

Science spiral curriculum Year B

Autumn 1: Properties and changes to Materials: Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. **Autumn 2: Light:** Learn that light travels from light sources to our eyes or from light sources to objects and then to our eyes. Know how light travels and the direction it travels. Learn that objects are seen because they give out or reflect light into the eye. why shadows have the same shape as the objects that cast them.

Spring 1: Plants: Investigate that the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Understand that the process of reproduction in some plants. **Spring 2: Scientific Observations:** Carry out scientific observations, record findings and perform investigations using appropriate equipment. Research and discuss scientific inventions. Recall and identify previous investigations that they have carried out in previous science lessons.

Summer 1: Forces: Understand of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction. Recognise that some mechanisms allow a smaller force to have a greater effect. **Summer 2: Living things and their Habitats:** Be able to explain the reasoning behind classifying plants and living things. Understand *the process of reproduction in some animals.*

Autumn 1: Animals including Humans: Identify that animals, including humans, need the right types of nutrition from what they eat. Construct and interpret a variety of food chains. Identify the different types of teeth in humans and their simple functions. Describe the simple functions of the digestive system in humans. **Autumn 2: Electricity:** Construct a simple series electrical circuit, identifying and naming its basic parts. Recognises and identify functions of switches lamps, and battery notice and explain cause and effect. Recognise some common conductors and insulators, and associate metals with being good conductors.

Spring 1: Plants: Identify and describe the basic structure of plants. Identify and describe plants need to grow and stay healthy. Identify and describe the functions of plants and trees. Investigate the way in which water is transported within plants. **Spring 2: States of Matter:** Measure or research the temperature at which some materials change state when they are heated or cooled in degrees Celsius. Explore how some materials will dissolve in liquid to form a solution. Identify that evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Summer 1: Materials: Identify and name a variety of everyday materials. Compare the suitability of a variety of everyday materials. Find out how the shapes of some solid materials can be changed. **Summer 2: Sound:** Identify how sounds are made. Identify that vibrations travel through mediums to the ear. Recognise how sounds change when distance changes.

Autumn 1: Animals including humans: Describe the basic needs of animals for survival. Notice that animals, including humans, have offspring which grow into adults. Identify and name a variety of common animals. Sort animals according to their classification. **Autumn 2: Electricity:** Identify common appliances that run on electricity. Sorting objects according to those that do use electricity and those that do not. Discuss the dangers of electricity. Construct a simple series electrical circuit, identify the basic parts of a series circuit.

Spring 1: Materials: Explore a variety of everyday materials. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials according to their properties. Distinguish between an object and the material from which it is made. **Spring 2: Forces and Magnets:** Observe that forces effect movement through investigations linked to push and pull. Compare how objects react to different surfaces. Observe how magnets attract or repel each other. Observe how magnets have two poles.

Summer 1: Living Things and their Habitats: Identify and name a variety of plants and animals in their habitats. Compare the differences between things that are living, dead and things that have never been alive. Understand simple food chain, and identify and name different sources of food. **Summer 2: Super Science:** Carry out scientific observations, record simple findings and perform simple investigations. Discuss/research inventions and their inventors, reflecting upon previous knowledge and experiences.

Notices difference between plants and animals, identifying environmental sounds, basic experiments (e) rolling, throwing, pushing, pulling, magnets, viewing panels, exploring different materials & textures

Blue
Phase

Yellow
Phase

Red
Phase

EYFS

Purple

Class