



Year 5 - Living things and their habitats

Lesson Intention	National Curriculum Reference	Scientific	Rocket Words	Resources
Understand the life process of a plant	Describe the life process of reproduction in some plants and animals	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	reproduction asexual fertilisation tuber genes	<i>Class presentation, rooting powder, pots, a healthy plant (strawberry, tomato, basil or chilli) and soil</i>
Understand the life cycles of mammals	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations	pouch mammary glands placental mammal monotreme mammal marsupial	<i>Class presentation and mammal types sorting cards</i>
Compare the life cycles of insects and amphibians	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations	metamorphosis caterpillar amphibian larva pupa	<i>Class presentation and split pins</i>
Understand the life cycle of birds and reptiles	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations	egg fledgling egg tooth hatch embryo	<i>Class presentation, eggs and toothpicks</i>
Know about the life and work of Jane Goodall and David Attenborough	Describe the life process of reproduction in some plants and animals	Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations	documentary naturalist primatologist endangered natural sciences	<i>Class presentation and research devices (laptops/ipads)</i>
Research and present the life cycle of a creature	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	Identifying scientific evidence that has been used to support or refute ideas or arguments	living organism reproduction life cycle vertebrate warm-blooded	<i>Class presentation and research devices (laptops/ipads)</i>



Year 5 – Animals, including humans

Lesson Intention	National Curriculum Reference	Scientific Enquiry	Rocket Words	Resources
Identify the key stages of a mammal's life cycle	Describe the changes as humans develop to old age	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	foetus dependent adolescent puberty reproduce	<i>Scissors, handout (on thin card), pen and pencils, split pins</i>
Explore the gestation periods of mammals	Describe the changes as humans develop to old age	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations	gestation pregnant duration extreme breeding	<i>Sticky notes, scissors, pens/pencils, computers/tablets for research</i>
Learn about foetal development	Describe the changes as humans develop to old age	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	womb umbilical chord embryo trimester midwife	<i>Pencil, graph paper, ruler, coloured pencils</i>
Investigate the hand span of different aged children	Describe the changes as humans develop to old age	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	growth spurt childhood motor skills milk teeth constant	<i>Ruler, tape measure, pens/pencils, paper</i>
Learn about the changes experienced during puberty	Describe the changes as humans develop to old age	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations	adolescence puberty hormones mood swing develop	<i>Large paper/wallpaper, sticky tape, pens/pencils</i>
Describe the changes humans may experience during adulthood and old age	Describe the changes as humans develop to old age	Identifying scientific evidence that has been used to support or refute ideas or arguments	lifestyle keratin elasticity cataracts neurodegenerative	<i>Pens, pencils, computers/tablets</i>



Year 5 – Earth and space

Lesson Intention	National Curriculum Reference	Scientific Enquiry Covered	Rocket Words Covered	Resources Needed
Explore the solar system and its planets	Describe the Sun, Earth and Moon as approximately spherical bodies	Identifying scientific evidence that has been used to support or refute ideas or arguments Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	terrestrial planet gas giant planets Solar System spherical orbit	<i>Class presentation, 9 balls (one for the Sun) and a measuring trundle</i>
Understand the heliocentric model of the solar system	Describe the movement of the Earth and other planets relative to the Sun in the solar system	Identifying scientific evidence that has been used to support or refute ideas or arguments	astronomy heliocentric geocentric dwarf planet orbit	<i>Class presentation, pictures of each planet (from last lesson), newspaper, 9 balloons/balls, oil, PVA glue, a bowl, water, paint, paintbrushes and string</i>
Explain the Earth's movement in space	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky	Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations	axis poles season hemisphere orbit	<i>Class presentation, a torch, a globe, playdoh and kebab skewers or cocktail sticks</i>
Explain the Earth's rotation and night and day	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky	Using test results to make predictions to set up further comparative and fair tests	sundial time zone gnomon dial shadow	<i>Class presentation, card, scissors, a compass, glue, long wooden kebab skewers and time zone data</i>
Explain the movement of the Moon	Describe the movement of the Moon relative to the Earth	Identifying scientific evidence that has been used to support or refute ideas or arguments	moon phase waxing waning eclipse	<i>Class presentation, pinwheel outlines, scissors, split pins, a globe, golf balls and a torch</i>
Design a planet using knowledge gained	Describe the Sun, Earth and Moon as approximately spherical bodies	Reporting and presenting findings from enquiries	rocky planet gas planet moon orbit solar system	<i>Class presentation, felt tips, coloured pencils, paint or digital media</i>



Year 5/6 Curriculum Map



Year 5 – Forces

Lesson Intention	National Curriculum Reference	Scientific Enquiry	Rocket Words	Resources
Explore gravity and the life and work of Isaac Newton	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	Identifying scientific evidence that has been used to support or refute ideas or arguments	Sir Isaac Newton gravity astronaut weight mass	<i>1m ruler/tape measure, weighing scales, variety of balls (tennis ball, soft ball, marble, hockey ball etc), pencil, 2 sheets of paper, stopwatch</i>
Examine the connection between air resistance and parachutes	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	Galileo Galilei air resistance opposing streamlined parachute	<i>feather, tennis ball, small plastic toys/weights, stopwatches, variety of materials to test (different types of papers, plastic bags, bin bags, variety of materials), rulers, hole punch, string, calculators</i>
Explore factors which affect an object's ability to resist water	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations	water resistance streamlined upthrust buoyant sink	<i>small object (such as a marble, or penny), large clear container filled with water, mini whiteboard, modelling clay, water, variety of containers (such as large bottles with the tops cut off, or large measuring cylinders), weighing scales</i>
Investigate the effects of friction on different surfaces	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	friction resistance lubricant Newton meter Newton	<i>a variety of surfaces (different carpets or carpet tiles, variety of wooden floors, tarmac/playground surface), trainer, Newton meter, ruler, weight Alternatively, children could cover a plank of wood with different surfaces (such as sandpaper, a towel, tinfoil, lino, carpet, corrugated cardboard, bubble wrap etc.), squared paper</i>
Investigate mechanisms - levers and pulleys	Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations	lever load pivot fulcrum pulley	<i>mini whiteboards, ball, a load to lift per child (weights/1 pint milk bottle/bag of sand etc.), materials to create a pulley - string, cotton reels, dowel, wheels, cardboard</i>
Investigate mechanisms - gears	Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	mechanism gear mesh rack and pinion bevel gear	<i>strong cardboard, lolly sticks, paper straws, sticky tape, thin dowel/cocktail sticks, plasticine, sticky tape, glue, compass, scissors</i>



Year 5/6 Curriculum Map



Year 6 – Light

Lesson Intention	National Curriculum Reference	Scientific Enquiry	Rocket Words	Resources
Explore how light travels	Recognise that light appears to travel in straight lines	Record data and results of increasing complexity using scientific diagrams and labels Identifying scientific evidence that has been used to support or refute ideas or arguments	light eye light source symbol scientific diagram	<i>Torch, cardboard tube/a section of hosepipe/paper, card, hole punch, pen, pencil</i>
Explore reflection	Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	reflected prediction fair test variable table	<i>Torch, white card, mirror, tin foil, jumper/cardigan, carrier bag (try to choose materials which are similar in colour), pen, pencil</i>
Explore reflection and explain how it can be used to help us see	Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes	Identifying scientific evidence that has been used to support or refute ideas or arguments	periscope angle mirror line of sight utilise	<i>Torch, cereal box, mirrors, scissors, sticky tape, ruler, pencil</i>
Investigate how shadows can change	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	shadow block opaque transparent translucent	<i>Multilink, board marker, whiteboard, torch, ruler, pen, pencil</i>
Investigate how we can show why shadows have the same shape as the object that casts them	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations	plan sun shade real life problem rotate direction	<i>Modelling clay, torch, cocktail sticks, materials for making a screen, pen, pencil, ruler</i>
Investigate how we see objects	explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	optical phenomena disperse spectrum refraction	<i>Water, washing up liquid, straw, glass container, salt, bowl, paper, red, green and blue pens, coloured filters, pencil</i>