

Science Key Stage Expectations

End of EYFS

All pupils will:

- Begin to question why things happen.
- Have their own ideas which they begin to explore.
- Notice similarities and differences.
- Use their senses and look closely.
- Use equipment and tools carefully.
- Create simple representations of people and objects.
- Talk about things like plants, animals, natural and found objects.
- Begin to use science words.

End of KS1

Disciplinary Knowledge:

- Ask simple questions.
- Recognise that questions can be answered in different ways.
- Perform simple tests.
- Compare things. I sort and group them.
- Observe closely.
- Use simple equipment to make measurements.
- Gather and record simple data in different ways.
- Talk about what I have found out.
- Use simple scientific language.

Substantive Knowledge :

- Name and locate parts of the human body, including those related to the senses, and describe the importance of exercise, balanced diet and hygiene for humans.
- Describe the basic needs of animals for survival and the main changes as young animals, including humans, grow into adults.
- Describe basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants.
- Identify whether things are alive, dead or have never lived.
- Describe and compare the observable features of animals from a range of groups.
- Group animals according to what they eat, describe how animals get their food from other animals and/or from plants, and use simple food chains to describe these relationships.
- Describe seasonal changes.
- Name different plants and animals and describe how they are suited to different habitats.
- Use their knowledge and understanding of the properties of materials, to distinguish objects from materials, identify and group everyday materials, and compare their suitability for different uses.

End of KS2

Substantive Knowledge:

- Name, locate and describe the functions of the main parts of the digestive, musculoskeletal, and circulatory systems, and can describe and compare different reproductive processes and lifecycles, in animals.
- Describe the effects of diet, exercise, drugs and lifestyle on how their bodies function.
- Name, locate and describe the functions of the main parts of plants, including those involved in reproduction and transporting water and nutrients.
- Use the observable features of plants, animals and micro-organisms to group, classify and identify them into broad groups, using keys or in other ways.
- Construct food chains.
- Explain how environmental changes may have an impact on living things.
- Use the basic ideas of inheritance, variation and adaptation to describe how living things have changed over time and evolved; and describe how fossils are formed and provide evidence for evolution.
- Group and identify materials, including rocks, in different ways according to their properties, based on first-hand observation; and justify the use of different everyday materials for different uses, based on their properties.
- Describe the characteristics of different states of matter and group materials on this basis; and can describe how materials change state at different temperatures, using this to explain everyday phenomena, including the water cycle.
- Identify, and describe what happens when dissolving occurs in everyday situations; and describe how to separate mixtures and solutions into their components.
- Can identify, with reasons, whether changes in materials are reversible or not.
- Use the idea that light from light sources, or reflected light, travels in straight lines and enters our eyes to explain how we see objects, and the formation, shape and size of shadows.
- Use the idea that sounds are associated with vibrations, and that they require a medium to travel through, to explain how sounds are made and heard.
- Describe the relationship between the pitch of a sound and the features of its source; and between the volume of a sound, the strength of the vibrations and the distance from its source.
- Describe the effects of simple forces that involve contact (air and water resistance, friction), and others that act at a distance (magnetic forces, including those between like and unlike magnetic poles; and gravity).
- Identify simple mechanisms, including levers, gears and pulleys that increase the effect of a force.
- Use simple apparatus to construct and control a series circuit, and describe how the circuit may be affected when changes are made to it; and use recognised symbols to represent simple series circuit diagrams.

- Describe the shapes and relative movements of the sun, moon, earth and other planets in the solar system; and explain the apparent movement of the sun across the sky in terms of the earth's rotation and that this results in day and night.
-
-