

Science – Key Knowledge Strands

	To know about our bodies (inside and out).	To know that living things can be classified into broad groups.	To know the structure of a flowering plant.
Nursery	To know what we hear, see and smell with.	To know the life cycle of a chick.	To know about growth and decay over time - plant seeds and bulbs so children observe.
Reception	To know what we taste and touch with.	To know about a butterfly life cycle by taking part in first-hand scientific explorations.	To know about different plants by observing, drawing pictures of and describing plants they have found outside.
Y1	To know about and name body parts and say which part of the body is associated with each sense.	To know the names of, describe and compare a variety of common animals including fish, amphibians, reptiles, birds and mammals.	To know about and describe the basic structure of a variety of common flowering plants, including trees.
Y2	To know about and describe the importance of exercise, eating the right amounts of different types of food, and hygiene.	To know the names of a variety of plants and animals in their habitats, including microhabitats.	To know about and be able to describe how seeds and bulbs grow into mature plants and when each part grows by observing them.
Y3	To know that humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.		To know about and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
Y4	To know that humans have skeletons and muscles for support, protection and movement. To identify the different types of teeth in humans and their simple functions.	To know that living things can be grouped in a variety of ways. To know how to use classification keys to help group, identify and name a variety of living things in their local and wider environment.	
Y5	To know and describe the simple functions of the basic parts of the digestive system in humans. To know the names of the main parts of the human circulatory system, and describe the functions of the heart, lungs, blood vessels and blood. To know about the impact of diet, exercise, drugs and lifestyle on the way their bodies function. To know and describe the changes as humans develop to old age.	To know about and describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	To know about the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
Y6		To know about and 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. To know how to classify plants and animals based on specific characteristics giving reasons.	

	To know that materials can be changed.	To know that light travels in a straight line unless it is blocked.	To know the recognised circuit symbols. To know how to construct a simple circuit and adapt it for a purpose.	To know the effects of different forces.
Nursery	To talk about differences between materials.			
Reception	To know what happens to water in very cold weather.	To know about changes across the 4 seasons in the local area through observations.		
Y1	To know about and describe the simple physical properties of a variety of everyday materials. To use this knowledge to compare and group together a variety of everyday materials.	To know about and describe weather associated with the seasons and how day length varies through observations.		To know about pushes and pulls as forces.
Y2	To know how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.			To know about forces when squashing, bending, twisting and stretching solid objects.
Y3	To know about physical properties of rocks and use this knowledge to compare and group together different kinds of rocks.	To know that shadows are formed when the light from a light source is blocked by an opaque object. To know that there are patterns in the way that the size of shadows change.		
Y4	To know 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). To know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.		To know how to construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers and identify why it does/doesn't work.	To know and be able to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. To know about the effects of friction between moving surfaces.
Y5		To know about day and night and the apparent movement of the sun across the sky using the idea of the Earth's rotation.		
Y6	To know that dissolving, mixing and changes of state are reversible changes. To know and be able to explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible.	To know that light appears to travel in straight lines. To use this knowledge to explain why shadows have the same shape as the objects that cast them.	To know about variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. To know how to use recognised symbols when representing a simple circuit in a diagram.	To know about the effects of air resistance and water resistance. To know that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.