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 understand the key features of the life cycle of an animal. (To know the life cycle of a chick.)	To plant seeds and care for growing plants.
Reception		To understand some important processes and changes in the natural world around them. (To take part in first-hand scientific explorations of a butterfly life cycle.)	To explore the natural world around them, making observations and drawing pictures of plants.
Y1	To name body parts and say which part of the body is associated with each sense.	To identify, name, describe and compare a variety of common animals including fish, amphibians, reptiles, birds and mammals.	To identify and describe the basic structure of a variety of common flowering plants, including trees.
Y2	To describe the importance of exercise, eating the right amounts of different types of food, and hygiene.	To identify and name a variety of plants and animals in their habitats, including microhabitats.	To observe and describe how seeds and bulbs grow into mature plants and when each part grows
Y3	To identify 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 identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
Y4	To identify 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 recognise that living things can be grouped in a variety of ways. To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	
Y5	To describe the simple functions of the basic parts of the digestive system in humans. To identify and name the main parts of the human circulatory system, and describe the functions of the heart, lungs, blood vessels and blood. To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. To describe the changes as humans develop to old age.	To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
Y6		To 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 give reasons for classifying plants and animals based on specific characteristics.	

	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 and changes they notice.			To explore and talk about different forces they can feel.
Reception	To understand some important processes and changes in the natural world around them, including changing states of matter.	To understand some important processes and changes in the natural world around them, including the seasons.		
Y1	To describe the simple physical properties of a variety of everyday materials. To compare and group together a variety of everyday materials on the basis of their simple physical properties.	To observe and describe weather associated with the seasons and how day length varies.		To identify 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 identify forces when squashing, bending, twisting and stretching solid objects.
Y3	To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.	To recognise that shadows are formed when the light from a light source is blocked by an opaque object. To find 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 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 explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. To identify the effects of friction between moving surfaces.
Y5		To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.		
Y6	To demonstrate that dissolving, mixing and changes of state are reversible changes. To explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible.	To recognise that light appears to travel in straight lines. To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	To compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. To use recognised symbols when representing a simple circuit in a diagram.	To identify the effects of air resistance and water resistance. To recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.