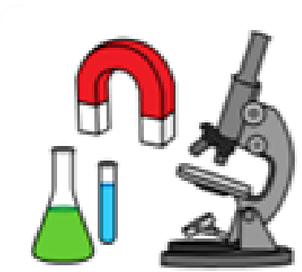
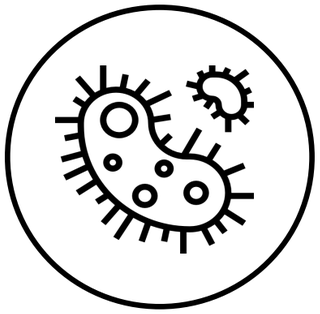
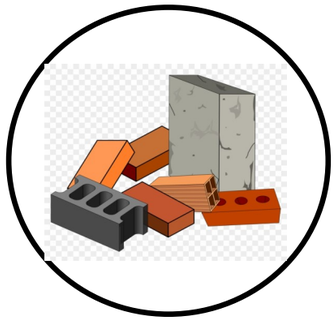
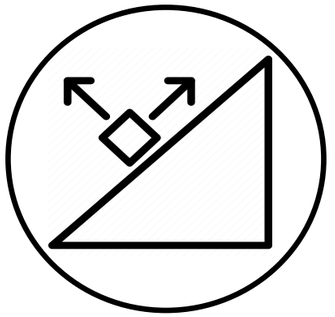
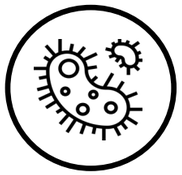
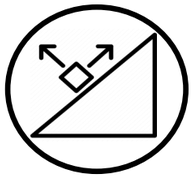
Science Medium Term Planning

EYFS



Key Concepts	    ***Organisms require a supply of energy and materials.*** ***Materials*** ***Forces*** ***The Earth in relation to the universe.***
Second Order Concepts	**Responsibility** **Similarity and Difference** **Continuity and Change** **Written and oral expression**

Key Concepts	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Organisms require a supply of energy and materials. 	To name and identify some different types of weather.	**Seasonal Changes** To know the four seasons and describe changes in the weather. To describe how tree and plants change through the seasons.	**Seasonal Changes** • Plants • Habitats • Animals	**Seasonal Changes** • Plants • Habitats • Animals	**Seasonal Changes** • Plants • Habitats • Animals	**Seasonal Changes** • Plants • Habitats • Animals • Earth and Space	**Seasonal Changes** • Plants • Habitats • Animals
	To understand the difference between plants and animals through observation. To talk about life cycles. To use the 5 senses in hand on explanations. To name the 5 senses.	**Animals including humans** To name different parts of the body - particularly those associated with the five senses. To name and describe common animals. To describe what food carnivores, herbivores and omnivores might eat.	**Animals including humans** To explain what humans and animals need to survive and the importance of looking after our bodies- including the need for exercise, eating the right amount of food and hygiene. Notice that animals, including humans, have offspring that grow into adults.	**Animals including humans** To explain why we need food to keep us alive. To describe the main functions of the skeleton and muscles.	**Animals including humans** To explain the parts of the digestive system. To know the different types of teeth. To describe a variety of food chains.	**Animals including humans** To describe how our bodies changes as we age.	**Animals including humans** To identify the different parts of the circulatory system. To recognise the impact of healthy lifestyles on our body. To describe how nutrients and water are transported around our body.
	To understand the need to respect and care for the natural environment and all living things.		**Living things and their habitats** To know the differences between living, dead and never lived. To describe simple adaptations of animals in relation to their habitats. Create simple food chains.		**Living things and their habitats** To use classification keys to group living things in a variety of ways. To recognise that environments can change. To identify dangers to living things.	**Living things and their habitats** To describe the life cycles of different animal groups. To describe how some animals and plants reproduce.	**Living things and their habitats** To classify plants and animals and give reasons for their choices based on characteristics.
	To understand the difference between plants and animals through observation. To plant seeds and care for growing a plant with support. To simply say what a plant needs to survive.	**Plants** To name and describe the simple features of common plants and trees. To name and describe the different parts of flowers and trees.	**Plants** To know what plants need to grow and stay healthy.	**Plants** To know the job of each part of the flower in the life cycle of a plant. To know what different plants need to live and grow. To describe how water is transported through a plant.			

Key Concepts	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces 	To explain how things work. To explore pushes and pulls. To talk about forces and concepts such as floating and sinking, magnetism and light.			**Forces and Magnets** To understand the effect of friction and contact forces. To describe magnetic and non-magnetic materials. To describe a magnetic force.		**Forces** I understand the force of gravity. I can identify the effects of air resistance. I can use simple mechanisms.	
Materials 	To explore collections of materials and talk about similarities and differences.	**Materials** To name and describe a variety of materials and their properties. To group materials based on their properties.	**Materials** To describe the properties and suitability of everyday materials.	**Materials (rocks)** To group rocks according to simple properties. To know how rocks and fossils are formed. To know what soil is made from.	**States of matter** To recognise the three common states of matter and understand how some materials can change state. To identify the part played by condensation and evaporation in the water cycle.	**Materials** To explain how to combine or separate mixtures and solutions. To understand reversible and irreversible changes. To compare and group materials based on more complex properties—including hardness, solubility, transparency, conductivity and response to magnets	
The Earth in relation to the universe 	To name and identify some different types of weather.					**Earth and Space** To describe the movement of Earth, moon and sun and their relationship to each other and other planets.	

As Scientists in EYFS, we will learn...

The EYFS is the bed rock of all subjects. The F1 and F2 curriculum gives children the necessary skills and knowledge to succeed in Science when they enter Year 1 and beyond. They give an effective route into the main domains of knowledge for Science - Biology, Chemistry, Physics, Earth Science. Key Concepts, Enquiry Strategies and Second Order Concepts run throughout the Key Content areas. Science forms part of our Understanding the World strand. In addition, across the year, children will work towards a set of curricular goals; with each curricular goal having a set of progressive skills. Curriculum goals are as follows:

Autumn	Nursery - Tree identification	Reception - Tree identification
Spring	Nursery - Where do I live?	Reception - Where is Hull?
Summer	Nursery - Growth	Reception - Water and Growth

Understanding the World ELG: The Natural World

- Explore the natural world around them, making observations and drawing pictures of animals and plants;
- 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;
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Impact

By the end of EYFS, pupils will:

Identify similarities and differences between themselves and others, places, objects, materials, living things and simple changing states. They can talk about and make simple observations of animals and plants. They can explore different processes including how to make things work. They begin to work scientifically and use simple methods to record their findings.

Between the ages of three and five years, children show marked development in their understanding of scientific concepts and their ability to test them. They make observations, try things out, gather information and use it to test their ideas and make sense of the world around them. Through play and carefully planned opportunities, they develop their knowledge and understanding of scientific phenomena, while honing their scientific skills of observation, prediction, data collection and analysis.

Key Content	**Working Scientifically**	**Organisms require a supply of energy and materials**	**Materials**	**Forces**
Key Vocabulary	Observe, examine, predict, wonder, test, think, result, how, why, when, what, describe, different, same, change, record, equipment	Weather, seasons, change, different, type,	Mix, pour, react, explode, liquid, solid,	Magnets, melting, freezing, vibrations, shadows, light, transparent, floating, sinking
Outcomes **(N) Nursery** **(R) Reception** **(N/R) Nursery and Reception**	◊ Talks about what they see **(N)** ◊ Uses simple comparative vocabulary (bigger, smaller **(N)** ◊ Uses all their senses in hands on exploration **(N)** ◊ Can make a simple guess about what might happen **(N/R)** ◊ Asks questions about aspects of the world around them **(N/R)** ◊ Looks at objects and pictures and discusses what they can see **(N/R)** ◊ Can generate a variety of ideas for testing (not always realistic or appropriate) **(N/R)** ◊ Observes things closely using, for example, a magnifying glass and comments on what they see **(N/R)** ◊ Uses simple methods to record their findings including tally charts, ticks **(R)**	Explores, notices and describes things that I see around me **(N)** Uses all of the senses in hands on exploration **(N)** Begins to understand the need to respect and care for the natural environment and all living things **(N/R)** Observes, recognisees and comments on the life cycle of plants and animals **(N/R)** Identifies and discusses natural features in the school grounds (N) discussing changes throughout the year **(R)** Talks about and names the different kinds of weather **(N)** using more sophisticated language **(R)**	◊ Explores and talks about collections of materials (shiny, soft, etc) **(N)** ◊ Observes and comments on the characteristics of liquids and solids **(N)** ◊ Explores and talks about how light can shine through some materials but not others **(N)** ◊ Explores collections of materials, identifying similar and different properties **(R)** ◊ Examines materials and consider appropriate uses (for a pair of shoes for example) **(R)** ◊ Experiments and talks about various items and discover if they float or sink **(R)**	Talks about why things happen and how things work **(N)** Explores how things work (wind up toys, pulleys, etc) **(N)** Explores and talk about different forces they can feel **(N/R)** Observes, interacts with and talks about natural processes such as ice melting, sound vibrations and magnet forces **(R)**