



Science long term plan

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	- Name, sort and describe autumn materials found at school and home. - Name features on a body. - Name animals found on a farm and identify the sounds that they make.		- Use senses to explore ice. - Use simple language to talk about 'cold weather' animals. - Use simple language when identifying flowers in the outdoor environment. - Care for flowers in the outdoor environment.		- Use simple language to make observations about growing plants. - Care for a sunflower when growing it from a seed. - Learn how and when to brush teeth. - Learn about safari animals.	
Reception	- Sort, describe and compare autumn materials found at school. - Name and describe nocturnal and diurnal animals. - Make simple observations about plants and trees changing in autumn.		- Learn how to look after teeth. - Make observations to describe African animals. - Investigate what happens to chocolate when it is heated. - Investigate what happens to water when it freezes.		- Make simple observations to explain the life cycle of a bean and a tadpole. - Name and describe different minibeasts. - Look after a range of insects in the classroom.	
Year 1	<u>Animals including Humans</u> - Explore and sort animal groups: mammals, fish, amphibians, reptiles and birds - Research animal diets: carnivore, herbivore and omnivore - Label body parts of humans and other animals - Senses - Investigate! What do we use our senses for? - Seasons - Participate in an autumn walk around the school - Observe changes from autumn to winter - Record changes in the weather using the weather station around school - Film and present a weather report about Autumn - Film and present a weather report about Winter		<u>Everyday Materials</u> - Describe properties of materials such as wood, metal, glass and plastic - Distinguish between an object and the material from which it is made - Compare and group everyday objects by their properties - Investigate! Which material is best for the three little pigs to use for their house? - Seasons - Observe changes from winter to spring - Record changes in the weather using the weather station - Film and present a weather report about spring		<u>Plants</u> - Label parts of a plant - Name common garden plants that we have grown in the classroom - Discover common tree and wild plants in our local area - Investigate! Seasons - Observe changes from spring to summer - Record changes in the weather using the weather station - Film and present a weather report about summer	
Year 2	<u>Uses of everyday materials</u> - Identify objects and the materials they are made from - Classify everyday objects and materials - Explain why some materials are more suitable than others - Investigate! Design a raincoat - Investigate! Explore objects and materials that can or cannot be shaped – choose own materials to make a model from Tod and the Clock Angel		<u>Animals including humans</u> - Research the life cycles of different animals and present in an interesting way - Find out about and describe the basic needs of animals for survival - Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene		<u>Living things and their habitats</u> - Explore and compare things that are living and things that are not – Spot the stick insect - Create and act out food chains to identify different sources of food - Identify and name different plants and animals food in different habitats	<u>Plants</u> Investigate! What do plants need to grow and stay healthy? Plant seeds in different conditions of their choice to find out what happens
Year 3	<u>Rocks</u> Research how rocks are formed and group and		<u>Magnets</u> Understand how magnets	<u>Animals</u> Identify the main	<u>Plants</u> Research the main parts of plants	<u>Light and Shadow</u> Discover how light

	describe them by their properties - Discover how the Earth is made of rock - Understand how fossils are formed - Investigate what rock is best for making a structure (permeability/strength) - Discover the significance of rock as a building material (visit to quarry) - Explore the local environment to compare rocks and their purposes		have 2 faces which attract and repel and the force can act at a distance - Discover which materials are magnetic around school - Compare and investigate how some coins are magnetic - Investigate and predict when magnets will attract or repel - Explore the strength of different magnets - Investigate which coins are magnetic - Create a magnetic crane linked to DT	parts of the body and explain their functions - Group animals with and without skeletons - Explain why humans and some other animals have skeletons - Compare and contrast the diets of different animals	- Explore what a plant needs to grow - Investigate the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal - Explain pollination and seed dispersal - Investigate best conditions for plant growth - Discover how food is transported through a plant - Observe growth over time and apply growth data mathematically - Investigate roots.	is emitted from the sun and is reflected from different surfaces - Investigate how shadows are formed when light is blocked and how they change - Compare how shadows change throughout the day
Year 4	States of Matter - Explore and group materials and writing definitions of their state - Compare the difference in the particles of solids, liquids and gases - Investigate the weight of carbon dioxide in fizzy drinks - Investigate the melting point of chocolate - Compare the different states that water can be - Investigate the effect of temperature on the process of evaporation using wet towels - Investigate the role of evaporation and condensation in the water cycle using cress		Electricity - Research how and why electricity occurs - Discover common appliances that run on electricity - Research how to stay safe when using electricity - Construct a simple series electrical circuit, identifying and naming its basic parts - Investigate whether or not a lamp will light in a simple series circuit - Investigate common conductors and insulators - Recognise that a switch opens and closes a circuit and associate this every day appliances	Animals including humans - Research the functions of the basic parts of the digestive system in humans - Compare the different types of teeth in humans and their functions - Investigate what causes tooth decay using eggs - Create and compare a variety of food chains	All Living Things - Research how living things can be grouped in a variety of ways - Compare vertebrates by their similarities and differences - Explore invertebrates found in the local environment - Create tables and keys showing the characteristics of living things - Explore changes and dangers in the local habitat - Discover how environments can change and how this can affect habitats	Sound - Explore how sounds are made through vibration - Explore how high and low sounds are created - Explore musical instruments, and how they change pitch - Recognise that vibrations from sounds travel through a medium to the ear, by making string telephones - Investigate the best material for absorbing sound
Year 5	Forces Investigate gravity and air resistance by designing,	Properties and Changes of Materials Apply knowledge of solids, liquids and gases to decide how mixtures might be separated	Animals, including humans Research the	Living Things and their habitats Compare the difference in the life cycles animals	Earth, Moon and the Sun Create a human model of the solar system on the	

	creating and launching rockets and parachutes - Design, create and make boats that are streamlined against water resistance - Explore the concept of friction, using newton meters - Discover Isaac Newton's role in explaining gravity	- Collect water from different sources in our local environment and make own filters - Test a variety of materials based on their properties - Discover that some changes are reversible and some are not	changes the human body goes through from birth to old age - Create a timeline to illustrate the stages of human growth - Compare gestation periods of different mammals	found in our local area to the life cycles of animals found in Mexico and Brazil Discover the life process of reproduction in some plants and animals	playground - Explore how shadows change in length as the relative position of the sun changes throughout the day - Debate different historical views about the structure of the solar system - Educational visit – National Space Centre Leicester
Year 6	<u>Animals including humans</u> - Circulatory system – - Explore the function of the heart Investigate the effect of exercise on heart rate - Dissect actual hearts - Impact of diet, exercise, drugs and lifestyle on the way the body works- - Make large tubes to show how arteries can become clogged	<u>Living things and their habitats</u> - Visit the local quarry to classify a range of plants by their characteristics - Research the role of Carl Linneaus, a pioneer of classification	<u>Evolution and inheritance</u> - Discover how fossils provide information and evidence that living things have changed over time - Explore the work of palaeontologists such as Mary Anning and Charles Darwin - Research the features of an animal or plant and its adaptations that make it suited to its environment - Invite dog owners of crossbreeds to discover the effect of variation in offspring	<u>Light</u> - Explore the properties of light - Create a periscope to explore the idea that light appears to travel in straight lines - Make and perform a shadow puppet show- share online <u>Electricity</u> - Explore electrical circuits through creating a working traffic light or burglar alarm using a variety of components	