

Our Science Curriculum



St. Peter's CE Primary Academy, Hednesford

Reach for the Sky!

Our Science Vision:

Our academy provides a safe & stimulating environment whereby children encounter creative learning experiences.

Science Teaching in our academy will:

- Encourage our interest about the world.



- Have practical lessons to link our ideas.



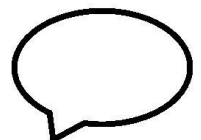
- Develop our understanding of the world & how science can impact on our lives.



- Help us investigate science in different ways.



- Give us ways to explain our ideas in many ways.



- Help us to use skills from science experts and from different areas of the curriculum.



Science

Intent

At St Peter's Primary Academy we strive to deliver a Science curriculum that develops children's interest and curiosity of the World that we live in. We also ensure that our school is a safe environment, whereby the children are stimulated by creative learning experiences. We encourage and plan for the use of 'science capital', whereby children are given the opportunity to enhance their science-related knowledge, attitudes and resources to develop across their school life. Recognising that science is a core subject within the curriculum, means that science is taught for 2 hours a week within Key Stage 1 & Key Stage 2 and regular opportunities for scientific enquiry are provided, meaning that children are given practical first-hand experiences. We aim to ensure that children at St Peter's are provided with the skills to: ask their own questions; show their own curiosity about the world around them; be confident to explore their curiosity through scientific enquiry based lessons; and show an enthusiasm for science.

Implementation

Our science curriculum is based around our six science principles that were chosen by staff and children on achieving the Primary Science Quality Mark in 2018. Our key Principles are:

- ✓ Encourage our interest about the world.
- ✓ Have practical lessons to link our ideas.
- ✓ Develop our understanding of the world & how science can impact on our lives.
- ✓ Help us investigate science in different ways.
- ✓ Give us ways to explain our ideas in many ways.
- ✓ Help us to use skills from science experts and from different areas of the curriculum.

We teach using the National Curriculum for science, which is supported by our own assessment tool for whether the children have achieved the key objectives. Each year group's 'I can statements' show progression each year, ensuring that the children's scientific understanding and scientific enquiry skills are built upon year on year. Science is taught for 2 hours per week in both Key Stage 1 & Key Stage 2, but this might be blocked for certain lessons (depending on the science topic).

At the beginning of a topic, children identify their existing ideas, learning needs and interests about the topic. Children are also encouraged to ask questions that they would like to find out about, therefore this assists the teacher in planning for the science topic. Scientific enquiry is at the centre of the children's learning & this is planned for frequently within a unit of work.

Teachers ensure that lessons are differentiated accordingly and the learning objectives & success criteria are shared with the children each lesson. Science follows the same outline as other core subjects & the school vision to 'reach for the stars', so children will begin at sky, progress to moon and challenge themselves with the stars success criteria.

Following our achievement of PSQM in 2018, we continue to plan for opportunities for children to enhance their 'science capital' and plan for regular visitors to aid the teaching of science. We also plan for use of our outdoor classroom and outdoor learning where possible.

Each academic year we arrange a science week, whereby we have an introductory assembly to promote the theme. We also have visitors in school that deliver workshops to Key stage 1 & key stage 2 children. The children thoroughly enjoy this experience and the lessons that follow within the classroom. Science is a practical, enjoyable lesson that children are enthusiastic about.



Impact

As a Learner:

- Our aim, at St Peter's Primary Academy, is that all children's curiosity is nurtured; allowing them to ask questions and develop the skills that they need in order to answer their questions.
- Children will show progression in their scientific enquiry skills and be able to set up their own investigations, deciding which type of enquiry they will be focusing on.
- Children will also be able to make predictions, explain their findings and make conclusions about what they have found out. In addition, children will be able to evaluate their investigation and suggest improvements. Children will also be able to explain their knowledge about a theme following investigations they have carried out and discuss their knowledge.

As a Member of Society:

- Children will be given different opportunities within the local community, such as arranging visitors to attend school to enhance teaching a science topic and also attending practical workshops at our local secondary school. Therefore, children will gain a range of experiences and be able to plan scientific enquiries within real-life contexts.
- We hope that children will also recognise how their 'science capital' can have an impact on their own career choices and which jobs, in society, are suited to a scientific background.

As a School:

- Children will have been taught a range of enquiry skills that they will be able to build upon to enhance their scientific learning following primary school.
- As a school, one of main aims is that all children who leave us in Year 6 have the appropriate skills in preparation for Key Stage 3 and still have curious minds with unanswered questions ready for their next stage of their science learning.



Science Subject Map

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Yr1	Body Parts & our senses	Light & Dark	Forces- Pushes & pulls	Animals, including humans	Materials	Identifying plants
Yr2	Healthy Bodies	Materials and what they are like	Electricity	What is a habitat?	Growing plants	Forces & changing shape
Yr3	Animals, including humans (Teeth & nutrition)	Rocks & soils	Fossils & how they are made	Magnets & forces	Plants, growth & lifecycles	Sources of light, shadows & reflections
Yr4	Sound: How is it made & how does it travel?	How does the human body compare to that of other animals?	Living things & their habitats	Solids, Liquids & Gases	Electricity	The Water Cycle
Yr5	Plants: Are all plant parts necessary?	The Human Lifecycle: How does the human lifecycle compare to that of other animals?	Properties and their materials: How would you prioritise the properties of materials by their usefulness?	Reversible and irreversible changes	Forces: Is a greater force always better?	Earth & Space
Yr6	Micro-organisms & Classification: Would you agree that micro-organisms are more beneficial or harmful to humans?	A Healthy Body	Evolution & Adaptation	Light: Can you turn a light down?	Electricity	Forces



Year 1 Science Skills Progression

I can	Science - Year 1	😊	Date
Working scientifically	I can ask questions.		
	I can use equipment to perform experiments		
	I can use a simple source to find answers.		
	I can find and record data.		
	I can find the answer to questions by looking carefully at things.		
	I can collect my results and write them down.		
	I can explain what I found out.		
	I can use science words.		
Plants	I can name parts of a plant.		
	I can identify and name some plants.		
	I can explain changes to plants locally.		
	I know what plants need to grow.		
	I can describe differences between plant grown in light and dark places.		
Animals including humans	I can name and label some parts of the human body.		
	I know the 5 senses and which parts of the body these are linked to.		
	I can identify and name some animals.		
	I can compare different animals.		

I can	Science - Year 1	😊	Date
Animals including humans	I can group animals together and explain how I have grouped them.		
	I can explain if animals are:		
	Meat eating animals (carnivores).		
	Plant eating animals (herbivores).		
	Eat both meat and plants (omnivore).		
	I can use the words below and tell you the differences between some common:		
	Fish.		
	Amphibians.		
	Reptiles.		
	Birds.		
	Mammals.		
	Tell you what kinds of animals are kept as pets.		
	Label the human body using the right words.		
Everyday Materials	I can tell you the difference between an object and what it is made from.		
	I can tell you the names of some materials.		
	I can know that some materials are natural or man-made.		



I can	Science - Year 1	😊	Date
	I can test different materials and use words to describe their properties.		
Everyday materials	I can group things by their properties		
	I can show how materials can change shape.		
	I can find out about scientists who have discovered and made new and useful materials.		
Seasonal change	I can name the four seasons		
	I can tell you about the kind of weather we get in each season.		
	I can tell you about how the length of the day changes in each season.		
Light and Dark	I can name materials that reflect light but are not a light source and explain why.		
	I can name some materials that light will travel through.		
	I can explain what happens when a cloud hides the sun.		
	I can name some materials that light will shine or not shine through.		
	I can compare the brightness of some lights.		
	I can describe how to block light.		
	I can name some sources of light.		

I can	Science - Year 1	😊	Date
	I can name 2 types of light that can be turned on and off.		
Pushes and Pulls	I can tell you how an object can be stopped more quickly.		
	I can explain what a force is.		
	I can sort different movements as a push or a pull.		
	I can describe a push or a pull as big or small.		
	I can show a push and pull.		



Year 2 Science Skills Progression

I can	Science - Year 2	😊
Working scientifically	I can ask simple questions, recognising that they can be answered in different ways.	
	I can ask relevant questions and use different types of scientific enquiries to answer them.	
	I can perform simple tests using simple equipment, observing closely.	
	I can set up simple practical enquiries, comparative and fair tests making accurate and careful observations.	
	I can gather and record data to help in answering questions.	
	I can take accurate measurements using standard units.	
	I can gather, record, classify and present data in a variety of ways to help in answering questions.	
	I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	
	I can use my observations and ideas to suggest answers to questions.	
	I can use results to draw simple conclusions and suggest improvements.	
	I can suggest new questions and predictions for new values in my results. I can identify differences, similarities or changes using my knowledge of scientific ideas and processes.	
	I can explain whether what happened was as expected and if not why not	
	I can talk about my findings using the correct science vocabulary.	
	I can use diagrams, photos & pictures to show my findings in a simple form	
I can use my own observations to suggest why something happened		

I can	Science - Year 2	😊
Living things and their habitats	I can explain what is living, what is dead and what has never been alive.	
	I can sort and group things I find in a habitat according to whether it is living dead or never been alive.	
	I know that a habitat is a suitable home to plants and animals.	
	Over the course of a season(s) I can observe and record changes in a habitat.	
	I can describe different habitats and explain the needs of the plants and animals that live there.	
	I know that a micro habitat is a very small habitat that is part of a larger habitat.	
	I can explain how animals get their food from plants and other animals.	
	I can produce a simple food chain starting with plants and naming the different foods.	
	I am beginning to recognise the seven life processes of living things.	

I can	Science - Year 2	😊
Plants	I know that plants produce seeds and that seeds grow into new plants. I know that some plants grow from bulbs.	
	I can describe what I see when a plant grows and record my observations in a table.	
	I can test to find out what seeds and bulbs need to have to grow.	
	I can complete a comparative test over time to show what a plant needs to grow well.	
	I can observe and record the changes in plants in my local environment over a year.	



I can	Science - Year 2	😊
Forces	I can sort and name different movements as a push or a pull.	
	I can name ways to make things go faster or slower, including myself.	
	I can describe what will happen when I use a big or small push or pull.	
	I can sequence pushes or pulls in order of strength.	
	I can explain what a force is and give examples.	

I can	Science - Year 2	😊
Everyday Materials	I know that because of the properties of some materials, they can be used for more than one thing.	
	I know that different materials may have similar properties so some items can be <u>made out of</u> different materials.	
	I know that the properties of some materials make them unsuitable to use in some situations.	
	I can predict, observe and describe what happens to some materials when they are heated, looking at changes.	
	I know the dangers of hot water or flames.	
	I can find out about inventors who have made useful new materials.	

I can	Science - Year 2	😊
Animals including Humans	I can observe and record how young animals change as they get older.	
	I know what foods I need to eat to stay healthy and grow well.	
	I can explain why it is important to keep clean, exercise and eat well to stay healthy.	
	I know that different animals move in different ways to help them survive.	
	I know that animals grow until they reach maturity and then do not grow any larger.	
	I can find out what other animals need to have to stay alive and healthy.	
	I can compare my body before and after exercise.	
	I can explain the importance of exercise and the effect it has on my body.	

I can	Science - Year 2	😊
Electricity	I can compare the difference between an old and a new battery.	
	I can make & draw a diagram of an electric circuit.	
	I can show the dangers of electricity in my work.	
	I can name safe sources of electricity.	
	I can recognise and explain what an electric circuit needs to work.	
	I can name some materials that electricity will travel or will not travel through.	



Year 3 Science Skills Progression



I can	Science - Year 3	Tick	Date
Working scientifically	I can ask simple questions and recognising that they can be answered in different ways.		
	I can ask relevant questions and using different types of scientific enquiries to answer them.		
	I can use simple models to describe scientific ideas.		
	I can gather and record data to help in answering questions.		
	I can identify and classify. I can perform simple tests using simple equipment, observing closely.		
	I can set up simple practical enquiries, comparative and fair tests making accurate and careful observations.		
	I can take accurate measurements using standard unit.		
	I can begin to help decide which variables to keep the same and which to change.		
	I can use a range of equipment.		
	I can gather, record, classify and present data in a variety of ways to help in answering questions.		
	I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.		
	I can use my observations and ideas to suggest answers to questions		
	I can begin to communicate my findings using appropriate scientific language.		
	I can use results to draw simple conclusions and suggest improvements.		
	I can suggest new questions and predictions for new values in my results.		
	I can identify differences, similarities or changes using my knowledge of scientific ideas and processes.		
I can use straightforward scientific evidence to answer questions or to support my findings.			

I can	Science - Year 3	Tick	Date
	I can begin to think of cause and effect in my explanations.		
Plants	I recognise that plants need light, warmth and water to grow and that plants need healthy leaves, roots and stems to grow well.		
	I know that leaves absorb sunlight and carbon dioxide through leaves.		
	I know that different plants need different conditions to grow well.		
	I can explain why plants need healthy roots and stems by investigating how water is transported in a plant.		
	I can name the parts of a flower and the part these play in the life cycle of the plant.		
	I can explain how pollen and seeds are dispersed and how seeds develop.		
	I know that plants make their own food but need nutrients from the soil, air, water and sunlight to do so.		
	I know that seeds and bulbs need the right conditions to germinate & that they contain a food store for the first stages of growth.		

I can	Science - Year 3	Tick	Date
Animals including Humans	I can identify the different types of teeth I have and explain what their functions are.		
	I can research and investigate what causes damage to my teeth, how to care for them correctly.		
	I can compare and contrast the teeth of carnivores, herbivores and omnivores and suggest why they are different, linking the types of teeth to the diet of a variety of animals.		
	I can use my knowledge of what animals eat to develop food chains showing the feeding relationships within a variety of habitats.		
	I can describe a healthy and varied diet.		



	I can research different food groups and how they keep us healthy. I can use my research to design menus for different people.		
Rocks & Fossils	By observing and testing different rocks, I can group them by their properties and appearance. I know that the different properties of rocks make them suitable for different purposes.		
	I know that rocks are found under the ground we walk on and can name some common rocks.		
	I can group rocks according to the way they were formed, using the vocabulary, igneous, sedimentary and metamorphic.		
	I can recognise that soils are made from rocks and organic matter		
	I can explain how fossils are formed, and can research more about the living things whose fossils have been found.		
	I show an understanding of the different types of fossils. (Does not need to be able to name)		
	To show some understanding of the role of a palaeontologist.		
Light	I know that light comes from a source.		
	I know that transparent materials let light through them and opaque materials do not let light through.		
	I can explain that even transparent objects block some light and form shadows.		
	I can explain that I cannot see shiny objects in the dark because they are not light sources. I know that to see something light must reflect off it.		
	I know that I cannot see in the dark. Dark is the absence of light and we need light to see.		
	I can explain why it is dangerous to look at the sun and can tell you what to do to protect your eyes.		
	I know that shadows are similar in shape to the objects forming them and that the shadows caused by the sun change over the course of the day.		

	I can explain that shadows are formed when light is blocked. I can investigate how the sizes of shadows change depending on the position of the object blocking the light.		
	I can explain why there are changes in shadows caused by the sun over the course of a day and can predict changes by observing patterns.		
Forces and magnets	I know that pushes and pulls are forces.		
	I can describe how to use pushes and pulls to make things speed up, slow down, stop or change direction or shape.		
	I know that for push and pull forces to have an affect there must be contact but magnetic forces act from a distance.		
	I can investigate with magnets, looking at materials that are attracted to a magnet.		
	I can investigate with magnets, looking at materials that are attracted to a magnet.		
	I can classify materials as magnetic or non-magnetic.		
	I can investigate different types of magnet and devise an investigation to find out which magnet is the strongest.		
	I can describe some uses for magnets and suggest other creative ways to use magnets in everyday life.		
	I can describe magnets as having two poles and observe what happens when the similar or opposite poles are placed next to each other.		



Year 4 Science Skills Progression

I can	Science - Year 4	Tick	Date
Working scientifically	I can ask simple questions and recognising that they can be answered in different ways.		
	I can ask relevant questions and using different types of scientific enquiries to answer them.		
	I can use simple models to describe scientific ideas.		
	I can use test results to make predictions to set up further comparative and fair tests		
	I can identify and classify. I can perform simple tests using simple equipment, observing closely.		
	I can set up simple practical enquiries, comparative and fair tests making accurate and careful observations.		
	I can take accurate measurements using standard unit.		
	I can use a range of equipment.		
	I can help to decide which variables to keep the same and which to change.		
	I can gather and record data to help in answering questions.		
	I can gather, record, classify and present data in a variety of ways to help in answering questions.		
	I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.		
	I can take measurements, using a range of scientific equipment, with increasing accuracy and precision.		
	I can use my observations and ideas to suggest answers to questions.		
	I can begin to communicate my findings using appropriate scientific language.		
	I can use results to draw simple conclusions and suggest improvements.		
	I can suggest new questions and predictions for new values in my results.		
	I can identify differences, similarities or changes using my knowledge of scientific ideas and processes.		
I can use straightforward scientific evidence to answer questions or to support their findings.			
I can consider cause and effect in my explanations.			

I can	Science - Year 4	Tick	Date	
Living things and their habitats	I recognise that living things can be grouped in a number of ways and this leads on to developing keys that help us to identify living things.			
	I know & can show different food chains that occur in different habitats.			
	I can use classification keys to identify a wide variety of living things in my local and wider environment.			
	I am able to group a wide selection of different animals into groups according to their characteristics.			
	I can use the terms, vertebrate, invertebrate, fish, amphibian, bird, mammal, reptile, flowering and non-flowering, when grouping living things.			
	I know that environments change over time and that these changes can be a threat to living things if they cannot adapt and survive.			
	Animals including humans	I know the main body parts involved with eating and digestion. I can identify, mouth, teeth, tongue, oesophagus, stomach, small and large intestine.		
		I know the functions of the digestive system.		
		I know that humans and some other animals have a skeleton and can describe the main functions of my skeleton.		
		I can name some of the bones in my skeleton and compare these with the skeletons of other animals.		
I know that I use my muscles and skeleton to move.				
I know that when one muscle contracts another relaxes and can use a model to show how this happens.				



I can	Science - Year 4	Tick	Date
States of matter/ The Watercycle	I can name some solids, liquids and gases.		
	I know that a solid keeps its shape, a liquid takes the shape of its container or forms a pool and that gases flow from place to place.		
	I can group materials according to the properties of a solid, liquid or a gas.		
	I know that some materials change from solids to liquids to gases when they are heated, and from gases to liquids to solids when they are cooled.		
	I can name and describe examples of the main processes associated with water changing state. I know that these processes can be reversed.		
	I can research and record the temperature at which different materials melt or evaporate.		
	I can explain the term condensation using a diagram or model.		
	I can explain the term evaporation using a diagram or model.		
	I can explain the processes of freezing & melting using diagrams.		
	I can investigate and explain the water cycle by observing evaporation, condensation, freezing and melting.		
	Sound	I know that sounds are made when objects vibrate.	
I can explain how sound travels to our ear.			
I know that sounds can travel through solids, liquids and gases, and can suggest ways of investigating how well sound travels through different materials.			
I can suggest ways of changing the pitch and loudness of a sound made by a musical instrument.			
I can describe how to raise or lower the pitch of a musical instrument or object.			
When investigating sound I can identify patterns.			
I recognise that sounds get fainter as the distance from the source increases. I can research and investigate the Doppler effect.			

I can	Science - Year 4	Tick	Date
Electricity	I can identify common appliances which use electricity.		
	I can describe the dangers associated with mains electricity.		
	I can construct and make a simple circuit. I can record my circuit as a drawing.		
	I can predict if a bulb will light or not in a simple circuit, explaining why some circuits work and others do not.		
	I can construct a simple circuit to test whether materials are electrical conductors or insulators and how switches work.		
	I know why metals and non-metals are used in different ways in electrical appliances.		
	I can systematically investigate the effect of changing components in a circuit on the brightness of a bulb.		



Year 5 Science Skills Progression

I can	Science - Year 5	Tick	Date
Working scientifically	I can ask simple questions and recognising that they can be answered in different ways.		
	I can ask relevant questions and using different types of scientific enquiries to answer them.		
	I can use simple models to describe scientific ideas.		
	I can use test results to make predictions to set up further comparative and fair tests.		
	I can identify and classify. I can perform simple tests using simple equipment, observing closely.		
	I can set up simple practical enquiries, comparative and fair tests making accurate and careful observations.		
	I can take accurate measurements using standard unit.		
	I can select and use a range of equipment.		
	I can plan different types of scientific enquiries to answer questions.		
	I can recognise and control variables where necessary and explain my actions.		
	I can gather and record data to help in answering questions.		
	I can gather, record, classify and present data in a variety of ways to help in answering questions.		
	I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.		
	I can take measurements, using a range of scientific equipment, with increasing accuracy and precision.		
	I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs.		
	I can use my observations and ideas to suggest answers to questions.		
	I can begin to communicate my findings using detailed scientific language.		
	I can use results to draw simple conclusions and suggest improvements.		
	I can suggest new questions and predictions for new values in my results.		
	I can identify differences, similarities or changes using my knowledge of scientific ideas and processes.		

I can	Science - Year 5	Tick	Date	
	I can use straightforward scientific evidence to answer questions or to support their findings.			
	I can report and present findings from enquiries, including conclusions, causal relationships and explanation of results, in oral and written forms such as displays and other presentations.			
	I can identify scientific evidence that has been used to support or refute ideas or arguments.			
	I can explain my conclusion using scientific knowledge and understanding.			
	I can explain my ideas with scientific reasons.			
	I can begin to use abstract models to explain my ideas.			
	Living things and their habitats	I can compare the differences in the life cycles of a mammal and an amphibian.		
		I can compare, contrast and explain the differences in the life cycles of an insect and a bird.		
I can suggest some conditions to test when investigating germination.				
I can explain the difference between sexual and asexual reproduction, giving examples.				
I can describe the processes of pollination, fertilisation, seed dispersal and germination.				
I can describe the life process of reproduction in some plants by studying my local environment.				
Animals including humans	I recognise some stages in the development of humans.			
	I can recognise the stages in the growth and development of humans.			
	I can describe the changes as humans develop from birth to old age.			
	I can explain why living things need to reproduce if the species is to survive.			
	I understand what a gestation period is and can compare to another animal.			
	I understand factors that can affect life expectancy.			



I can	Science - Year 5	Tick	Date
Properties of materials & reversible & irreversible changes	I can compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.		
	I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.		
	I can describe and explain the difference between melting and dissolving giving everyday examples of each.		
	I know that gases flow from place to place and that air is a mixture of gases.		
	I know that liquids evaporate to form gas.		
	I can make clear distinctions between the properties of solids, liquids and gases.		
	I know that some materials need to be heated to a very high temperature in order to melt or evaporate.		
	I can name some materials that will dissolve in water.		
	I can explain how to separate materials in a solution.		
	I can decide how best to separate mixtures.		
	I can explain, using evidence, why some materials are best suited to different uses.		
	I can identify several factors that affect the rate at which a solid dissolves.		
	I can classify some changes as reversible and some as irreversible.		
	I understand that some irreversible changes make now and useful materials.		
Earth and Space	I know that the Earth, Sun and Moon are spherical in shape.		
	I can observe and describe how shadows change as the Sun appears to move across the sky.		
	I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system.		
	I know the 8 planets of our solar system and their order from the Sun.		

I can	Science - Year 5	Tick	Date
Forces	I know that the rotation of the Earth causes shadows to change through the day and causes the Sun to appear to be moving		
	I can use the idea of the Earth's rotation to explain day and night.		
	I understand that it is only daylight on the side of the Earth facing the sun.		
	I know the Moon orbits the Earth. I know that a moon is a celestial body that orbits a planet		
	I understand that the appearance of the Moon changes over 28 days due to <u>it's</u> orbiting of the earth.		
	I know that ideas about the solar system have developed over time by considering the work of scientists.		
	I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.		
	I know that friction is a force.		
	I can describe some ways friction can be increased between solid surfaces.		
	I can describe some of the factors that increase air and water resistance.		
	I can measure forces using a <u>forcemeter</u> .		
	I can identify the effects of air resistance, water resistance and friction, acting between moving surfaces.		
	I can identify when frictional forces are helpful. I can name situations when frictional forces resist motion.		
	I understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.		
I can research the use of these mechanical devices through history.			



Year 6 Science Skills Progression

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I can	Science - Year 6	Tick	Date
Working scientifically	I can ask simple questions and recognising that they can be answered in different ways.		
	I can ask relevant questions and using different types of scientific enquiries to answer them.		
	I can use simple models to describe scientific ideas.		
	I can use test results to make predictions to set up further comparative and fair tests.		
	I can identify and classify. I can perform simple tests using simple equipment, observing closely.		
	I can set up simple practical enquiries, comparative and fair tests making accurate and careful observations.		
	I can take accurate measurements using standard unit.		
	I can select & use a range of equipment.		
	I can plan different types of scientific enquiries to answer questions.		
	I can recognise and control variables where necessary.		
	I can gather and record data to help in answering questions.		
	I can gather, record, classify and present data in a variety of ways to help in answering questions.		
	I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.		
	I can take measurements, using a range of scientific equipment, with increasing accuracy and precision.		
	I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs.		
	I can use my observations and ideas to suggest answers to questions.		
I can communicate my findings using detailed scientific language.			

I can	Science - Year 6	Tick	Date	
	I can use results to draw simple conclusions and suggest improvements.			
	I can suggest new questions and predictions for new values in my results.			
	I can identify differences, similarities or changes using my knowledge of scientific ideas and processes.			
	I can use straightforward scientific evidence to answer questions or to support their findings.			
	I can report and present findings from enquiries, including conclusions, causal relationships and explanation of results, in oral and written forms such as displays and other presentations.			
	I can identify scientific evidence that has been used to support or refute ideas or arguments.			
	I can explain my conclusion using scientific knowledge and understanding.			
	I can begin to use abstract models to explain my ideas.			
	I can explain my ideas with scientific reasons.			
	I can use scientific conventions eg trends, rogue result, support prediction.			
	Animals including humans	I can identify and name the main parts of the human circulatory system.		
		I understand that when I exercise my heart beats faster to take blood more rapidly to the muscles that need it.		
		I can make careful, repeated measurements of pulse rates and record my findings in a graph. I can explain what my graph shows and use the patterns to draw conclusions.		
I can explain what the effect of diet and exercise are on our health. I can list ways of making healthy lifestyle choices.				
I can give examples of harmful and helpful effects of drugs on our body.				



I can	Science - Year 6	Tick	Date
	I can investigate the role of blood in our body as a transporter of nutrients and oxygen around the body.		
	I can find out how other animals transport water and nutrients around their bodies.		
	I can research the work of scientists such as Jenner and Pasteur, finding out how their discoveries improved people's health.		
Living things and their habitats	I <u>am able to</u> group a wide selection of different animals into groups according to their characteristics.		
	I can use the terms, vertebrate, fish, amphibian, bird, mammal, reptile, invertebrate, insects, arachnids, worms, flowering and non- flowering, when grouping living things.		
	I can use classification keys to group living things and give reasons for my choices.		
	I can use a branching database to identify an unknown plant or animal.		
	I can research the work of scientists such as Carl Linnaeus to find out how they developed classification keys.		
Evolution and inheritance	I can my knowledge of skeletons and the evidence of fossils to develop my understanding of how living things have evolved over millions of years.		
	I know that living things produce offspring of the same kind but are not usually identical to their parents.		
	I can investigate how some plants have adaptations that allow them to live in a <u>particular habitat</u>		
	I can describe how animals from different habitats are suited to their habitats.		
	I can describe how, over time, some animals have developed special features that allow them to survive in their habitat.		

I can	Science - Year 6	Tick	Date
	I can research the lives of Charles Darwin, Mary Anning and Alfred Wallace, looking at how they developed their ideas on evolution.		
Light	I know that light appears to travel in straight lines		
	I can investigate how light behaves using reflections and shadows. I can explain patterns in my results.		
	I understand that light travels from a source and know that light sources are seen when light from them enters the eyes		
	I can draw diagrams with lines and arrows to show how we see things when light is reflected from them.		
	I can explain the difference between the shadows and reflection in terms of the path of light.		
Electricity	I can investigate what happens to a buzzer or bulb when I change the number of cells in a circuit.		
	I can predict what will happen when I add different components to a circuit.		
	I can draw and label an electrical circuit diagram using recognised symbols.		
	I can explain how conductors and insulators are used in components.		
	I can suggest ways of making bulbs in a circuit brighter or dimmer.		
	I can identify where the fault is in a circuit and repair it.		

