

Cumwhinton School - CUMWHINTON CURRICULUM

Science - Termly Progression

Below the Science Curriculum has been broken into 3 essential strands which are covered across the school, across the years.

Scientific Knowledge & Understanding

Science Enquiry & Working Scientifically

Uses & Implications of Science today and for the future

Year Group	Across all terms			
EYFS	<p>Explore the natural world around them. (ELG)</p> <p>Recognise some environments are similar and some are different to the one in which they live. (ELG)</p> <p>Draw on experiences and stories which have been shared (ELG)</p> <p>Describe what they see, hear and feel whilst outside</p> <p>Understand the effect of changing seasons on the natural world around them. (ELG)</p> <p>Learn new vocabulary</p> <p>Articulate their ideas in well thought out sentences</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants: (ELG)</p>			
EYFS	<p><u>Autumn</u> Senses touch, smell, hear, taste, see, look, season, weather, rainy, sunny, windy, cold, hot, outside, nature, colours, animals, dirty, muddy, Changes of state dissolve, dry, wet,</p>	<p><u>Spring</u> Changes of state (food) cook, cool, heat, melt, freeze Growing (humans) Animal, alive, worm, Names of plants and animals, caterpillar, chick, egg, insect, spider, adult, baby</p>	<p><u>Summer</u> Growing (plant) Plant, flower, stem, growing, water, Forces Sink, float, stretch, snap, bend,</p>	
Year Group	<u>Across all terms</u> Seasonal Change	<u>Autumn</u> Y1 - Materials Y2 - Animals inc Humans	<u>Spring</u> Y1&2 - Plants	<u>Summer</u> Y1 - Animals inc Humans Y2 - Materials
Year 1	1 → The seasonal changes that occur from children returning to school after the Summer holidays to October half term are significant - Autumn/Winter changes are very visual and this lends itself well to the working scientifically objectives of observing and asking questions about the environment.	2 → The materials topic has been placed here because the working scientifically objectives required for effective exploration of materials (performing simple tests, using observational skills, gathering and recording data) are slightly more complex. Therefore, placing it here allows children to have settled into the formalities of Year 1 from Early Years but it builds upon their independent exploration & questioning in the Early Years environment.	3 → The plants topic is studied around Springtime, when children can observe, in their school grounds and local area, the growth of plants. This also allows for further discussion around seasonal change to build upon children's learning at the beginning of Year 1.	4 → Placing the Animals including Humans topic at the end of the year allows for a smoother transition into Year 2 Science. Children will apply what they have learned in Year 1 to the more challenging concepts in Year 2 and build upon the vocabulary they have learned this year.

Year 2	1 → To allow for a smoother transition between Year 1 and Year 2, children study the Animals including Humans topic first in Year 2, building upon the learning from the very end of Year 1. They should be able to explain what they already know and apply this to the new Year 2 content, as well as learning the new information and vocabulary.	2 → In order to explain how habitats provide for the needs of living things, children first need to know what animals need to survive. They get this information from the Animals including Humans topic that they study before this one in Year 2.	3 → The Plants topic is studied around Springtime, when children can observe, in their school grounds and local area, the growth of plants from seed/bulb to mature plants.	4 → The materials topic has been placed here because the working scientifically objectives required for effective exploration of materials (performing simple tests, using observational skills, gathering and recording data) are more complex. Therefore, as the children are older and have had more opportunities to work scientifically by this point in the year, the topic would be best placed in the Summer term.
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Year Group	<u>Autumn 1</u> Y3 - Animals inc Humans Y4 - Living things and their habitats	<u>Autumn 2</u> Y3 - Forces & Magnets Y4 - Animals inc Humans	<u>Spring</u> Y3 - Rocks Y4 - States of Matter	<u>Summer 1</u> Y3 - Plants Y4 - Sound	<u>Summer 2</u> Y3 - Light Y4 - Electricity
Year 3	1 → To allow for a smoother transition between Year 2 and Year 3, children revisit a topic they have previously studied (Animals including Humans) but this time at a deeper/ more complex level. This is the only topic revisited between Year 2 and 3, except for Plants, which we teach in the Spring term.	2 → Forces & Magnets is studied here because, although the topic is new and some concepts are difficult, it lends itself well to practical investigation, exploration and working scientifically. This allows children to develop those investigative skills that they need to apply in the following three topics.	3 → We study the Rocks topic prior to plants, as there are opportunities to learn about soil and its components. This will lend itself to learning about what plants get from the soil to grow and survive.	4 → The Plants topic is studied around Springtime, when children can observe, in their school grounds and local area, the growth of plants from seed/bulb to mature plants.	5 → We study the Light topic at the end of Year 3 due to the complexity of some of the concepts children need to investigate and understand.
Year 4	1 → We begin the year with a topic that is familiar to the children but building on knowledge from previous years and taking it to a deeper, more complex level. Children have access to the outdoor area during this term to have first-hand experience of living things & food chains in our school grounds or local area.	2 → The Animals including Humans topic naturally follows on from Living Things & Their Habitats. Following on from classifying animals, children look at how they rely on each other for survival in food chains.	3 → States of Matter is covered in the second half of the year, as this is something new to the children and is not a topic they are revisiting from previous year groups.	4 → We finish the year with the two physics topics. Sound & electricity. Since the children have already studied states of matter, they can apply this knowledge to explore how sound & electricity move through solids, liquids & gases.	5 → We finish Year 4 with a topic of electricity. The working scientifically skills required are similar to those used during the Sound topic preceding it. This new Electricity knowledge can be built upon at the beginning of Year 5 when children study electrical conductors in their Materials topic.

Year Group	Autumn 1 Y5 - Living things and their Habitats Y6 - Animals inc Humans	Autumn 2 Y5 - Materials Y6 - Living things and their Habitats	Spring Y5 - Forces Y6 - Evolution & Inheritance	Summer 1 Y5 - Earth & Space Y6 - Light	Summer 2 Y5 - Animals inc Humans Y6 - Electricity
Year 5	1 → We begin the year with a topic that is familiar to the children but building on knowledge from previous years and taking it to a deeper, more complex level. It also allows for the teaching of animal reproduction prior to puberty and SRE teaching later in Year 5.	2 → Within this topic is a lot of new content and therefore a longer period of time is required for sufficient learning, exploration and investigation to take place. This must also precede the topic of Forces, to give children the background knowledge to support investigations around friction, resistance etc.	3 → Forces precede Earth & Space to allow for teaching of concepts such as the impact of gravity. It also follows work on materials which gives children the background knowledge required to investigate the effects of friction, resistance etc.	4 → Earth and Space is covered after Forces to allow for teaching of concepts such as gravity to have taken place, for children to better understand orbits in the solar system	5 → Animals including Humans is covered last in Year 5 as there are objectives relating to human reproduction that are best placed nearer the end of the year to coincide with PSHE/RSE & Puberty teaching
Year 6	1 → Animals Including Humans is studied at the beginning of the school year, as it is in many other year groups. This allows children to build upon learning from previous years and then take it to a deeper level. This ensures children are starting a new year with something that is familiar as they will revisit prior learning and then progress to the new content and vocabulary.	2 → The Living Things and their Habitats topic precedes Evolution & Inheritance, as although most of the content of Evolution is entirely new to children, there are some links to the animals' habitats affecting adaptation and inheritance.	3 → The Evolution & Inheritance topic is studied in the second half of the school year, due to the complexity of some of the concepts that children need to learn and understand. Most of the content of this topic is completely new to children, although it does build on some aspects of Living Things & Their habitats, so we ensure that they follow on from each other to make the transition as easy as possible. There are also links to the Autumn term History topic, where the children study the industrial revolution, and can now look at the impact this had on adaptation of animals (peppered moths).	4 → The two physics topics of Light and Electricity are studied one after the other in Year 6. This helps children with the transition of moving to high school where they begin to study Biology, Chemistry and Physics as separate entities.	5 → The Electricity topic is studied at the end of Year 6 to allow for a transition project prior to high school. This prepares them for STEM, Science and DT by participating in a project where they have to apply their scientific knowledge of electricity from year 4 to design, make and evaluate an electrical product.