

SCIENCE YEARLY PLANNER

Year group: Year 5

Term	Topic	Statutory requirements	Time	Content
Autumn	Living things and their habitats	Describe the life processes of reproduction in some plants and animals Describe the life process of reproduction in some plants and animals	7 weeks	Investigate the life cycle of plants Focus on the journey from seed to fruit Focus on the elements within the lifecycle, pollination, germination and fertilization Collect seeds and identify the methods of seed dispersal Focus on the life cycle of animals Look at how different animals reproduce and grow-gestation periods and consider population numbers
	Forces	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	7 weeks	Focus on Isaac newton the law of gravity-how was this discovered? Building on previous work consider air resistance, how are seeds adapted for flight? Parachutes and sycamore seeds

Recognise that some mechanisms, including levers, pulleys and gears, allow force to have a greater effect

Investigate air resistance through parachutes- what increases air resistance? Relate to surface area. Designing and making parachutes

Look at friction and the effects of friction on movement, how do objects slow down, speed up as a result of friction

Explore water resistance by making and testing different boat shapes

Consider the effect of a pulley, lever, gear system on forces. Design and make a product using these systems that clearly show the effect of force

Spring	Living things and their habitats	Describe the life processes of reproduction in some plants and animals	4 weeks	Focus on growing plants from seeds-germination, growing new plants from different parts of the parent plant How do you grow new plants?
	Earth and space	Describe the movements of the Earth, and other planets, relative to the Sun in the solar system 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 Describe the Moon relative to the Earth	8 weeks	Focus on the solar system and the planets Name planets and position in relation to the Sun Focus on the movement of the Earth and the other planets around the Sun, consider orbital paths Look at the shape of the Earth, Sun and Moon Explain night and day by using models of the Sun and the Earth Focus on shadow length and how these change over the length of a day Link to world time zones through change in rotation of the Earth Focus on phases of Moon and how the Moon is a satellite the Earth

Summer	Living things and their habitats	Describe the life processes of reproduction in some plants and animals	5 weeks	<p>Find out about different types of reproduction, including sexual and asexual reproduction in plants- insect and wind pollination</p> <p>Link whole lifecycle together for plants and animals</p>
	Properties and changes of materials	<p>To know that some materials will dissolve in a liquid to form a solution, and describe how to recover a substance from a solution</p> <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>Explain that some changes result in the formation of new materials and that this kind of change is not usually reversible</p> <p>Give reasons, based on evidence from tests, for particular uses of everyday materials including metals, plastic and wood</p>	8 weeks	<p>Focus on dissolving, whether solids dissolve in a liquid, knowing that melting and dissolving are different processes</p> <p>Look at evaporation to recover a solid from a solution</p> <p>Understand the properties of a solid, liquid and a gas</p> <p>Focus on when sieving, filtering and evaporation is used to separate mixtures</p> <p>Look at reversible changes and states of matter</p> <p>Look at irreversible changes including burning, rusting and other reactions e.g. vinegar with bicarbonate of soda</p> <p>Understand the specific uses of materials and their properties</p>

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

Consider different ways of grouping materials according to the properties they have