Reception	plants	Animals including humans	Use of everyday materials	Living things and their habitats	States of matter	Earth and Space
Planning and predicting	What do you think will happen to our plant? What do our plants needs to grow?		Friction - predicting what happens when we use different materials for a car down a pipe Floating and sinking – predicting what do you think will happen to the object?		What do you think will happen to… (ice, chocolate)? Why do you think this will happen?	
Investigating and observing	Observing Plants – from seeds to flowers	Observing animals – caterpillars to butterflies	Friction – investigating different materials on a pipe Floating and sinking – exploring objects on water	Watering plants What has happened to the living things? (leaves falling off of trees)	Exploring Ice and hot water Melting chocolate	
Recording analysing and evaluating.	What has happened to our plants?		Friction – recording which materials are the best to use on the pipe Floating and sinking – what happened to the object? Why?		What happen to the ice?	

Year 1	plants	Animals including humans	Use of everyday materials	Seasonal changes
Planning and predicting	Planting beans indoors and outdoors, making predictions on growth.	Grouping animals based on lesson specific vocab.	Plan and predict a comparative test. Discuss fair test.	Making predictions about the weather for the near future.
Investigating and observing	Using magnifying glasses. Comparing and contrasting familiar plants. Describing how they were able to identify and group them. Compare and contrast what they have found out about different plants.	They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Observations to compare and contrast animals at first hand or through videos and photographs. Describing how they identify and group them; grouping animals according to what they eat. Using their senses to compare different textures, sounds and smells	Performing simple tests to explore questions. E.G: 'What is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast's leotard?'	Making tables and charts about the weather. Including day length, as the seasons change.
Recording analysing and evaluating.	Records of how plants have changed over time.	Ven-diagrams Writing comparisons.	Analysing results of their tests.	Making tables and charts about the weather. Making displays of what happens in the world around them.

Year 2	plants	Animals including humans	Use of everyday materials	Living things and their habitats
Planning and predicting	Plan and predict a comparative test. What do plants need to stay healthy? What would you keep as a fair test? Make a prediction. What will be your variable?		Plan and predict a comparative test. Compare use of materials for a given purpose. Make a prediction using simple scientific vocabulary.	
Investigating and observing	Observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb. Observing similar plants at different stages of growth. Setting up a comparative test to show that plants need light and water to stay healthy.	Observing, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.	Comparing the uses of everyday materials in and around the school with materials found in other places; observing closely, identifying and classifying the uses of different materials.	Sorting and classifying things according to whether there are living, dead or were alive, and recording using charts. They should describe how they decided where to place things, exploring questions: 'Is a flame alive?' and talk about ways of answering their questions. Construct a simple food chain that include humans. Describe the conditions in different habitats and micro-habitat and find out how the conditions affect the number and type(s) of plants and animals that live there.
Recording analysing and evaluating.	Measure how tall the plant is. Is the plant healthy? Is it alive? Did some plants live for longer? Checking to see if our predictions were correct.		Recording observations. Link findings to predictions. Answer scientific questions linked to scientific enquiry.	

Year 3	plants	Animals including humans	Rocks	light	Forces and magnets
Planning and predicting	Comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser			Plan a test to see how the patterns of shadows change.	Plan a fair test to compare the strength of magnets, predict. Plan a fair test to find out how far things move on different surfaces. Gather, record, present data.
Investigating and observing	Observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers. Looking for patterns in the structure of fruits that relate to how the seeds are dispersed	Identifying and grouping animals with and without skeletons and observing and comparing their movement. Exploring ideas about what would happen if humans did not have skeletons. They might compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. They might research different food groups and how they keep us healthy and design meals based on what they find out.	Observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time. Using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Pupils might research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. Pupils could explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. They can raise and answer questions about the way soils are formed.	Looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.	Comparing how different things move and grouping them. Raising questions and carrying out tests to find out how far things move on different surfaces and gathering and recording data to find answers their questions. Exploring the strengths of different magnets and finding a fair way to compare them. Sorting materials into those that are magnetic and those that are not. Looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another. Identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.

Recording analysing and evaluating.		Record and analyse a healthy meal design.		Record and evaluate results of shadow changing test.	Record, evaluate and analyse results of testing the strength of magnets. Recording results of friction testing (how things move across different surfaces)

Year 4	Animals including humans	Living things and their habitats	States of matter	sound	elecricity
Planning and predicting	Find out the damages to teeth. Plan an investigation by placing an egg in different liquids and make a prediction about what will happen to the egg.		Predict what will happen to different substances; exploring the effects of temperature. Plan an investigation for water evaporation over time.	Predict which material would be best to insulate sound. Conduct a fair test e.g. same sound/distance. Predict what will happen as they get further away from a sound.	Children make predictions about a circuit lighting regarding to the elements in the circuit. Children make predictions regarding an object if it is a conductor or insulator.
Investigating and observing	Investigate and observe the changes of the eggs in the different liquids.	Explore possible ways of grouping a wide selection of living things that include animals and flowering plants and non-flowering plants. Put vertebrate animals into groups such as fish, amphibians, reptiles, birds, and mammals; and invertebrates into snails and slugs, worms, spiders, and insects. Explore examples of human impact (both positive and negative) on environments, for example, the positive effects of nature reserves, ecologically planned parks, or garden ponds, and the negative effects of population and development, litter or deforestation. Use and make simple guides or keys to explore and identify local plants and animals; making a guide to local living things; raising and answering questions based on their observations of animals and what they have	Observe water as a solid, a liquid and a gas and should note the changes to water when it is heated or cooled. Observe the changes to the different substances. Record evaporation over a period of time, for example, a puddle in the playground or washing on a line, and investigate the effect of temperature on washing drying or snowmen melting. Observe how water evaporates from a tub on the windowsill.	Find patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. Make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. Observe how sounds get fainter as the distance from the sound increases	Observe patterns, investigate and make predictions regarding circuits, conductors and insulators.

		found out about other animals that they have researched.			
Recording analysing and evaluating.	Record and analyse the results. Make conclusions about the impact of different liquids on our teeth and how to look after them.		Record the results and changes to each substance, drawing conclusions and making links with other substances. Record the changes and explain how and why the water has evaporated.	Evaluate each of the materials and explain which is best for insulating sounds. Write a conclusion of results when they travelled further away from the sound. Consider what they would do next time if they were going to conduct the experiment again.	Recording and write a conclusion of results. Identifying that metals are conductors. Identify that a gap in a circuit will not allow electricity to pass through.

Year 5	Animals including humans	Properties and changes of materials	Living things and their habitats	Forces and magnets	Earth and space
Planning and predicting		Pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials			

Investigating and observing			Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by observing metamorphosis of a butterfly) comparing how different animals reproduce and grow.	Pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects.	
Recording analysing and evaluating.	Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows				Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks.

Year 6	Animals including humans	Living things and their habitats	Light	Electricity	Evolution and inheritance
Planning and predicting	Plan an investigation into the presence of micro-organisms in the classroom. Predict which area of the classroom will have the highest level of micro-organisms.			Plan an investigation into the effect of changing one component in a circuit at any one time.	
Investigating and observing	Through direct observations where possible, they should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). They should discuss reasons why living things are placed in one group and not another. Research the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification. Using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system. Over a period of time, observe the presence of micro-organisms on a piece of bread by observing mould grow. Compare to a non-variable piece of bread that has not been	Explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.	Investigate the relationship between light sources, objects and shadows by using shadow puppets. Extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters	Systematically identify the effect of changing one component at a time in a circuit; design and make a set of traffic lights, a burglar alarm or some other useful circuit	Observe and raise questions about local animals and how they are adapted to their environment; compare how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels.

	swabbed on dirty area. Observe different colours on mould.				
Recording analysing and evaluating.	Record the results of the micro-organism experiment on bar charts and line graphs. Evaluate levels of micro-organisms across the classroom by plotting different points. Analyse which area of the classroom has the most micro-organisms and make conclusions on micro-organism levels in schools and other public places. Analyse what different colours of mould might indicate.				Analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers