

SCIENCE Long Term Subject Overview

Statutory (NC linked) – must be taught

	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Nurs	Science in early years is linked to Understanding The World. Through this pupils explore the world around them, identifying the weather and seasons and beginning to observe the changes in this. Pupils learn more about themselves, learning about their bodies and how they can be used, including how to take care of themselves and the benefits of exercise. They begin to observe and classify animals and plants in their local environment. Pupils explore materials using their senses and suggest things they can be used for in everyday life – e.g. materials to build houses or make a boat.					
Rec						
Y1	<u>Seasonal Change – autumn</u> Understand there are 4 seasons. Understand the changes that take place in Autumn. Understand the changes that take place in Winter. Understand the changes that take place in Spring. Understand the changes that take place in Summer. Investigate rainfall.	<u>Materials</u> Identify and name a variety of everyday materials. Distinguish between an object and the material it is made from. Describe the properties of everyday materials. Identify objects that are natural and those that are manmade. Predict and identify if an object will float or sink. Explore which materials are best for different objects.	<u>Materials</u> Build a structure strong enough to withstand wind. Build a waterproof structure. Understand the properties of glass and its uses. Understand that materials are used to create a variety of furniture. Explore a variety of fabrics and understand their different properties. Explain the uses of materials and why they are suitable.	<u>Animals inc Humans (animals)</u> Discover animal families. Learn about the differences between mammals and birds. Learn about the differences between amphibians, reptiles and fish. Discover the type of food living things eat. Explore the difference between wild animals and pets. Explain the characteristics of an animal.	<u>Animals inc Humans (all about me)</u> Discover the basic parts of the human body. Learn about your eyes and sight. Learn about your ears and hearing. Explore the tongue and taste. Explore your sense of touch. Discover how your nose smells.	<u>Plants</u> Understand that seeds grow into plants. Identify the basic parts of a plant and tree. Understand that different plants can grow in the same environment. Know the difference between deciduous and evergreen trees. Know that fruit trees and vegetables are varieties of plants. Record the growth of a plant.

Y2	<p><u>Animals inc Humans (growth)</u></p> <p>Describe the needs of animals for survival. Describe the needs of humans for survival. Explore the importance of eating the right food. Describe what a healthy, balanced diet looks like. Investigate the impact of exercise on our bodies. Investigate the importance of hygiene.</p>	<p><u>Animals inc Humans (life cycles)</u></p> <p>Learn how to order the stages of the human life cycle. Describe the stages of life from adulthood to old age. Learn how to match offspring to their parent. Explore the lifecycle of a chicken. Describe the lifecycle of a butterfly. Explore the life cycle of a frog.</p>	<p><u>Living things and their habitats</u></p> <p>Compare the differences between things that are living, dead and things which have never been alive. Identify and name a variety of plants and animals in a microhabitat. Design a suitable microhabitat where living things could survive. Find out what animals eat to survive in their habitats. Understand food chains. Understand the journey food makes from the farm to the supermarket.</p>	<p><u>Living things and their habitats (habitats around the world)</u></p> <p>Learn about habitats. Appreciate that environments are constantly changing. Explore the rainforest and its problems. Describe life in the ocean. Discover the Arctic and Antarctic habitat. Create a model of a habitat.</p>	<p><u>Plants</u></p> <p>Know the difference between seeds and bulbs. Design an experiment to find out what plants need to grow. Describe what plants need to grow and stay healthy. Describe the life cycle of a plant. Observe and record the growth of plants over time. Understand that plants adapt to suit their environment.</p>	<p><u>Materials</u></p> <p>Identify different materials and their uses. Understand how to select the right materials to build a bridge. Explore and test the stretchiness of materials. Understand materials can change their shape by twisting, bending, squashing or stretching. Learn about Charles Macintosh and explore how materials are suitable for different purposes. Discover which materials change shape when making a road with John McAdam.</p>
Y3	<p><u>Forces & Magnets</u></p> <p>Explore contact and non-contact forces. Compare how things move on different surfaces. Explore different types of magnets.</p>	<p><u>Animals inc Humans</u></p> <p>Explore the 5 key food groups. Learn about the nutrition in the food we eat. Learn about the different types of skeletons.</p>	<p><u>Light</u></p> <p>Identify the difference between light sources and non light sources. Explore the light that comes from the sun and how to stay safe. Explore materials which are reflective.</p>	<p><u>Rocks</u></p> <p>Explore the formation and properties of igneous rocks. Explore the formation and properties of sedimentary and metamorphic rocks.</p>	<p><u>Plants</u></p> <p>Compare the effect of different factors on plant growth. Describe the functions of different parts of a flowering plant and how they are used in photosynthesis.</p>	<p><u>Scientific Enquiry</u></p> <p>How can a solar oven be made more effective: posing questions and writing predictions. How can a solar oven be made more</p>

	<p>Explore the properties of magnets and everyday objects that are magnetic. Understand that magnetic forces can act at a distance.</p> <p>Explore the everyday uses of magnets.</p>	<p>Learn about the human skeleton.</p> <p>Learn about animals and their skeletons.</p> <p>Explore the role of muscles.</p>	<p>Discover how shadows are formed.</p> <p>Investigate how shadows change throughout the day.</p> <p>Investigate how you can change the size of a shadow.</p>	<p>Weathering and the suitability of rocks for different purposes.</p> <p>Explore how water contributes to the weathering of rocks.</p> <p>Understand how fossils are formed.</p> <p>Explore different types of soil.</p>	<p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants.</p> <p>Understand the pollination process and the ways in which seeds are dispersed.</p>	<p>effective: recording and presenting results.</p> <p>Cleaning coins: writing a method and carrying out a practical test.</p> <p>Cleaning coins: writing a conclusion.</p> <p>Making a cake: fair testing, controls and variables.</p> <p>Making a cake: scientific enquiry.</p>
Y4	<p><u>Animals inc Humans</u></p> <p>Identify the organs in the digestive system.</p> <p>Describe the functions of the main organs in the digestive system.</p> <p>Identify the types of human teeth and their functions.</p> <p>Investigate the effects of different liquids on the teeth.</p> <p>Understand food chains.</p> <p>Explore food webs.</p>	<p><u>Electricity</u></p> <p>Explore electrical appliances and electrical safety.</p> <p>Learn about electrical components in a series circuit.</p> <p>Investigate electrical circuits.</p> <p>Explore conductors and insulators.</p> <p>Learn about electrical switches.</p> <p>Investigate how electrical components can change within a circuit.</p>	<p><u>Sound</u></p> <p>Identify how sounds are made.</p> <p>Explore how vibrations from sounds travel through a medium to the ear.</p> <p>Explore sound insulation.</p> <p>Explore volume.</p> <p>Explore pitch.</p> <p>Explore sounds from near and from far.</p>	<p><u>Living things and their habitats</u></p> <p>Explore different habitats.</p> <p>Research a habitat.</p> <p>Explore how animals can be classified.</p> <p>Create a classification key.</p> <p>Adaptations and classification within species.</p> <p>Explore and classify pond plants.</p>	<p><u>Living things and their habitats (conservation)</u></p> <p>Describe ecosystems and how they are affected by changes in the seasons.</p> <p>Understand the human impact on the environment through deforestation.</p> <p>Explore air pollution.</p> <p>Understand water pollution.</p> <p>Explore methods that can be used to conserve water.</p> <p>Understand that humans can have a</p>	<p><u>States of matter</u></p> <p>Compare and group the 3 states of matter.</p> <p>Explore how particles behave in solids, liquids and gases.</p> <p>Investigate melting points.</p> <p>Explore freezing and boiling points.</p> <p>Explore evaporation and condensation.</p> <p>Understand the water cycle.</p>

					positive impact on nature.	
Y5	<u>Living things and their habitats</u> Understand the life processes of a plant. Understand the life cycles of mammals. Compare the life cycles of insects and amphibians. Understand the life cycle of birds and reptiles. Know about the work of Jane Goodall and David Attenborough. Research and present the life cycle of a creature.	<u>Animals inc Humans</u> Identify the key stages of a mammal's life cycle. Explore the gestation periods of mammals. <i>Learn about foetal development.</i> Investigate the hand span of differently aged children. <i>Learn about the changes experienced in puberty.</i> Describe the changes humans may experience during old age.	<u>Changes of materials</u> Use evaporation to recover the solute from a solution. Recognise and describe reversible changes. Observe chemical reactions and describe how we know new materials are made. Investigate rusting reactions. Investigate burning reactions. Investigate chemical reactions – acids and bicarbonate of soda.	<u>Properties of materials</u> Explore properties of materials. Explore thermal conductors and thermal insulators. Explore the hardness of materials. Discover materials that are soluble in water. Investigate the solubility of materials. Explore how mixtures can be separated by filtering, sieving, evaporating or magnets.	<u>Forces</u> Explore gravity and the life and work of Isaac Newton. Examine the connection between air resistance and parachutes. Explore factors which affect an object's ability to resist water. Investigate the effects of friction on different surfaces. Investigate mechanisms – levers and pulleys. Investigate mechanisms – gears.	<u>Earth and Space</u> Explore the solar system and the planets. Understand the heliocentric model of the solar system. Explain the Earth's movement in space. Explain the Earth's rotation and night and day. Explain the movement of the moon. Design a planet using knowledge gained.
Y6	<u>Light</u> Explore how light travels. Explore reflection.	<u>Electricity</u> Describe the parts of an electric circuit. Explore voltage and its effect on an electrical circuit.	<u>Animals inc. Humans</u> Understand the function of the heart and its role in the circulatory system.	<u>Living things and their habitats</u> Classify living organisms. Understand the kingdoms of life.	<u>Evolution and inheritance</u> Understand how offspring vary and are not identical to their parents.	<u>Looking after our environment.</u> Learn about climate change. Explore ways to reduce how much

	<p>Explore reflection and explain how it can be used to help us see.</p> <p>Investigate how shadows can change.</p> <p>Investigate how we can show why shadows have the same shape as the object that casts them.</p> <p>Explore light phenomena.</p>	<p>Apply knowledge to identify and correct problems in a circuit.</p> <p>Investigate what affects the output of a circuit.</p> <p>Build a set of traffic lights.</p> <p>Apply knowledge of conductors and insulators.</p>	<p>Identify and compare blood vessels.</p> <p>Explore blood.</p> <p>Learn how the body transports water and nutrients.</p> <p>Investigate what affects your heart rate.</p> <p><i>Learn about the impact of drugs and alcohol on the body.</i></p>	<p>Classify living things using the Linnaean system.</p> <p>Identify the characteristics of different types of microorganisms.</p> <p>Investigate asexual reproduction through spore dispersal.</p> <p>Classify and describe a living organism.</p>	<p>Learn about animal adaptations.</p> <p>Learn about plant adaptations.</p> <p>Explore what we can learn from fossils.</p> <p>Explore the theory of evolution by natural selection.</p> <p>Explore human evolution.</p>	<p>rubbish is sent to landfill.</p> <p>Explore ways to reduce energy consumption.</p> <p>Explore what happens when fuels are burnt.</p> <p>Explore the outcomes of COP26.</p> <p>Compare data associated with the weather.</p>
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