Science Progression Map

Level Expected at the End of EYFS (ELG)

Communication and Language-Listening, Attention and Understanding

Make comments about what they have heard and ask questions to clarify their understanding.

Personal, Social and Emotional Development-Managing Self

Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

Understanding the World- The Natural World

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.

Key Stage 1 National Curriculum Expectations

Plants

During year 1, pupils should be taught to:

- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees;
- identify and describe the basic structure of a variety of common flowering plants including trees.

During year 2, pupils should be taught to:

- observe and describe how seeds and bulbs grow into mature plants;
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Living Things and their Habitats

No statutory programme of study in year 1. During year 2, pupils should be taught to:

- explore and compare the differences between things that are living, dead and things that have never been alive;
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other:
- identify and name a variety of plants and animals in their habitats, including micro-habitats;
- 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.

Animals, including humans

During year 1, pupils should be taught to:

- identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals;
- identify and name a variety of common animals that are carnivores, herbivores and omnivores;
- describe and compare the structure of a variety of common animals (fish,

Working scientifically

During years 1 and 2 pupils should be taught to:

- ask simple questions and recognise that they can be answered in different ways;
- observe closely using simple equipment;
- perform simple tests;
- identify and classify;
- use their observations and ideas to suggest answers to questions;
- gather and record data to help in answering questions.

amphibians, reptiles, birds and mammals, including pets);

- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with which sense.

During year 2, pupils should be taught to:

- notice that animals, including humans, have offspring which grow into adults;
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air);
- describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.

Everyday Materials and Uses of Everyday Materials

During year 1, pupils should be taught to:

- distinguish between an object and the material from which it is made;
- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock;
- describe the simple physical properties of a variety of everyday materials;
- compare and group together a variety of everyday materials on the basis of their simple physical properties.

During year 2, pupils should be taught to:

- identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses;
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Seasonal Change

Programme of study is for year 1 only. During year 1, pupils should be taught to:

- observe changes across the four seasons;
- observe and describe weather associated with the seasons and how long day length varies.

Lower Key Stage 2 National Curriculum Expectations

Plants

No statutory programme of study after year 3. During year 3, pupils should be taught to:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers;
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant;
- investigate the way in which water is transported within plants;
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Animals, including humans

During year 3, pupils should be taught to:

- identify that animals, including humans, need the right types and amount of nutrition and that they cannot make their own food; they get nutrition from what they eat;
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

During year 4, pupils should be taught to:

- describe the simple functions of the basic parts of the digestive system in humans;
- identify the different types of teeth in humans and their simple functions;
- construct and interpret a variety of food chains, identifying producers, predators and prey.

Living Things and their Habitats

No statutory programme of study in year 3. During year 4, pupils should be taught to:

- recognise that living things can be grouped in a variety of ways;
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment;
- recognise that environments can change and that this can sometimes pose dangers to living things.

Working scientifically

During years 3 and 4, pupils should be taught to:

- ask relevant questions and use different types of scientific enquiries to answer them;
- set up simple practical enquiries, comparative and fair tests;
- make systematic and careful observations and, where appropriate, take accurate measurements, using standard units, using a range of equipment, including thermometers and data loggers;
- gather, record, classify and present data in a variety of ways to help in answering questions;
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables;
- report on findings from enquiries including oral and written explanations, displays or presentations of results and conclusions;
- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions;
- identify differences, similarities or changes related to simple scientific ideas and processes;
- use straightforward scientific evidence to answer questions or to support their findings.

Rocks

No statutory programme of study after year 3.
During year 3, pupils should be taught to:

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties;
- describe in simple terms how fossils are formed when things that have lived are trapped within rock;
- recognise that soils are made from rocks and organic matter.

Light

No statutory programme of study in year 4. During year 3, pupils should be taught to:

- recognise that they need light in order to see things and that dark is the absence of light;
- notice that light is reflected from surfaces;
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes;
- recognise that shadows are formed when the light from a light source is blocked by an opaque object;
- find patterns in the way that the size of shadows change.

Forces and Magnets

No statutory programme of study in year 4.
During year 3, pupils should be taught to:

- compare how things move on different surfaces;
- notice that some forces need contact between two objects, but magnetic forces can act at a distance;
- observe how magnets attract or repel each other and attract some metals and not others;
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials;
- describe magnets as having two poles;
- predict whether two magnets will attract or repel each other, depending on which poles are facing.

States of Matter

No statutory programme of study in year 3.
During year 4, pupils should be taught to:

Sound

Programme of study is for year 4 only.
During year 4, pupils should be taught to:

- identify how sounds are made, associating some of them with something vibrating;
- recognise that vibrations from sounds travel through a medium to the ear;
- find patterns between the pitch of a sound and features of the object that produced it;
- find patterns between the volume of a sound and the strength of the vibrations that produced it;
- recognise that sounds get fainter as the distance from the sound source increases.

Electricity

No statutory programme of study in year 3.
During year 4, pupils should be taught to:

- identify common appliances that run on electricity;
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers;
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery;
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit;
- recognise some common conductors and insulators and associate metals with being good conductors.

- compare and group materials together, according to whether they are solids, liquids or gases;
- observe that some materials change state when they are heated or cooled and measure or research the temperature at which this happens in degrees Celsiuis (°C);
- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with the temperature.

Upper Key Stage 2 National Curriculum Expectations

Animals, including humans

During year 5, pupils should be taught to:

- describe the changes as humans develop towards old age.

During year 6, pupils should be taught to:

- identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood;
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function;
- describe the ways in which nutrients and water are transported within animals, including humans.

Living Things and their Habitats

During year 5, pupils should be taught to:

- describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird;
- describe the life process of reproduction in some plants and animals.

Working scientifically

During years 5 and 6, pupils should be taught to:

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary;
- take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate;
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs;
- use test results to make predictions to set up further comparative and fair tests;
- report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations;
- identify scientific evidence that has been used to support or refute ideas or arguments.

During year 6, pupils should be taught to:

- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals;
- give reasons for classifying animals based on specific characteristics.

Evolution and Inheritance

Programme of study is for year 6 only. During year 6, pupils should be taught to:

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago;
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents;
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Properties and Changes of Materials

No statutory programme of study in year 6. During year 5, pupils should be taught to:

- compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets;
- know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution;
- use knowledge of solids, liquids and gases to decide how mixtures might be separated through filtering, sieving and evaporating;
- give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metal, wood and plastic;
- demonstrate that dissolving, mixing and changes of state are reversible changes;
- explain that some changes result in the formation of new materials and that

Light

No statutory programme of study in year 5.
During year 6, pupils should be taught to:

- recognise that light appears to travel in straight lines;
- use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye;
- explain that we see things because light travels from light sources to objects and then to our eyes;
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Earth and Space

Programme of study is for year 5 only.
During year 5, pupils should be taught to:

this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Forces

No statutory programme of study in year 6.
During year 5, pupils should be taught to:

- explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object;
- identify the effects of air resistance, water resistance and friction that act between moving surfaces;
- recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Electricity

No statutory programme of study in year 5. During year 6, pupils should be taught to:

- associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit;
- compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches;
- use recognised symbols when representing a simple circuit in a diagram.

- describe the movement of the Earth and other planets, relative to the Sun in the solar system;
- describe the movement of the Moon relative to the Earth;
- describe the Sun, Earth and Moon as approximately spherical bodies;
- use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Intent

At Rokeby, we believe that science helps to provoke children's natural interest and curiosity about the world in which they live. Our children are encouraged to explore and investigate through rich and varied opportunities so that they can develop a greater understanding of the world in which they live in and, through studying scientists and inventors, they can understand that science has changed our lives and is crucial to the world's future prosperity.

We want our children to become naturally inquisitive scientists and to understand what it means to be a scientist. We want them to develop scientific knowledge and conceptual understanding so that they know that:

- A scientist is someone with good biological knowledge who can name, describe, group and compare a variety of plants and animals, talking about the needs, habitats and life cycles of living things.
- A scientist is someone who can name, describe, group and compare rocks and soils and talk about how fossils are formed.
- A scientist is someone who can name, describe, group and compare materials, talking about suitability and uses of materials and changes of state.
- A scientist is someone who can talk about and understand physical phenomena such as weather, seasons, light, dark, sound, forces, electricity, Earth and space.

We want our children to develop their understanding of processes, methods and different types of enquiry so that they know that:

- A scientist is someone who can use their scientific skills and knowledge to ask questions, make observations, experiment, classify, apply their observations and ideas and record their findings.

We want our children to be able to build up a specialist scientific vocabulary so that they can use technical terminology with understanding and accuracy. We want to use discussion to probe children's understanding and to clarify any misconceptions.

In our children, we want to cultivate a life-long fascination about the world; to promote the children's interest and understanding of diverse animals, plants, materials, physical phenomena and natural and human environments. Our science curriculum is underpinned by both The National Curriculum 2014 and The Rainbow Continuum.

Implementation

Science is taught in blocks throughout the year. The science topic is sometimes based around the class text. When this is possible, it ensures that the children are fully immersed in their learning and can transfer their scientific knowledge to a range of curriculum areas.
Cross curricular outcomes in science are sometimes specifically planned for, with strong links between science and morning literacy lessons clearly identified and utilised. There are also strong links to enable children to apply their mathematical knowledge to their understanding of science so that they can collect, present and analyse data confidently and accurately. The programmes of study for Animals Including Humans and Living Things contain strong links to our All About Me programme.
Our National Curriculum provision for science is clearly mapped out for each group so that progression and development of skills and knowledge is key. We promote our children's language and vocabulary by frequent questioning, use of their Foundation Subject Dictionary and through the use of displays.
All class teachers identify which children are WTS, EXS and GDS in the areas of science and edit and adapt planning and future lessons in reflection of this.
Opportunities for children to develop their scientific knowledge and skills through practical and first hand learning are key to the implementation of the science curriculum. At Rokeby we provide an after school science club. We invite in visitors and, whenever possible, we make use of links with local secondary schools to enable children to make visits to other settings that will allow them to access more specialised equipment and to take part in stimulating experiments.
Our PTA supports the development of the science curriculum by providing engaging experiences such as a mobile planetarium.
Pupil voice discussions, conducted by our science leader, enable us to take account of children's ideas and suggestions about what they enjoy doing and finding out and it can lead to new extra-curricular activities. At Rokeby the children take part in a range of stimulating activities and investigations as part of British Science Week.

Impact
Pupil Voice discussions have demonstrated that our Science curriculum is having a positive impact on pupil's attitudes to Science, their knowledge and their understanding: • Many children are now confidently using the words experimenting & testing in relation to science • Many children can now mention specific things that they have learnt about including animals, plants, light/dark, electricity and space • Many children associate science with "learning new things" • Children are now using specific scientific language such as circuit, shadow & root • Children can now speak about topical science issues such as vaccines • Overwhelmingly, children are speaking enthusiastically about enjoying carrying out practical investigations and experiments • Children can now speak about what a scientist is and their answers commonly relate to testing, experimenting and finding things out (including cures, inventions and discoveries) New initiatives that have been introduced such as the Science display board have helped to raise the profile of Science amongst children and staff. Participation in British Science Week has provided additional stimulating opportunities and experiences of Science across the school and helped to promote further enjoyment of the subject. The introduction of an after school Science Club run by specialist staff from the community ignited children's interest and enthusiasm for science prior to Covid restrictions. We hope to reinstate this soon. The introduction of vocabulary folders has ensured that children are being taught scientific vocabulary across key stages 1 and 2 linked to the half termly objectives and are having opportunities to demonstrate that they understand what these terms mean. The impact of the Science subject leader receiving regular communication with the regional mentor for the Primary Science Teaching Trust has been that she is able to pass on updated information to staff in school about initiatives in science, new resources, competitions, funding and CPD opportunities that all support curriculum enrichment in the teaching of Science at Rokeby.

Biology Based Knowledge

Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Animals					
WALT identify and name a variety of common animals such as fish, amphibians, reptiles and birds WALT identify and name a variety of	WALT notice that animals have offspring which grow into adults WALT find out about and describe the basic needs of animals	WALT understand that animals need the right types and amounts of nutrition WALT identify that animals cannot make their own food	WALT construct and interpret a variety of food chains, identifying the producers, predators and prey	WALT describe the differences in the life cycles of a mammal, amphibian, insect and bird	WALT describe the ways in which nutrients and water are transported within animals WALT classify

common animals that are carnivores, herbivores and omnivores WALT describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)		WALT understand that animals get nutrition from what they eat WALT identify that some animals have skeletons and muscles for support, protection and movement		WALT describe the life process of reproduction in some animals	animals according to their characteristics WALT give reasons for classifying animals based on specific characteristics
Humans					
WALT identify and name the basic parts of the human body WALT draw and label the main parts of the human body WALT name the five senses WALT say which part of the body is associated with which sense	WALT notice that humans have offspring which grow into adults WALT find out about and describe the basic needs of humans WALT describe the importance for humans of exercise, hygiene and eating the right amounts of food	WALT understand that humans need the right types and amounts of nutrition WALT understand that humans get nutrition from what they eat WALT identify that humans have skeletons and muscles for support, protection and movement	WALT describe the simple functions of the basic parts of the human digestive system WALT identify the different types of teeth in humans WALT identify the simple function of the different types of teeth in humans	WALT describe the changes in humans from infants to old age	WALT identify and name the main parts of the human circulatory system WALT describe the functions of the heart, blood vessels and blood WALT describe the ways in which nutrients and water are transported within humans WALT recognise the impact of diet on the way our bodies function WALT recognise the impact of exercise on the way our bodies function WALT recognise the impact of lifestyle on the way our bodies function

Plants					
WALT identify and name a variety of deciduous and evergreen trees WALT identify and describe the basic structure of trees WALT identify and name common wild and garden plants WALT identify and describe the basic structure of common flowering plants	WALT observe and describe how seeds and bulbs grow into mature plants WALT find out what plants need to grow WALT find out what plants need to stay healthy	WALT identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers WALT explore the requirements of plants for life and growth WALT investigate the way in which water is transported within plants WALT explore the part that flowers play in the life cycle of flowering plants including pollination, seed formation and seed dispersal		WALT describe the life process of reproduction in some plants	WALT classify plants according to their characteristics WALT give reasons for classifying plants based on specific characteristics
Living Things					
	WALT explore things that are living WALT explore things that are dead WALT explore things that have never been alive		WALT recognise that living things can be grouped in a variety of ways WALT explore and use classification keys to group, identify and name living things in the local environment		WALT describe how living things can be classified into broad groups based on their similarities and differences WALT classify living things according to their characteristics and give reasons for

	WALT compare the differences between things that are living, dead, and things that have never been alive WALT describe how animals obtain their food from plants and other animals - food chain – and identify and name different sources of food		WALT explore and use classification keys to group, identify and name living things in the wider environment		classifying living things based on specific characteristics WALT recognise that living things produce offspring of the same kind WALT understand that normally offspring vary and are not identical to their parents
Habitats					
	WALT identify that most living things live in habitats to which they are suited WALT describe how different habitats provide for the basic needs of different kinds of animals WALT identify and name a variety of plants and animals in their habitats		WALT recognise that environments can change and that this can sometimes pose dangers to living things		WALT identify how animals and plants are adapted to suit their environment
Evolution and Inheritance					
					WALT recognise that living things have changed over time

					WALT understand that fossils provide information about living things that used to inhabit the Earth WALT identify how animals and plants are adapted to suit their environment WALT identify how adaption may lead to evolution

Chemistry Based Knowledge

Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Rocks					
		WALT compare and group together different types of rocks based on their appearance and simple physical properties WALT describe how fossils are formed WALT recognise that soils are made from rocks and organic matter			

Materials and States of Matter					
WALT distinguish between an object and the material from which it is made WALT identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock WALT describe the simple physical properties of a variety of everyday materials WALT compare and group together a variety of everyday materials on the basis of their physical properties	WALT compare the suitability of a variety of everyday materials for particular uses WALT find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		WALT compare and group materials together, according to whether they are solids, liquids or gases WALT observe that some materials change state when they are heated or when they are cooled WALT measure or research the temperature at which this happens in degrees Celsius WALT identify the part played by evaporation and condensation in the water cycle WALT associate the rate of evaporation with temperature	WALT compare and group everyday materials together on the basis of their properties including their hardness, solubility, transparency, conductivity and response to magnets WALT know that some materials will dissolve in liquid to form a solution WALT describe how to recover a substance from a solution WALT use our knowledge of solids, liquids and gases to decide how mixtures may be separated, including through filtering, sieving and evaporating WALT give reasons, based on fair tests, for the particular use of everyday materials, including metals, wood and plastic	

				WALT explore reversible and irreversible change	

Physics Based Knowledge

Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Weather and Seasons					
WALT observe changes across the four seasons WALT observe and describe weather typical weather associated with the seasons WALT describe how the daylight varies with the seasons					
Light and Dark					
		WALT recognise that light is needed in order to see things and darkness is the absence of light WALT recognise that light is reflected from surfaces			WALT recognise that light appears to travel in straight lines WALT objects are seen because they give out or reflect light WALT explain that light travels from light sources to our eyes

		WALT recognise that light from the sun can be dangerous and that there are ways to protect our eyes WALT recognise shadows are formed when light is blocked WALT find patterns in the way that the size of shadows change			WALT explain that light travels from light sources to objects and then to our eyes WALT explain why shadows have the same shape as the objects that cast them
Sound					
			WALT identify how sounds are made with vibrations WALT recognise that vibrations from sound travel through a medium to the ear WALT recognise that sounds get fainter with distance WALT find patterns between the pitch of a sound and features of the object that produced it WALT find patterns between the volume of sound and the strength of vibrations		

Forces and Magnets					
		WALT compare how things move on different surfaces WALT notice that some forces need contact between two objects but magnetic forces can act at a distance WALT observe how magnets attract or repel each other WALT observe how magnets attract some materials and not others WALT 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) WALT describe magnets as having two poles WALT predict whether two magnets will attract or repel each other depending on which poles are facing		WALT identify different mechanisms such as levers, pulleys and gears WALT explain how these different mechanisms work WALT recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect WALT design our own mechanism to achieve a given purpose WALT explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object WALT identify the effects of air resistance, water resistance and friction that act between moving surfaces	
ELECTRICITY					
			WALT identify common electrical appliances		WALT associate the brightness of a lamp or

			WALT construct a simple series circuit and name its basic parts WALT identify whether or not a lamp will light in a simple series circuit WALT recognise the function of a switch WALT recognise common conductors and insulators		the volume of a buzzer with the number and voltage of cells used in the circuit WALT compare and give reasons for variations in how components function, including brightness of bulbs, the loudness of buzzers and the on/off position of switches WALT use recognised symbols when representing a simple circuit in a diagram
EARTH AND SPACE					
					WALT describe the movement of the Earth, and other planets, relative to the sun in the solar system WALT describe the movement of the moon relative to the Earth WALT describe the sun, Earth and moon as approximately spherical bodies WALT use the idea of the Earth's rotation to explain day and night

					and the movement of the sun across the sky

Working scientifically

Year One	Year Two	Year Three	Year Four	Year Five	Year Six
QUESTIONING					
WALT answer simple questions about what we see WALT ask & answer simple questions as we communicate our findings	WALT ask and answer questions about what we see WALT answer our own questions using our observations WALT know that questions can be answered in different ways	WALT think of relevant questions to ask during testing WALT raise questions about the world around us WALT suggest ideas about which types of scientific enquiry are the best ways to answer questions WALT use straightforward scientific evidence to answer questions	WALT ask a range of relevant questions WALT raise questions and identify new questions about the world around us WALT decide on the best approaches for enquiry WALT use results to suggest any possible improvements or to raise further questions WALT question others about their work	WALT select and plan the most appropriate types of scientific enquiry to use to answer questions	WALT select, plan and use an increasing range of different types of scientific enquiries to answer their own and other's questions
OBSERVING					
WALT look closely and be curious WALT talk simply about what we see	WALT make relevant close observations WALT answer our own questions using our observations	WALT make systematic, precise and careful observations	WALT make systematic, precise and careful observations and compare and categorise our observations	WALT use results to draw simple conclusions and to make judgements	WALT use results of investigations to identify when further tests or repeat observations might be

WALT compare objects and materials in simple terms WALT observe changes in the weather, daylight and seasons over time WALT identify and describe simple features of plants and animals using key vocabulary	WALT use simple scientific language to talk about what we find out and how we found out WALT give simple reasons and explanations for what we have seen	WALT examine closely and question what is seen WALT choose what observations to make and how long to make them for WALT compare what happened to what might have happened and give simple explanations	WALT understand and use precise scientific language WALT provide explanations using scientific language WALT compare observations over time	WALT develop further observations and experiments from results WALT observe changes over different periods of time WALT use evidence to justify our ideas and conclusions	needed and set these up WALT evaluate the results of our observations WALT explain the degree of trust in results WALT use evidence to justify our ideas and conclusions and to combine observations to give new hypotheses
EXPERIMENTING					
WALT carry out simple tests and understand basic safety rules when testing WALT use simple scientific language to talk about what we find out WALT recognise that scientific ideas are based on evidence WALT use simple equipment such as a hand lens WALT use simple forms of measurement	WALT find things out with help and suggestions WALT carry out simple comparative tests WALT begin to make predictions about what may happen WALT answer questions using our observations WALT use simple scientific language to talk about what we find out and how we found out	WALT identify features of a fair test and carry out a fair test with help WALT explore, talk about, test and develop our ideas WALT suggest ideas about which types of scientific enquiry are the best ways to answer questions WALT make predictions before testing WALT choose what observations to make,	WALT describe or show how to vary a factor and keep others the same WALT explore, talk about, test and develop our ideas about a range of everyday phenomena WALT decide on the best approaches for enquiry WALT give explanations using scientific language WALT review our work and check our predictions	WALT recognise when and how to set up comparative and fair tests and begin to control variables WALT carry out systematic investigation and analysis WALT select and plan the most appropriate types of scientific enquiry to use to answer questions WALT modify tests to ensure accuracy WALT choose the most appropriate equipment	WALT recognise when and how to set up comparative and fair tests, explaining which variables need to be controlled and why WALT carry out systematic investigations and make more complex analyses WALT select, plan and use an increasing range of different types of scientific enquiries to answer their own and other's questions WALT use test results to make predictions and to set up further tests

	WALT use some simple equipment such as a magnifying glass or sand timer to make observations and measurements	how long to make them for and what equipment to use WALT use a range of equipment including thermometers and data loggers WALT use standard units to make precise measurements	WALT set up simple practical enquiries, comparative and fair tests WALT use a wider range of scientific equipment to count and measure quantities accurately	to use during enquiry and investigation	WALT choose the most appropriate equipment to use and explain how to use it accurately WALT explain how to use electrical equipment safely and accurately WALT take accurate measurements using a range of equipment with increasing precision and repeat readings when appropriate
CLASSIFYING AND DATA COLLECTION					
WALT identify and compare objects, materials and living things WALT group animals into carnivores, herbivores and omnivores WALT: collect data about the weather WALT notice patterns in weather and the seasons	WALT make simple comparisons of living things and their habitats WALT notice simple patterns and relationships WALT compare & classify living & non-living things WALT decide, with help, how to group and sort WALT gather data to help in answering	WALT classify simple features WALT suggest ways to gather, classify and present data and understand the importance of data collection WALT recognise when secondary sources of information might help us to answer questions that cannot be answered practically	WALT: recognise the importance of the evidence we collect WALT gather, classify and present data and compare and identify data patterns WALT select from a range of sources WALT use sources of information to analyse WALT draw conclusions by looking for patterns in data that we collect	WALT use information to identify, classify and describe living things WALT gather and classify data in a variety of ways WALT distinguish and discriminate between different elements of data WALT use a wider range of secondary sources of information	WALT use classification keys to identify, classify and describe living things WALT gather, classify and sort a range of data of increasing complexity WALT explain the degree of trust in data WALT use data that we collect to justify our ideas and conclusions

WALT gather and sort data within a simple given criteria WALT look at books, photos and videos to learn new things	questions and understand why this is important WALT use books, photos and videos to find information WALT use tallies to count when carrying out a survey	WALT find information in books and from other sources WALT use graphs to find and interpret patterns	WALT recognise when and how secondary sources of information might help us to answer questions that cannot be answered practically		WALT use a wider range of secondary sources of information to collect information about more abstract ideas and concepts
APPLYING					
WALT use what we see to suggest answers to questions	WALT begin to ask questions or make simple predictions, with help, about what may happen	WALT develop simple ideas about functions, relationships and interactions WALT find ways to improve what we have done WALT draw simple conclusions by looking for similarities and differences in data WALT identify new questions using data	WALT understand and talk about interactions and relationships between living things and environments WALT review work and check predictions WALT find and suggest ways to improve what we have done WALT draw simple conclusions by looking for changes, patterns and similarities or differences in data WALT use results to suggest any possible improvements or to raise further questions	WALT use results to draw simple conclusions and explain why we have reached these conclusions WALT use evidence to justify our ideas and conclusions WALT understand and be able to talk about how scientific ideas change and develop over time WALT begin to separate opinion from fact WALT use our results to identify when further tests might be needed WALT begin to relate our conclusions to patterns, previous	WALT identify differences, similarities or changes related to scientific ideas and processes WALT look for and identify causal relationships in data WALT look for and understand what constitutes poor data WALT use results of investigations to set up further tests WALT identify scientific evidence that has been used to support or refute ideas or arguments WALT begin to recognise how abstract ideas help us to

				knowledge and observational evidence WALT offer explanations for differences	understand and predict how the world operates
RECORDING					
WALT communicate our findings WALT record what we have seen or done in different ways, including drawings and labelled diagrams WALT record simple information onto a pre-prepared chart WALT label objects according to simple criteria WALT record things we have seen or done from memory	WALT communicate our findings to a range of audiences WALT gather and record data in simple ways such as bulleted lists WALT use simple tables and charts WALT make sketches of our observations WALT use a simple line graph to present our findings WALT use cause and effect in our explanations	WALT communicate our findings in ways appropriate for different audiences WALT make notes WALT produce oral and written explanations WALT record and label sketches and diagrams WALT begin to plot points for simple graphs WALT use ICT to record our results WALT: record systematically WALT record a series of observations in different ways	WALT gather, record and present data in a variety of ways to help in answering questions WALT record using notes, drawings, diagrams, labels, keys and simple tables WALT decide how best to record and analyse data WALT record by using tables, bar charts and line graphs WALT order our results scientifically using a range of scientific conventions WALT understand and begin to use both quantitative and qualitative data	WALT report on our findings from enquiries using oral and written explanations, displays and presentations to communicate our results and conclusions WALT record findings using simple scientific language, scientific diagrams, drawings, labels, keys, tables, scatter graphs, bar graphs and line graphs	WALT report and present findings from enquiries, including conclusions, casual relationships and explanations of degree of trust in results WALT record findings using scientific diagrams, drawings, labels, keys, tables, scatter graphs, bar graphs, line graphs and classification keys WALT record data and results of increasing complexity