

## Science Progression

### Intent of the curriculum

At Woodseaves, we recognise the importance of science in every aspect of daily life. The intent of our science curriculum is focused on increasing pupils' knowledge and understanding of our world, and with developing skills associated with science as a process of enquiry. It will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence.

At Woodseaves, following the aims of the National Curriculum, our science teaching offers opportunities for children to:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry, and physics.
- Develop an understanding of the nature, processes, and methods of science through different types of enquiries that help children to answer scientific questions about the world around them.
- Be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- Develop the essential scientific enquiry skills to deepen their scientific knowledge.
- Use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.T., diagrams, graphs, and charts.
- Develop a respect for the materials and equipment they handle with regard to their own, and other children's safety.
- Develop an enthusiasm and enjoyment of scientific learning and discovery.

EYFS	Key Stage One	Lower Key Stage Two	Upper Key Stage Two
<p><b>Animals, including humans:</b> Explore the natural world around them, making observations and drawing pictures of animals. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p> <p><b>Plants:</b> Explore the natural world around them, making observations and drawing pictures of plants. Know some similarities and difference between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p> <p><b>Everyday materials:</b> Pupils will distinguish between an object and the material from which it is made. They will identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. They will begin to describe and compare the simple physical properties of a variety of everyday materials.</p> <p><b>Seasonal change:</b> Pupils will observe changes across the year and the four seasons. Pupils will observe and describe weather associated with the seasons.</p>	<p>Working Scientifically Year 1 and 2: Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests. Identifying and classifying. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.</p> <p>Year 1 Plants: Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Animals, including humans: Identify and name a variety of common animals including fish, amphibians, reptiles, birds, and mammals. Identify and name a variety of common animals that are carnivores, herbivores, and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, and mammals including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Everyday materials: Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Seasonal changes: Observe changes across the 4 seasons. Observe and describe weather associated with the seasons and how day length varies.</p> <p>Year 2 Living things and their habitats: Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including microhabitats. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p>Plants: Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Working Scientifically Year 3 and 4: Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative, and fair tests. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gathering, recording, classifying, and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Using results to draw simple conclusions, make predictions for new values, suggest improvements, and raise further questions. Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to answer questions or to support their findings.</p> <p>Year 3 Plants: Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p>Animals, including humans: Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection, and movement.</p> <p>Rocks: Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.</p> <p>Light: Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change.</p> <p>Forces and magnets: Compare how things move on different surfaces. Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having 2 poles. Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p> <p>Year 4 Living things and their habitats: Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Animals, including humans: Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators, and prey. States of matter:</p>	<p>Working Scientifically Year 5 and 6: Planning different types of scientific enquiries to answer questions, including recognising, and controlling variables where necessary. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar, and line graphs. Using test results to make predictions to set up further comparative and fair tests. 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. Identifying scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Year 5 Living Things: 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.</p> <p>Animals, including humans: Describe the changes as humans develop to old age. Properties and changes of materials: 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.</p> <p>Earth and space: 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.</p> <p>Forces: 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.</p> <p>Year 6 Living things and their habitats: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants, and animals. Give reasons for classifying plants and animals based on specific characteristics.</p> <p>Animals including humans: Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs, and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.</p>

<p>Animals, including humans: Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food, and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Uses of everyday materials: Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching.</p>	<p>Compare and group materials together, according to whether they are solids, liquids, or gases. Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Sound: Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases. Electricity: Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches, and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Evolution and inheritance: Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Light: Recognise that light appears to travel in straight lines. 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. 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. Electricity: Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram.</p>
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**At Woodseaves children will:**

	EYFS	Key Stage 1	Lower Key Stage 2	Upper Key Stage 2
<b>Working Scientifically</b>	<p>Describe what they see, hear, and feel whist outside. Explore the natural world around them, making observations.</p>	<p>Observe changes over time. Use simple features to compare objects, materials and living things. Explain the process of enquiry. Ask simple questions and recognise they can be answered in different ways. Observe closely using simple equipment. Perform simple tests and begin to recognise ways in which they might answer scientific questions. Begin to notice patterns and relationships. Decide how to sort and group objects, materials and living things. Gather and record simple data in different ways. Discuss what they have found out and how. Use results to suggest answers to questions, using simple scientific language. Use secondary sources to find answers.</p>	<p>Make systematic and careful observations. Develop own criteria for grouping, sorting, and classifying. Gather and record findings using drawings and labelled diagrams. Use results to draw simple conclusions and suggest improvements. Ask relevant questions and consider different types of enquiries to answer them. Take accurate measurements using standard units, using a range of equipment. Set up simple practical enquiries, including comparative and fair tests. Select and plan the most appropriate type of scientific enquiry. Recognise when and how to set up comparative and fair tests. Gather and record findings using keys, bar charts and tables. Report on findings from enquiries using oral explanations, displays and presentation of results and conclusions. Use results to make predictions for new values and raise further questions. Use straightforward scientific evidence to answer questions and support their own findings.</p>	<p>Raise a breadth of topic specific questions. Select and plan the most appropriate type of scientific enquiry. Recognise when and how to set up comparative and fair tests. Use keys to identify, classify and describe living things and materials. Report and present findings including conclusions and relationships. Know how to choose appropriate variables to test a hypothesis. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Observe and take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar, and line graphs. Use test results to make predictions to set up further comparative and fair tests. Know how to report and present findings from enquiries in a variety of oral and written forms. Know how to identify scientific evidence that has been used to support or refute ideas or arguments.</p>
<b>Vocabulary</b>		<p>Questions, answers, equipment, results, sort, explore, observe, similar, collect, measure, record, group, test, compare, describe, different, differences. Chart, table, pictogram, tally chart, block diagram / graph, gather, order, notice patterns, link ideas, stopwatch, pipette, syringe, use of comparatives – hotter/ cooler, older / younger etc</p>	<p>Scientific enquiry, similarities, differences, observations, keys, bar charts, thermometer, data logger, changes over time, identify, classify, evidence, conclusion, prediction, magnifying glass, microscope, comparative tests, fair test, careful, present, data, results, support, not support, increase, decrease, accurate, appearance</p>	<p>Opinion, fact, variables, independent variable, dependent variable, controlled variable, precision, classification keys, scatter graphs, line graphs, notice relationships, support, systematic, causal relationships, refute, degree of trust</p>
<b>Biology</b>	<p>Explore the natural world around them. Drawing pictures of plants. To recognise some environments that are different to the one in which they live.</p>	<p>Animals, including humans: Identify and name a variety of common animals including fish, amphibians, reptiles, birds, and mammals. Identify and name a variety of common animals that are carnivores, herbivores, and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, and mammals including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense Plants: Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees. Observe and describe how seeds and bulbs grow into mature plants.</p>	<p>Animals, including human: Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection, and movement. Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators, and prey. Plants: Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p>	<p>Living things and their habitats: 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 how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants, and animals. Give reasons for classifying plants and animals based on specific characteristics. Evolution and inheritance: Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p>

	<p>To understand the effect of changing seasons on the natural world around them. Draw pictures of animals.</p>	<p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Living things and their habitats: Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including microhabitats. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. Seasonal Changes: Observe changes across the 4 seasons. Observe and describe weather associated with the seasons and how day length varies. Animals, including humans: Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food, and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Living things and their habitats: Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Animals, including humans: Describe the changes as humans develop to old age. Animals, including humans: Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs, and lifestyle on the way their body's function. Describe the ways in which nutrients and water are transported within animals, including humans.</p>
<b>Vocabulary</b>		<p>Fish, Reptiles, Mammals, Birds, Amphibians, Herbivore, Omnivore, Carnivore, Leg, Arm, Elbow, Head, Ear, Nose, Back, Wings, Beak. Deciduous, Evergreen trees, Leaves, Flowers, Petals, Fruit, Roots, Bulb, Seed, Trunk, Branches, Stem. Summer, Spring, Autumn, Winter, Sun, Day, Moon, Night, Light, Dark. Survival, Water, Air, Food, Adult, Baby, Offspring, Kitten, Calf, Puppy, Exercise, Hygiene Seeds, Bulbs, Water, Light, Temperature, Growth. Living, Dead, Habitat, Energy, Food chain, Predator, Prey, Woodland, Pond, Desert.</p>	<p>Movement, Muscles, Bones, Skull, Nutrition, Skeletons. Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower Vertebrates, Fish, Amphibians, Reptiles, Birds, Mammals, Invertebrates, Snails, Slugs, Worms, Spiders, Insects, Environment, Habitats. Mouth, Tongue, Teeth, Oesophagus, Stomach, Small Intestine, Large Intestine, Herbivore, Carnivore, Canine, Incisor, Molar.</p>	<p>Mammal, Reproduction, Insect, Amphibian, Bird, Offspring. Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty. Circulatory, Heart, Blood Vessels, Veins, Arteries, Oxygenated, Deoxygenated, Valve, Exercise, Respiration. Classification, Vertebrates, Invertebrates, Micro-organisms, Amphibians, Reptiles, Mammals, Insects. Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics.</p>
<b>Chemistry</b>	<p>Use all their senses in hands-on explorations of natural material. Explore collections of materials with similar and/ or different properties. Talk about the differences between materials and changes they notice.</p>	<p>Everyday materials: Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties. Uses of everyday materials: Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching.</p>	<p>Rocks: Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter States of matter: Compare and group materials together, according to whether they are solids, liquids, or gases. Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Properties and changes of matter: 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.</p>
<b>Vocabulary</b>		<p>Wood, Plastic, Glass, Paper, Water, Metal, Rock, Hard, Soft, Bendy, Rough, Smooth. Hard, Soft, Stretchy, Stiff, Shiny, Dull, Rough, Smooth, Bendy, Waterproof, Absorbent, Opaque, Transparent, Brick, Paper, Fabrics, Squashing, Bending, Twisting, Stretching Elastic, Foil.</p>	<p>Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent. Solid, Liquid, Gas, Evaporation, Condensation, Particles, Temperature, Freezing, Heating</p>	<p>Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing.</p>
<b>Physics</b>			<p>Forces and magnets: Compare how things move on different surfaces. Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.</p>	<p>Earth and Space: 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.</p>

			<p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials.</p> <p>Describe magnets as having 2 poles.</p> <p>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p> <p>Light:</p> <p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows changes</p> <p>Electricity:</p> <p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches, and buzzers.</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p>Sound:</p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>Describe the sun, Earth, and moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>Forces:</p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p> <p>Light:</p> <p>Recognise that light appears to travel in straight lines.</p> <p>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.</p> <p>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.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p>Electricity:</p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>
<b>Vocabulary</b>			<p>Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull</p> <p>Light, Shadows, Mirror, Reflective, Dark, Reflection</p> <p>Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators,</p> <p>Volume, Vibration, Wave, Pitch, Tone, Speaker.</p>	<p>Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, Constellation.</p> <p>Refraction, Reflection, Light, Spectrum, Rainbow, Colour.</p> <p>Cells, Wires, Bulbs, Switches, Buzzers, Battery, Circuit, Series, Conductors, Insulators, Amps, Volts, Cell.</p>
<b>Diversity</b>		<p>Harry Bhadeshia - Materials</p> <p>Saiful Islam - Materials</p> <p>Jasseln Majevadia - Materials, Engineering, Physics</p>	<p>Charlotte Armah – Food Research</p> <p>Jasseln Majevadia – Materials, Engineering, Physics</p> <p>Mark Richards – Physics</p> <p>Sanjeev Gupta – Earth Science/ Geology</p>	<p>Maggie Aderin – Pocock - Space</p> <p>Harry Bhadeshia - Materials</p> <p>Sanjeev Gupta – Earth Science/ Geology</p> <p>Mah Hussain-Gamble – Chemistry</p> <p>Saiful Islam - Materials</p> <p>Jasseln Majevadia - Materials, Engineering, Physics</p> <p>Jo Shein Ng - Electrics</p>
<b>Christian Values links</b>	<p>Friendship, thankfulness, trust, peace, compassion, forgiveness, courage, hope, generosity, wisdom, koinonia.</p>	<p>Thankfulness, compassion, wisdom, koinonia.</p>	<p>Thankfulness, trust, wisdom, koinonia.</p>	<p>Thankfulness, peace, compassion, wisdom, koinonia.</p>

<b>Cultural Capital Links Possibilities</b>	Possible visits: Wolseley Wildlife Centre Twycross Zoo	Possible visits: Wolseley Wildlife Centre Twycross Zoo Think Tank Sealife Centre	Possible visits: Think Tank Wolseley Wildlife Centre	Possible visits: Think Tank Jodrell Bank
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