

## Year Five Science LTP: Autumn & Spring

<b>Working scientifically overview</b>	<b>Lines of enquiry:</b> research, pattern seeking, comparative testing, identifying & classifying, investigation over time	<b>7 super science skills:</b> asking questions, setting up tests, observations, recording and presenting data, interpreting data, evaluating.
<b>Summary</b>	<b>Autumn 2:</b> Forces (World War 2 – history) <b>Science:</b> physics <b>Strand:</b> forces	<b>Spring 1:</b> What's it like in Space? <b>Science:</b> physics <b>Strand:</b> Space
<b>Prior knowledge</b>	<b>Y3:</b> Children will be secure in their understanding of materials, forces and magnets.	<b>Y1 – Y4:</b> Children will be confident to ask scientific questions. They will use this skill to develop specific questions to conduct research.
<b>Key Vocabulary</b>	Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears.	Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets.
<b>Cultural capital</b>	<b>Books: careers: famous scientists: trips:</b>	<b>Experience:</b> planetarium <b>Books:</b> George's secret key to the universe <b>Famous scientist:</b> Stephen Hawking, Neil Armstrong (diary writing).
<b>Core (sticky) knowledge/skills</b>	Children will be able to use their 7SSS (especially setting up tests) to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. identify the effects of air resistance, water resistance and friction, that act between moving surfaces. recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.	Children will be able to use their 7SSS (especially asking questions ) to carry out research. They will be able to describe the movement of the Earth and other planets relative to the sun in the solar system. describe the movement of the moon relative to the Earth. describe the sun, Earth and moon as approximately spherical bodies. use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky
<b>Future links</b>	<b>KS3:</b> motion and forces	<b>KS3:</b> space physics

## Year Five LTP : Spring & Summer

<b>Working scientifically overview</b>	<b>Lines of enquiry:</b> research, pattern seeking, comparative testing, identifying & classifying, investigation over time	<b>7 super science skills:</b> asking questions, setting up tests, observations, recording and presenting data, interpreting data, evaluating.
<b>Summary</b>	<b>Spring 2:</b> What came first? <b>Science:</b> biology <b>Strand:</b> living things and their habitats/ animals inc humans (puberty).	<b>Summer 1 &amp; 2:</b> Materials (topic name: A whale of a time in Whitby/ Walesby) Geography) <b>Science:</b> physics <b>Strand:</b> properties and changes of materials
<b>Prior knowledge</b>	<b>Y1:</b> children will be secure in identifying and classifying reptiles, amphibians, birds, fish and mammals. <b>Y3:</b> Ch will be able to label the parts of a plant pollination, seed formation & seed dispersal.	<b>Y1/2:</b> everyday materials <b>Y3:</b> Magnetism <b>Y4:</b> Electricity/ Children will have a secure understanding of states of matter.
<b>Key Vocabulary</b>	Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings	Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve reversible/non-reversible change, burning, rusting, new material
<b>Cultural capital</b>	<b>Experience:</b> butterflies in class (visit nurseries)	Joseph Lister and Sarah Gilbert
<b>Core (sticky) knowledge/ skills</b>	Children will be able to use their 7SSS (especially recording & interpreting data) to carry out comparative testing. They will be able to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. describe the life process of reproduction in some plants and animals. describe the changes as humans develop to old age	Children will be able to use their 7SSS (especially recording & interpreting data) to carry out comparative testing. Pupils will be able to compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. demonstrate that dissolving, mixing and changes of state are reversible changes. explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.
<b>Future links</b>	<b>Y6:</b> classification keys <b>KS3:</b> reproduction.	<b>KS3:</b> matter: physical changes
<b>Forest school links</b>		

