



	Year 3	Subject Science	
Knowledge and Understanding	<p>Autumn 1 Topic: Animals including Humans I can 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</p> <p>I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Spring 1 Topic: Rocks and Soils I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>I can describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>I can recognise that soils are made from rocks and organic matter.</p>	<p>Summer 1 Topic: Plants I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>I can 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</p> <p>I can investigate the way in which water is transported within plants</p> <p>I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>
	<p>Autumn 2 Topic: Animals including Humans</p>	<p>Spring 2 Topic: Light I can recognise that we need light in order to see things and that dark is the absence of light</p> <p>I can notice that light is reflected from surfaces</p> <p>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>I can recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>I can find patterns in the way that the size of shadows change.</p>	<p>Summer 2 Topic: Forces I can compare how things move on different surfaces</p> <p>I can notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>I can observe how magnets attract or repel each other and attract some materials and not others</p> <p>I can 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>I can describe magnets as having two poles</p> <p>I can predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>



Yr 3	<p>Additional: Non - Statutory</p> <p>Plants</p> <p>Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction. Note: Pupils can be introduced to the idea that plants can make their own food, but at this stage they do not need to understand how this happens. Pupils might work scientifically by: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. They might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.</p> <p>Animals including Humans</p> <p>Pupils should continue to learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions. Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.</p> <p>Rocks</p> <p>Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment. Pupils might work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Pupils might research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Pupils could explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.</p> <p>Light</p> <p>Pupils should explore what happens when light reflects off a mirror or other reflective surfaces, including playing mirror games to help them to answer questions about how light behaves. They should think about why it is important to protect their eyes from bright lights. They should look for, and measure, shadows, and find out how they are formed and what might cause the shadows to change. Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils might work scientifically by: looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.</p> <p>Forces and Magnets</p> <p>Pupils should observe that magnetic forces can act without direct contact, unlike most forces, where direct contact is necessary (for example, opening a door, pushing a swing). They should explore the behaviour and everyday uses of different magnets (for example, bar, ring, button and</p>
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	<p>horseshoe). Pupils might work scientifically by: comparing how different things move and grouping them; raising questions and carrying out tests to find out how far things move on different surfaces and gathering and recording data to find answers their questions; exploring the strengths of different magnets and finding a fair way to compare them; sorting materials into those that are magnetic and those that are not; looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another; identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Progression- Yr 3</p>	<p>Skills - Investigative Planning I can with support ask my own relevant questions about what I observe. I can with help use different types of scientific enquiries to answer questions and am able to decide with support which types of scientific enquiry are likely to be the best way including : observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources. Observing I can with support (from a simple selection) use a range of equipment including thermometers and data loggers I can with guidance make careful and observations and take accurate measurements using standard units with help Presenting Evidence I can gather, record, classify and present data in a variety of ways using adult support or in a given framework I can with guidance record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables Concluding I can draw simple conclusions and use some scientific language to first talk about then with support begin to write about what I have found out. I can with help report on findings from enquiries, both orally and written and begin to relate these to simple scientific ideas and processes I can use straightforward scientific evidence to answer questions or to support my findings with adult guidance Evaluating I can suggest improvements to my investigation</p>



	Year 4	Subject : Science	
Knowledge and Understanding	<p>Autumn 1 Topic: Rocks I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>I can describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>I can recognise that soils are made from rocks and organic matter.</p>	<p>Spring 1 Topic: Light I can recognise that we need light in order to see things and that dark is the absence of light</p> <p>I can notice that light is reflected from surfaces</p> <p>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>I can recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>I can find patterns in the way that the size of shadows change.</p>	<p>Summer 1 Topic: Plants I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>I can 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</p> <p>I can investigate the way in which water is transported within plants</p> <p>I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>
	<p>Autumn 2 Topic: Forces I can compare how things move on different surfaces</p> <p>I can notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>I can observe how magnets attract or repel each other and attract some materials and not others</p> <p>I can 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>I can describe magnets as having two poles</p> <p>I can predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Spring 2 Topic: Animals including Humans I can 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</p> <p>I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Summer 2 Topic: Plants</p>

**Additional: Non - Statutory****Plants**

Pupils should be introduced to the relationship between structure and function: the idea that every part has a job to do. They should explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction. Note: Pupils can be introduced to the idea that plants can make their own food, but at this stage they do not need to understand how this happens. Pupils might work scientifically by: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. They might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.

Animals including Humans

Pupils should continue to learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions. Pupils might work scientifically by: identifying and grouping animals with and without skeletons and observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.

Rocks

Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment. Pupils might work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Pupils might research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Pupils could explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.

Light

Pupils should explore what happens when light reflects off a mirror or other reflective surfaces, including playing mirror games to help them to answer questions about how light behaves. They should think about why it is important to protect their eyes from bright lights. They should look for, and measure, shadows, and find out how they are formed and what might cause the shadows to change. Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils might work scientifically by: looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.

Forces and Magnets

Pupils should observe that magnetic forces can act without direct contact, unlike most forces, where direct contact is necessary (for example, opening a door, pushing a swing). They should explore the behaviour and everyday uses of different magnets (for example, bar, ring, button and

Year 4



	<p>horseshoe). Pupils might work scientifically by: comparing how different things move and grouping them; raising questions and carrying out tests to find out how far things move on different surfaces and gathering and recording data to find answers their questions; exploring the strengths of different magnets and finding a fair way to compare them; sorting materials into those that are magnetic and those that are not; looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another; identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.</p>
Progression-Year 4	<p>Skills - Investigative</p> <p>Planning I can ask my own relevant questions about what I observe. I can use different types of scientific enquiries to answer questions and am able to decide which types of scientific enquiry are likely to be the best way including : observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources.</p> <p>Observing I can use a range of equipment including thermometers and data loggers I can make careful and systematic observations and take accurate measurements using standard units</p> <p>Presenting Evidence I can gather, record, classify and present data in a variety of ways I can record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables</p> <p>Concluding I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions I can use results to draw simple conclusions I can use straightforward scientific evidence to answer questions or to support my findings.</p> <p>Evaluating I can make predictions for new values, suggest improvements and raise further questions I can identify differences, similarities or changes related to simple scientific ideas and processes</p>



Ravensdale Junior School

Knowledge, understanding and Progression of Skills in Foundation Subjects



	Year 5	Subject Science	
Knowledge and Understanding	<p>Autumn 1 Topic: Earth and Space I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>I can describe the movement of the Moon relative to the Earth</p> <p>I can describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>I can 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>Spring 1 Topic: Materials I can 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</p> <p>I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>I can demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>I can 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>Summer 1 Topic: Animals including Humans I can describe the changes as humans develop to old age</p>
	<p>Autumn 2 Topic: Forces I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>Spring 2 Topic: Materials</p>	<p>Summer 2 Topic: Living Things I can describe the differences in life cycles of a mammal, amphibian, insect and bird</p> <p>I can describe the life processes in some plants and animals</p>



Year 5	<p>Additional: Non - Statutory</p> <p>Living Things</p> <p>Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall. Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals. Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.</p> <p>Animals including Humans</p> <p>Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</p> <p>Materials</p> <p>Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3 and about electricity in year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton. Note: Pupils are not required to make quantitative measurements about conductivity and insulation at this stage. It is sufficient for them to observe that some conductors will produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them. Safety guidelines should be followed when burning materials. Pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials.</p>
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Earth and Space

Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones). Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus. Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks

Forces

Pupils should explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down. Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers, pulleys and simple machines on movement. Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation. Pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects.

Year 5



Progression - Year 5	<p>Skills - Investigative Presenting Evidence I can begin to record findings using increasingly complex scientific diagrams, classification keys, tables, scatter graphs, bar and line graphs</p> <p>Observing I am beginning to make increasingly accurate and precise observations and measurements, using a range of scientific equipment, I understand with support and discussion when repeat readings are appropriate and if required</p> <p>Planning I can ask my own relevant questions and am beginning to link them to scientific phenomena I can use different types of scientific enquiry to answer questions and am able to decide on occasions which types of enquiry are likely to be the best ways: observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources.</p> <p>Concluding I can report and present findings from enquiries with a growing understanding of causal relationships and explanations in oral and written forms. I can draw conclusions based on my data and observations, with support I can use evidence to justify my ideas and use my scientific knowledge and understanding to explain my findings</p> <p>Evaluating I can using test results to make predictions and with help and a supportive structure then suggest further comparative and fair tests I can identify scientific evidence from my results that has been used to support or refute ideas or arguments.</p>
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	Year 6	Subject Science	
Knowledge and Understanding	<p>Autumn 1 Topic: Earth and Space</p> <p>I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>I can describe the movement of the Moon relative to the Earth</p> <p>I can describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>I can 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>Spring 1 Topic: Materials</p> <p>I can 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</p> <p>I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>I can demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>I can 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>Summer 1 Topic: Animals including Humans</p> <p>I can describe the changes as humans develop to old age</p>
	<p>Autumn 2 Topic: Forces</p> <p>I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>Spring 2 Topic: Materials</p>	<p>Summer 2 Topic: Living Things</p> <p>I can describe the differences in life cycles of a mammal, amphibian, insect and bird</p> <p>I can describe the life processes in some plants and animals</p>

**Additional: Non - Statutory****Living Things**

Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall. Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals. Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.

Animals including Humans

Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.

Materials

Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3 and about electricity in year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton. Note: Pupils are not required to make quantitative measurements about conductivity and insulation at this stage. It is sufficient for them to observe that some conductors will produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them. Safety guidelines should be followed when burning materials. Pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials.

Year 6



Earth and Space

Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones). Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses. Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus. Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks

Forces

Pupils should explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down. Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers, pulleys and simple machines on movement. Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation. Pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects.



Progression - Year 6	<p>Skills - Investigative</p> <p>Planning I can ask my own relevant questions and can link them to scientific phenomena I can use different types of scientific enquiry and am able to decide which types of enquiry are best: observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources. I can recognise and control variables</p> <p>Observing I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</p> <p>Presenting Evidence I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>Concluding I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</p> <p>Evaluating I can using test results to make predictions to set up further comparative and fair tests I can identify scientific evidence that has been used to support or refute ideas or arguments.</p>
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