Trinity Road Primary School Knowledge Progression Document
Science

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working Scientifically							
Asking questions	- Ask simple questions about the environment and things that change	- Ask simple questions and recognise that they can be answered in different ways		- Ask relevant questions and use different types of scientific enquiries to answer them - Set up simple practical enquiries, comparative and fair tests		- Plan different types of scientific enquiries to answer questions. - Recognise and control variables where necessary - Explore and talk about their ideas; asking their own questions about scientific phenomena	
Monitoring and recording	- Explore the natural world around them, making observations and recording some animals and plants	- Observe closely, using simple equipment - Perform simple tests - Gather and record data to help in answering questions		- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - Gather, record, classify and present data in a variety of ways to help in answering questions		- 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	
Concluding	- 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	- Use their observations and ideas to suggest answers to questions. - Use age-appropriate scientific language - Begin to notice patterns and relationships		- Identify differences, similarities or changes related to simple scientific ideas and processes - Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - Use straightforward scientific evidence to answer questions or to support their findings		- Identify scientific evidence that has been used to support or refute ideas or arguments - Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations	

Trinity Road Primary School
RESPECT • ACHIEVE • BELONG

Trinity Road Primary School Knowledge Progression Document
Science

Evaluating	- To use observations to make suggestions about how something could be changed to alter the outcome			- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions		- Use test results to make predictions to set up further comparative and fair tests	
Area of Study							
Plants	- Develop an understanding of growth, decay and changes over time - Recognise some plants, trees and flowers and explain why some things occur and talk about changes	-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	- 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	- 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			

Trinity Road Primary School
RESPECT • ACHIEVE • BELONG

Trinity Road Primary School Knowledge Progression Document
Science

				formation and seed dispersal			
Animals including humans	- Name some animals and their young - Observe and describe the life cycle of an animal (insect/chick) - Identify and describe how people grow and change (baby, child, teenager, adult, elderly person) - Talk about their bodies/characteristics and identify similarities/differences. - Notice about how they have changed from being younger/a baby.	- 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, 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 each sense	- Understand that animals, including humans, have offspring which grow into adults - 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	- 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	- 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	- Describe the changes as humans develop to old age	- 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	- Explore and describe local animal habitats		- Explore and compare the differences between things		- Recognise that living things can be grouped in a variety of ways	- Describe the differences in the life cycles of a mammal, an	- Describe how living things are classified into broad groups according to

Trinity Road Primary School Knowledge Progression Document
Science

	- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter - Plant seeds and care for growing plants - Understand the key features of the life cycle of a plant and an animal - Begin to understand the need to respect and care for the natural environment and all living 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		- 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	amphibian, an insect and a bird -Describe the life process of reproduction in some plants and animals	common characteristics and based on similarities and differences, including micro-organisms, plants and animals - Give reasons for classifying plants and animals based on specific characteristics
Light	- Explore and comment on how colours change - Know that lights helps us to see			- Recognise that light appears to travel in straight lines			- Recognise that light appears to travel in straight lines

Trinity Road Primary School Knowledge Progression Document
Science

	and begin to explore light and dark (linked to day and night			- 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 our eyes or 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			- 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 our eyes or 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
Electricity					identify common appliances that run on electricity - Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs,		- 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

Trinity Road Primary School Knowledge Progression Document
Science

					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		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
Sound					- Identify how sounds are made, associating some of them with something vibrating - Recognise that vibrations from sounds travel through a medium to the ear		

Trinity Road Primary School Knowledge Progression Document
Science

					- 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		
Forces and Magnets					- 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 materials and not others - Compare and group together a variety of everyday		- 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,

Trinity Road Primary School Knowledge Progression Document
Science

					materials on the basis on 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		including levers, pulleys and gears, allow a smaller force to have a greater effect
Evolution and Inheritance							- 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

Trinity Road Primary School
RESPECT • ACHIEVE • BELONG

Trinity Road Primary School Knowledge Progression Document
Science

							their environment in different ways and that adaptation may lead to evolution
Physical Properties (including states of matter) Changes of materials	- 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	- 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		- 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	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 Celsius (°C) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	- 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, including through filtering, sieving and evaporating - Give reasons, based on evidence	

Trinity Road Primary School Knowledge Progression Document
Science

						from comparative and fair tests, for the particular uses of everyday materials, including metals, 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 this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda	
Earth and Space						- Describe the movement of the Earth, and other planets, relative to the Sun - Describe the movement of the Moon relative to the Earth - Describe the Sun, Earth and Moon as	

Trinity Road Primary School Knowledge Progression Document
Science

						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	