and for the future

How do rock and soil samples change over time?

	NC	CUMWHINTON CURRICULUM
Finding out (Facts & knowledge)	<p>Rocks Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that soils are made from rocks and organic matter</p>	<p>Gather a collection of rocks Have specific examples of igneous, sedimentary and metamorphic rocks Ask the children to discuss them, how are they similar and different? Share previous knowledge of rocks. Complete different tests on the rocks, put them into different solutions, vinegar, cold water, hot water, etc. Use bicarbonate of soda to experiment. Test their firmness/density by scratching the rocks with metal (use nails or drawing pins), observe similarities and differences. Introduce igneous, sedimentary and metamorphic rocks, the differences between them and how they are formed. https://education.nationalgeographic.org/resource/sedimentary-rock https://education.nationalgeographic.org/resource/metamorphic-rocks https://education.nationalgeographic.org/resource/igneous-rocks</p> <p>What are fossils? BBC video https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/z2ym2p3 Draw a step by step picture to show knowledge of how fossils are made (use a blank storyboard for setting out) Learn about Mary Anning and her contribution to palaeontology.</p> <p>Gather some different soil samples from different locations. Ask the children to investigate what makes up soil? Use magnifying glass, microscopes to do this. Label samples anonymously, ask the children to guess their locations from their findings (e.g. one containing peat, a sandy sample, etc) Use beakers, funnels, coffee filters etc to examine the differences between the samples.</p>
Using (Applying & analysing)	<p>Rocks Identifying differences, similarities or changes related to simple scientific ideas and processes Asking relevant questions and using different types of scientific enquiries to answer them Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p>	<p>Rock and soil samples - how are these similar and different? Consider the age of rocks on Earth and the changes to the environment over time, e.g. ice age (show clips of the movie to aid understanding. Look at a historical timeline to support understanding of the different periods of change</p> <p>What would you like to find out about rocks and soils? Introduce an element of research and presentation of findings - Power Point presentation, etc.</p> <p>Present rock classification information in non-chronological report about igneous, sedimentary and metamorphic rocks</p>
Concluding (Evaluating & summarising)	<p>Rocks Observe how rocks change over time e.g. gravestones or old buildings.</p>	<p>The rock cycle https://education.nationalgeographic.org/resource/rock-cycle https://www.geolsoc.org.uk/~media/shared/documents/education%20and%20careers/Resources/FactSheets/Rock%20cycle%20factsheet%20draft%20KS2%20v2/Rock%20cycle%20factsheet%20FINAL.pdf?la=en https://www.youtube.com/watch?v=61TGjSk5SJc</p>