ST PHILOMENA'S PRIMARY SCHOOL
SCIENCE MEDIUM TERM PLANNING YEAR 5
2026 - 2027

AUTUMN 1	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
UNIT	PROPERTIES AND CHANGES OF MATERIALS					
LESSON OUTLINE	Properties of Materials	Thermal Conductivity	Electrical Conductivity	Solubility	Separating Mixtures	Irreversible Changes
LEARNING OBJECTIVE	To compare and group materials by hardness, transparency and magnetism.	To investigate which materials transfer heat most effectively.	To test and identify electrical conductors and insulators.	To investigate dissolving and distinguish soluble from insoluble materials.	To choose suitable methods to separate mixtures and recover solids.	To recognise reversible and irreversible changes using practical evidence.
CURRICULUM LINKS	NC: comparing materials by properties including magnetism and transparency. WS: compare, classify and justify.	NC: comparing materials by thermal conductivity. WS: plan a fair test and measure.	NC: comparing materials by electrical conductivity. WS: construct safe low-voltage tests.	NC: understanding dissolving and solutions. WS: investigate and record.	NC: separating mixtures by sieving, filtering and evaporating. WS: choose and evaluate methods.	NC: reversible and irreversible changes and new substances. WS: compare evidence and explain.
KEY KNOWLEDGE	• Materials have different properties and uses. • Thermal and electrical conductors allow heat or electricity to pass through. • Dissolving forms a solution; not all substances are soluble. • Mixtures can be separated by methods including sieving, filtration and evaporation. • Some changes are reversible while others form new materials and are difficult to reverse.					

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AUTUMN 2	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
UNIT	FORCES					
LESSON OUTLINE	Forces in Action	Gravity	Friction	Air Resistance	Water Resistance	Marvellous Mechanisms
LEARNING OBJECTIVE	To recognise the effects of different forces on moving objects.	To explain how gravity acts between Earth and falling objects.	To investigate friction and how it affects motion.	To explain air resistance and investigate a parachute design.	To compare how shape affects resistance when objects move through water.	To explain how levers, pulleys and gears can change the effects of forces.
CURRICULUM LINKS	NC: forces that act on objects. WS: describe forces on objects.	NC: gravity and the fall of objects. WS: use scientific explanation.	NC: friction acting between moving surfaces. WS: fair-test surface types.	NC: effects of air resistance. WS: design and test.	NC: effects of water resistance. WS: measure and compare.	NC: mechanisms: levers, pulleys and gears. WS: model and explain.
KEY KNOWLEDGE	• Gravity pulls objects towards Earth. • Friction and resistance oppose movement. • Air and water resistance depend partly on shape and surface area. • Scientific tests help identify causes of changes in movement. • Levers, pulleys and gears are mechanisms that allow smaller forces to have greater effects.					

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SPRING 1	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
UNIT	EARTH AND SPACE					
LESSON OUTLINE	The Space Age	A View of the Solar System	Night Follows Day	The Four Seasons	Lunar Motion, Satellites and Space Junk	The Planets
LEARNING OBJECTIVE	To explain how scientists and technology have developed our knowledge of space.	To describe the Sun and the movement of planets in the Solar System.	To demonstrate how Earth's rotation causes day and night.	To use Earth's orbit and tilted axis to explain seasonal patterns.	To describe the Moon's orbit of Earth and identify human-made satellites.	To compare planets using research and describe their relative positions.
CURRICULUM LINKS	NC: Earth and other planets orbit the Sun. WS: use scientific research.	NC: movement of Earth and other planets relative to the Sun. WS: construct a model.	NC: rotation of Earth explains day and night. WS: model, predict and explain.	NC: movement of Earth relative to the Sun; seasonal enrichment. WS: compare seasonal evidence.	NC: Moon orbits Earth. WS: research satellites.	NC: solar-system bodies and relative positions. WS: classify and present.
KEY KNOWLEDGE	• The Sun is a star at the centre of our Solar System. • Planets, including Earth, orbit the Sun. • Earth rotates once in approximately 24 hours, causing day and night. • The Moon orbits Earth; artificial satellites are human-made. • Earth's tilted axis together with its orbit helps explain the seasons.					

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SPRING 2	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
UNIT	ANIMALS, INCLUDING HUMANS					
LESSON OUTLINE	Gestation Periods	Prenatal Development	Growth and Development of Children and Babies	Puberty and Adolescence	Adulthood	Human Life Expectancy Over Time
LEARNING OBJECTIVE	To compare the length of gestation in different mammals.	To describe simple stages of human development before birth.	To describe the physical and developmental changes from infancy through childhood.	To describe changes during puberty accurately and respectfully.	To recognise typical changes associated with adulthood and later life.	To use data to compare human life expectancy at different times.
CURRICULUM LINKS	NC: describing changes as humans develop to old age. WS: research and compare.	NC: describing stages of human development. WS: sequence human development.	NC: changes during human development. WS: compare growth charts.	NC: changes during puberty. WS: discuss evidence sensitively.	NC: changes from adulthood into old age. WS: describe life stages.	NC: stages and changes in human development. WS: read and interpret data.
KEY KNOWLEDGE	• Humans develop through a series of stages from birth to old age. • Gestation occurs before birth and differs between mammals. • Growth and development happen at different rates. • Puberty usually brings physical and emotional changes during adolescence. • Life expectancy can vary between populations and historical periods.					

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SUMMER 1	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
UNIT	LIVING THINGS AND THEIR HABITATS					
LESSON OUTLINE	New Plants: Sexual Reproduction	New Plants: Asexual Reproduction	Life Cycles of Mammals	Life Cycles of Birds and Reptiles	Life Cycles of Amphibians and Insects	Naturalists and Conservationists
LEARNING OBJECTIVE	To describe sexual reproduction in flowering plants, including pollination and fertilisation.	To describe ways new plants can be produced without seeds.	To compare life cycles of mammals, including humans.	To compare life cycles of birds and reptiles.	To describe and compare metamorphosis in amphibians and insects.	To explain how naturalists observe and conserve living things and habitats.
CURRICULUM LINKS	NC: life processes of reproduction in some plants. WS: model pollination.	NC: asexual reproduction in some plants. WS: investigate cuttings.	NC: life cycles of a mammal. WS: research and sequence.	NC: life cycles of birds. WS: compare diagrams.	NC: life cycles of amphibians and insects. WS: identify similarities.	NC: work of naturalists and animal behaviourists. WS: present research and findings.
KEY KNOWLEDGE	• Flowering plants may reproduce sexually by producing seeds. • Some plants reproduce asexually from cuttings, runners or bulbs. • Animals have different life-cycle stages. • Metamorphosis involves major changes in body form. • Naturalists study organisms and can provide evidence for conservation.					

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SUMMER 2	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
UNIT	CHANGING OCEANS · TWINKL ENRICHMENT					
LESSON OUTLINE	Exploring Our Oceans	Presenting Our Oceans	Threatened Oceans	Plastic Pollution	Coral Reef Ecosystems	Fishing and Sustainability
LEARNING OBJECTIVE	To describe ocean habitats and the animals and plants living in them.	To research and present information about ocean biodiversity.	To identify ways environmental changes threaten marine living things.	To investigate how plastic waste can enter and affect marine food chains.	To explain interdependence in coral reef ecosystems.	To evaluate evidence about fishing practices and environmental sustainability.
CURRICULUM LINKS	NC link: living things and their habitats; enrichment. WS: identify and classify.	NC link: communicating scientific research. WS: use secondary sources.	NC link: environmental impact on marine habitats. WS: explain evidence.	NC link: effects of pollution on living things. WS: investigate and model.	NC link: comparing habitats and food webs. WS: compare ecosystem links.	NC link: conservation and scientific evidence. WS: evaluate and present.
KEY KNOWLEDGE	• Oceans contain different habitats that support biodiversity. • Many marine organisms depend on other organisms for food and shelter. • Pollution and changes in climate or human activity can damage habitats. • Coral reef ecosystems contain interdependent living things. • Scientific evidence can inform decisions about conservation and sustainability.					