

Science



AIM
Federation of Schools

Science

Our curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Key Knowledge:

Our CT 'Know and Remembers'

We ensure that children know and remember key facts and information so that they can be successful in the subject they are learning. Children learn best when they are able to connect, retrieve and rehearse. Our lessons ensure that children have the opportunity to do all three of these things through carefully planned sequences of learning.

Key Skills:

Our CT Skills

Skills is a learned ability to do something well. Children at the Coastal Together Federation learn skills alongside knowledge. They have opportunities to practice and rehearse skills so that they are able to apply and make links between learning.



Enquiry Approaches

How do we teach science?

Over the course of a year, our pupils carry out several investigations which involve different types of enquiry:

- comparative / fair testing
- research
- observation over time
- pattern seeking
- identifying, grouping and classifying
- problem solving

Comparative / fair testing

Changing one variable to see its effect on another, whilst keeping all others the same.



Research

Using secondary sources of information to answer scientific questions.



Observation over time

Observing changes that occur over a period of time ranging from minutes to months.



Pattern-seeking

Identifying patterns and looking for relationships in enquiries where variables are difficult to control.



Identifying, grouping and classifying

Making observations to name, sort and organise items.



Problem-solving

Applying prior scientific knowledge to find answers to problems.



Enquiry Skill

How do we teach science?

Our pupils should have the opportunity to carry out practical investigations in science that help them to develop their scientific skills. These skills are sometimes referred to as a cycle or 'plan, do, review.' These skills allow our pupils to work scientifically.

Here we introduce seven science skills which our pupils develop throughout each key stage:

Asking questions

Asking questions that can be answered using a scientific enquiry.



Making predictions

Using prior knowledge to suggest what will happen in an enquiry.



Setting up tests

Deciding on the method and equipment to use to carry out an enquiry.



Observing and measuring

Using senses and measuring equipment to make observations about the enquiry.



Recording data

Using tables, drawings and other means to note observations and measurements.



Interpreting and communicating results

Using information from the data to say what you found out.



Evaluating

Reflecting on the success of the enquiry approach and identifying further questions for enquiry.



Progression of Skills

Science



	KS1	LKS2	UKS2
Asking Questions	<ul style="list-style-type: none"> a. ask one or two simple questions linked to an experience of the world around them b. answer questions developed with the teacher often through a scenario c. answer yes/no questions to aid sorting (classification key) d. to use scientific resources to answer questions 	<ul style="list-style-type: none"> a. ask questions based on their prior knowledge and observations b. answer questions posed by the teacher based on scientific understanding of the topic and their observations c. begin to use a range of question stems supported by the teacher d. ask and answer yes/no questions to sort (classification key) e. to use scientific resources independently to gather evidence to answer questions 	<ul style="list-style-type: none"> a. ask questions based on observations they've made, measurements they've taken or information they've gained by secondary sources b. answer questions based on scientific enquiry and use other evidence to support or refute their answer c. use a range of question stems independently d. create yes/no questions independently to sort (classification key) e. use a wide range of scientific resources independently gather evidence to answer questions
Making Predictions		<ul style="list-style-type: none"> a. use prior knowledge of the world around them to make predictions with guidance b. create a prediction using prior knowledge verbally or written. c. make predictions for new values 	<ul style="list-style-type: none"> a. use prior knowledge of the world around them and scientific experiences to make predictions independently b. create a hypothesis for a scientific question to prove or disprove a statement. c. use test results to make predictions to set up further comparative and fair tests
Setting Up Tests	<ul style="list-style-type: none"> a. use measuring/observing equipment provided to set up simple tests (rulers, weighing scales, thermometers, measuring beakers/cylinders, magnifying glasses, pooters). b. begin to identify equipment using scientific names c. use equipment with adult support. 	<ul style="list-style-type: none"> a. use measuring/observing equipment resources from a specific selection to set up a range of tests (beakers, measuring cylinders, thermometers, weighing scales, Newton meter, data loggers). b. correctly identify equipment using scientific names c. use correct standard units of measurement for selected equipment d. use equipment with increasing accuracy and with some adult supported e. understand and explain what a fair test is f. recognise when a fair test is necessary g. discuss as a group what should change and what should stay the same. h. as a group, plan and carry out a fair test. i. use a control variable to compare results. 	<ul style="list-style-type: none"> a. select appropriate measuring/observing equipment independently to set up a range of tests (data loggers, thermometers, amp/volt meter, Newton meter, beakers, syringes/pipettes, measuring cylinders, weighing scales). b. understand why they have selected equipment c. select correct standard units of measurement to measure. d. use equipment accurately e. make own decisions on planning when a fair is necessary. f. recognise the variables which could impact their results. g. plan, set up and carry out a fair test, including recognising and controlling variables where necessary. h. understand why a control variable is used i. compare the control variable to help prove and disprove their hypothesis.

Progression of Skills

Science



	KS1	LKS2	UKS2
Observing and Measuring	<ul style="list-style-type: none"> a. observe the world around them b. observe changes over time c. take comparative measurements d. use simple equipment to make careful observations (using magnifying glasses, rulers, weights, measuring cylinders and thermometers to measure) 	<ul style="list-style-type: none"> a. make systematic and careful observations b. observe changes over time c. use a range of equipment for measuring length, time, temperature and capacity using standard units for measurements. 	<ul style="list-style-type: none"> a. make careful and focused observations b. children chose the most appropriate equipment to make measurements (trundle wheel, force metre, data loggers, stop watch, beakers/syringe). c. explain why they have chosen the equipment they have d. measure accurately to ensure validity in record results
Record Data	<ul style="list-style-type: none"> a. take pictures of observations to record findings b. construct tables to record data c. construct a tally chart to record data d. use simple prepared tables to classify e. use sorting rings to classify 	<ul style="list-style-type: none"> a. take pictures and/or videos of observations to record findings b. construct more complex tables to record data c. construct bar charts to present data. d. use labelled diagrams and writing to show findings. e. use simple venn diagrams 	<ul style="list-style-type: none"> a. children choose the most appropriate way to make observations (pictures, videos, labelled diagrams, observational drawings, explanations). b. construct line graphs and/or scatter graphs to present data c. use complex venn diagrams to classify d. use carroll diagrams to classify e. record the same data in different ways
Interpreting and Communicating Results		<ul style="list-style-type: none"> a. communicate their findings both orally and in writing (paragraphs, diagrams, drama) b. use appropriate and correct scientific vocabulary to explain findings 	<ul style="list-style-type: none"> a. communicate findings using graphs, charts and labelled illustrations/diagrams to an audience. b. present data in different ways (google slides, diagrams, poster/leaflet, paragraphs) c. use correct scientific scientific vocabulary and terminology to explain findings
Evaluating		<ul style="list-style-type: none"> a. draw simple conclusions from their results b. review initial predictions c. suggest improvements for future investigations. d. ask further questions which can be answered by extending the same enquiry. 	<ul style="list-style-type: none"> a. notice patterns b. draw conclusions based on their data and observations. c. evaluate choice of equipment, control of variables, accuracy of measurements and credibility of secondary sources used. d. identify limitations/trust they have in their results. e. use findings to discuss improvements and further investigations.

EYFS Curriculum Overview

MIS and Freethorpe















Area of Curriculum	Autumn 1 'All About Me'	Autumn 2 'Places'	Spring 1 'People'	Spring 2 'Past and Present'	Summer 1 'Growing'	Summer 2 'All Creatures Great and Small'
<p>Understanding the World:</p> <p>Science</p>	<p>Taught through direct teaching</p> <p>Can I brush my teeth correctly and explain why I do?</p> <p>Can I manage my own hygiene? (washing hands, going to the toilet etc).</p> <p>Can I choose a healthy snack?</p> <p>Can I understand why I need fruit and veg? (5 a day)</p> <p>Can I tell an adult why raising my heart rate is good for me?</p> <p>Can I explain why sleep is good for me?</p>				<p>Can I explore the natural world, making observations?</p> <p>Can I explore unfamiliar areas with a range of different plants?</p> <p>Can I talk about familiar plants and name them?</p> <p>Can I tell the difference between bushes and trees?</p> <p>Can I observe and interact with natural processes, such as ice melting, a sound causing a vibration, light travelling through transparent material, an object casting a shadow, a magnet attracting an object and a boat floating on water?</p>	<p>Can I explore the natural world, making observations?</p> <p>Can I explore some similarities and differences between the natural world around me and contrasting environments? (cold and hot, habitats - ponds, field, desert etc).</p> <p>Can I name animals from different habitats?</p> <p>Can I sort animals into broad physical characteristics groups? (colour, flight, wings, 4 legs, fur).</p> <p>Can I name a variety of British birds?</p> <p>Can I name a variety of British mammals?</p>
	<p>Taught through continuous provision/enhanced provision</p>	<ul style="list-style-type: none"> • Can I explain what a season is and describe the differences between Autumn, Winter, Spring and Summer? • Can I observe seasonal changes of the natural world? (linked to states of matter, plants, animals) • Health Week - linked to hygiene from 'All About Me' topic 				















KS1 Curriculum Overview
















Year 1 and 2	Year A and C					
	Autumn Term		Spring Term		Summer Term	
	Living Things and Their Habitats		Animals, including humans (Year 1 Objectives)		Plants (Year 1 & 2 Objectives)	
Enquiry Approaches	Observations Over Time 	Problem Solving 	Identifying, Grouping and Classifying 	Research 	Comparative/Fair Testing 	Pattern Seeking 
Enquiry Skills	Observing and Measuring 	Recording Data 	Recording Data 	Asking Questions 	Setting Up Tests 	Observing and Measuring 
Substantive Focus	<p>Can I observe changes across the four seasons?</p> <p>Can I observe and describe weather associated with the seasons and how day length varies?</p> <p>Can I explore and compare the differences between things that are living, dead, and things that have never been alive?</p> <p>Can I 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?</p> <p>Can I Identify and name a variety of plants and animals in their habitats, including microhabitats?</p>		<p>Can I identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals? (Year 1)</p> <p>Can I describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)? (Year 1)</p> <p>Can I identify and name a variety of common animals that are carnivores, herbivores and omnivores? (Year 1)</p> <p>Can I 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>Can I identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense? (Year 1)</p>		<p>Can I identify and name a variety of common wild and garden plants, including deciduous and evergreen trees?</p> <p>Can I identify and describe the basic structure of a variety of common flowering plants, including trees?</p> <p>Can I observe and describe how seeds and bulbs grow into mature plants?</p> <p>Can I find out and describe how plants need water, light and a suitable temperature to grow and stay healthy?</p>	
Vocabulary	<p>season, spring, summer, autumn, winter, month, year, day, night, sun, moon, light, dark, living, dead, habitat, microhabitat, woodland, meadow, hedgerow, pond, food chain, prey, predator, camouflage, protection</p>		<p>amphibians, fish, reptiles, mammals, birds (+ 1 example of each) herbivore, omnivore, carnivore head, nose, ear, neck, shoulder, arm, elbow, wrist, hand, back, chest, hip, leg, knee, ankle, foot wing, beak, tail, fin, sight, smell, touch, taste, hearing</p>		<p>deciduous, evergreen, tree, leaf, flower (blossom), petals, fruit, bulb, seed, roots, stem, trunk, branches, germinate, light, temperature</p>	

KS1 Curriculum Overview

Year 1 and 2	Year B and D					
	Autumn Term		Spring Term		Summer Term	
	Everyday Materials (Year 1 Objectives)		Uses of Everyday Materials (Year 2 Objectives)		Animals, including humans (Year 2 Objectives)	
Enquiry Approaches	Pattern Seeking 	Identifying, Grouping and Classifying 	Problem Solving 	Comparative/Fair Testing 	Research 	Observations Over Time 
Enquiry Skills	Observing and Measuring 	Recording Data 	Asking Questions 	Setting Up Tests 	Asking Questions 	Observing and Measuring 
Substantive Focus	<p>Can I distinguish between an object and the material from which it is made?</p> <p>Can I identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock?</p> <p>Can I describe the simple physical properties of a variety of everyday materials?</p> <p>Can I compare and group together a variety of everyday materials on the basis of their simple physical properties?</p>		<p>Can I identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses?</p> <p>Can I find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching?</p>		<p>Can I notice that animals, including humans, have offspring which grow into adults? (Year 2)</p> <p>Can I find out about and describe the basic needs of animals, including humans, for survival (water, food and air)? (Year 2)</p> <p>Can I describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene? (Year 2)</p>	
Vocabulary	<i>wood, plastic, glass, paper, metal, rock, hard, soft, rough, smooth, shiny, dull, bendy, stiff</i>		<i>brick, fabric, elastic, foil, property, solid, waterproof, absorbent, opaque, transparent, squash, bend, flexible, twist, stretch, push, pull, roll, slide, bounce</i>		<i>growth, reproduce, lifecycle, survival, water, air, food, reproduce, adult, baby, offspring, kitten, calf, puppy, exercise, hygiene, balanced diet</i>	

LKS2 Curriculum Overview



Year 3 and 4	Year A and C							
	Autumn Term		Spring Term		Summer Term			
Enquiry Approaches	Rocks <i>(Year 3 Objective)</i>		Plants <i>(Year 3 Objective)</i>		Living things <i>(Year 4 Objective)</i>		Animals, including Humans <i>(Year 3 and 4 Objective)</i>	
		Pattern Seeking 	Comparative/Fair Testing 	Observations Over Time 	Identifying, Grouping and Classifying 	Problem Solving 	Research 	
Enquiry Skills	Setting Up Tests 	Recording Data 	Making Predictions  Evaluating 	Interpreting and Communicating Result 	Asking Questions 	Observing and Measuring 		
Substantive Focus	<p>Can I compare and group together different kinds of rocks on the basis of their appearance and simple physical properties?</p> <p>Can I describe in simple terms how fossils are formed when things that have lived are trapped within rock?</p> <p>Can I recognise that soils are made from rocks and organic matter?</p>		<p>Can I identify and describe the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers?</p> <p>Can I 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>Can I investigate the way in which water is transported within plants?</p> <p>Can I explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal?</p>		<p>Can I recognise that living things can be grouped in a variety of ways?</p> <p>Can I explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment?</p> <p>Can I recognise that environments can change and that this can sometimes pose dangers to living things?</p> <p>Can I construct and interpret a variety of food chains, identifying producers, predators and prey?</p>		<p>Can I 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>Can I Identify that humans and some other animals have skeletons and muscles for support, protection and movement?</p> <p>Can I describe the simple functions of the basic parts of the digestive system in humans?</p> <p>Can I identify the different types of teeth in humans and their simple functions?</p> <p>Can I identify the different types of teeth in humans and their simple functions?</p>	
Vocabulary	<i>soils, organic matter, fossil, crystal, sandstone, granite, marble, pumice absorbent, crumble sedimentary, layer, sediment igneous, magma, lava, gas bubbles, metamorphic, change, squeeze, pressure</i>		<i>air, water, transportation, nutrients, soil, reproduction, seed formation, seed dispersal, pollination</i>		<i>vertebrates, invertebrates (+ 1 example of each) environment, habitat, classification key, consumer, apex predator</i>		<i>skeleton, skull, bones, muscles, movement, support, protection, nutrition, mouth, tongue, teeth, oesophagus, stomach, small intestine, large intestine, nutrients, absorb, canine, incisor, molar producer,</i>	

LKS2 Curriculum Overview



		Year B and D					
Year 3 and 4		Autumn Term		Spring Term		Summer Term	
		Electricity <i>(Year 4 Objective)</i>	Forces <i>(Year 3 Objective)</i>	Light <i>(Year 3 Objective)</i>	Sound <i>(Year 4 Objective)</i>	States of Matter <i>(Year 4 Objective)</i>	
Enquiry Approaches	Problem Solving	Comparative/Fair Testing	Research	Pattern Seeking	Observations Over Time	Identifying, Grouping and Classifying	
	Asking Questions	Setting Up Tests	Interpreting and Communicating Result	Recording Data	Observing and Measuring	Evaluating	
	Making Predictions						
Enquiry Skills	???						
Substantive Focus	Can I identify common appliances that run on electricity?	Can I compare how things move on different surfaces?	Can I recognise that they need light in order to see things and that dark is the absence of light?	Can I identify how sounds are made, associating some of them with something vibrating?	Can I compare and group materials together, according to whether they are solids, liquids or gases?		
	Can I construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers?	Can I notice that some forces need contact between two objects, but magnetic forces can act at a distance?	Can I notice that light is reflected from surface?	Can I recognise that vibrations from sounds travel through a medium to the ear?	Can I 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)?		
	Can I 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?	Can I observe how magnets attract or repel each other and attract some materials and not others?	Can I recognise that light from the sun can be dangerous and that there are ways to protect their eyes?	Can I find patterns between the pitch of a sound and features of the object that produced it?	Can I identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature?		
Vocabulary	Can I recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit?	Can I 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?	Can I recognise that shadows are formed when the light from a light source is blocked by an opaque object?	Can I find patterns between the volume of a sound and the strength of the vibrations that produced it?			
	Can I recognise some common conductors and insulators, and associate metals with being good conductors?	Can I describe magnets as having two poles?	Can I find patterns in the way that the size of shadows change?	Can I recognise that sounds get fainter as the distance from the sound source increases?			
	<i>appliance, battery power, main power, circuit, series, cell, battery, wire, bulb, switch, break in circuit conductor, insulator</i>	<i>force, contact, surface, magnetic, attract, repel, poles</i>	<i>light source, mirror, reflect, reflective, reflection shadow, blocked transparent, translucent, opaque</i>	<i>vibration, wave, volume, pitch, tone, insulation</i>	<i>solid, liquid, gas, evaporation, condensation, particle, temperature, freezing, heating</i>		

UKS2 Curriculum Overview



		Year A and C					
Year 5 and 6		Autumn Term	Spring Term		Summer Term		
		Evolution and Inheritance <i>(Year 6 Objective)</i>	Animals, including Humans/LTH <i>(Year 5 Objective)</i>	Living Things and their habitats <i>(Year 6 Objective)</i>	Animals including humans: The Human Body <i>(Year 6 Objective)</i>		
Enquiry Approaches		Problem Solving 	Pattern Seeking 	Observations Over Time 	Identifying, Grouping and Classifying 	Research 	Comparative/Fair Testing
Enquiry Skills		Recording Data 	Evaluating 	Observing and Measuring 	Making Predictions 	Setting Up Tests 	Interpreting and Communicating Result
Substantive Focus		<p>Can I describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals?</p> <p>Can I give reasons for classifying plants and animals based on specific characteristics?</p> <p>Can I 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>Can I recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents?</p> <p>Can I identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution?</p>	<p>Can I describe the life process of reproduction in some plants and animals? (Y5 - Living things and their habitats)</p> <p>Can I describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird?</p> <p>Can I describe the life process of reproduction in some plants and animals?</p> <p>Can I describe the life process of reproduction in some plants and animals?</p> <p>Can I describe the changes as humans develop to old age?</p>	<p>Can I describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals? (Y6 - Living things and their habitats)</p> <p>Can I give reasons for classifying plants and animals based on specific characteristics?(Y6 - Living things and their habitats)</p>	<p>Can I identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood?</p> <p>Can I recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function?</p> <p>Can I describe the ways in which nutrients and water are transported within animals, including humans?</p>		
Vocabulary		<i>adaptation, evolution, characteristic, reproduction, genetics, survival</i>	<i>life process, reproduction, offspring, womb, foetus, embryo, gestation, baby, toddler, teenager, elderly growth, development, puberty</i>	<i>characteristic, classification, organism, microorganism</i>	<i>function, circulatory system, heart, valve, blood vessel, vein, artery transport, oxygenated, deoxygenated lifestyle, drug</i>		

UKS2 Curriculum Overview



		Year B and D					
Year 5 and 6		Autumn Term		Spring Term		Summer Term	
		Electricity <i>(Year 6 Objective)</i>	Forces <i>(Year 5 Objective)</i>	Earth and Space <i>(Year 5 Objective)</i>	Light <i>(Year 6 Objective)</i>	Materials <i>(Year 5 Objective)</i>	
Enquiry Approaches	Problem Solving	Comparative/Fair Testing	Research	Pattern Seeking	Observations Over Time	Identifying, Grouping and Classifying	
	Asking Questions	Setting Up Tests	Interpreting and Communicating Result	Recording Data	Observing and Measuring	Evaluating	
	Making Predictions						
Enquiry Skills	???						
Substantive Focus	Can I 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?	Can I explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object?	Can I describe the movement of the Earth, and other planets, relative to the Sun in the solar system?	Can I recognise that light appears to travel in straight lines?	Can I 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?		
	Can I use recognised symbols when representing a simple circuit in a diagram?	Can I identify the effects of air resistance, water resistance and friction, that act between moving surfaces?	Can I describe the movement of the Moon relative to the Earth?	Can I 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?	Can I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution?		
	Can I associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit?	Can I recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect?	Can I describe the Sun, Earth and Moon as approximately spherical bodies?	Can I 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?	Can I use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating?		
Vocabulary	Can I demonstrate that dissolving, mixing and changes of state are reversible changes?	Can I give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic?	Can I use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky?	Can I use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them?	Can I give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic?		
					Can I demonstrate that dissolving, mixing and changes of state are reversible changes?		
					Can I 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?		
		<i>circuit - series, parallel voltage, volts, amps</i>	<i>air resistance, water resistance, friction, gravity lever, gear, pulley, Newtons</i>	<i>Earth, sun, moon, solar system, axis of rotation, day, night, phases of the moon, star, constellation</i>	<i>refraction, reflection, spectrum, rainbow</i>	<i>hardness, transparency, conductivity (electrical, thermal) solubility, solution dissolve, filter, evaporate, sieve, reversible, irreversible</i>	