



Science Outcomes



Our Science Vision

Science is all around us; it has changed our lives and is vital to the world's future prosperity. A high-quality science education provides the foundations for understanding the world. As we as developing scientific knowledge, our teaching helps to develop pupils' sense of excitement and curiosity about natural phenomena. As Drayton Infants, pupils develop an understanding of how science can be used to explain what is occurring, predict how things will behave and analyse causes through different types of science enquiries that help them to answer scientific questions about the world around them.

Outcomes for Science

Be curious about our world	Be an engaged citizen of the world	Develop healthy mindsets	Reflect on answers and questions (prediction and conclude via investigation)	Be creative and resourceful in search of knowledge	Use tools effectively (health and safety)
Question and seek proof	Develop a healthy lifestyle	Understand the history of our species and world	Value contributions and collaboration	Problem solving with a variety of resources	Link to science in industry

Key Knowledge - EYFS

Pupils will know:

Subject Specific Knowledge:

- Understanding the world involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment
- children know about similarities and differences in relation to places, objects, materials and living things
- They talk about the features of their own immediate environment and how environments might vary from one another
- They make observations of animals and plants and explain why some things occur, and talk about changes.
- They know about similarities and differences between themselves and others,

Subject Specific Vocabulary:

- Animal, plant, environment

Key Skills - EYFS

Pupils will be able to:

- To ask questions
- To observe
- To describe
- To predict

Key Knowledge – Year 1

Pupils will know:

Subject Specific Knowledge:

Plants

- Identify and name a variety of common wild and garden plants.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.

Animals

- Describe and compare the structure of a variety of common animals
- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Materials

Key Skills – Year 1

Pupils will be able to:

Plants

- Dissect a plant
- Name plants in their local environment
- Observe a trees and notice how they change
- Identify a tree by its leaves
- Identify weeds when gardening

Animals

- To use their senses to describe

Materials

- Choose materials depending on their characteristics suitable for the purpose

<ul style="list-style-type: none"> ○ Distinguish between an object and the material from which it is made ○ Identify and name a variety of everyday materials. ○ Describe the simple physical properties of everyday materials. <p>Subject Specific Vocabulary:</p> <ul style="list-style-type: none"> ○ Deciduous, evergreen ○ Fish, amphibians, reptiles, birds and mammals ○ Senses ○ Material, wood, plastic, glass, metal, water and rock. 	<p>Seasonal changes</p> <ul style="list-style-type: none"> ○ <p>Working scientifically</p> <ul style="list-style-type: none"> ○ To ask questions ○ To observe closely ○ To identify and describe ○ To classify ○ Observe how things change over time
<p style="text-align: center;">Key Knowledge – Year 2</p> <p>Pupils will know:</p>	<p style="text-align: center;">Key Skills – Year 2</p> <p>Pupils will be able to:</p>
<p>Subject Specific Knowledge:</p> <p>Living things and their habitat</p> <ul style="list-style-type: none"> ○ Will know if something has ever lived or is alive ○ What a habitat is ○ What habitats provide for animals and plants and how they depend on each other ○ Identify plants and animals in a habitat ○ How animals get their food from plant and other animals <p>Plants</p> <ul style="list-style-type: none"> ○ How seeds grow into mature plants and what they need to survive <p>Animals including Humans</p> <ul style="list-style-type: none"> ○ Notice that animals, including humans, have offspring which grow into adults ☑ ○ Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) ☑ ○ Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. <p>Uses of everyday materials</p> <ul style="list-style-type: none"> ○ identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses ☑ ○ find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. <p>Subject Specific Vocabulary:</p> <ul style="list-style-type: none"> ○ Living, dead and alive ○ Habitat ○ Food chains ○ seeds 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> ○ To be able to keep something alive and healthy ○ Compare differences and similarities between living things and habitats ○ Know how to care for an animal to keep it healthy and alive <p>Plants</p> <ul style="list-style-type: none"> ○ Be able to successfully grow a variety of plants. <p>Animals including Humans</p> <ul style="list-style-type: none"> ○ To live a healthy life style <p>Uses of everyday materials</p> <ul style="list-style-type: none"> ○ Pick materials to use depending on their characteristics to make a successful product for the purpose ○ Change materials by exerting force <p>Working scientifically</p> <ul style="list-style-type: none"> ○ To ask questions ○ To observe closely ○ To identify and describe ○ To classify ○ To use observations and ideas to suggest answers to questions ○ Gather and record data in order to help answer questions
<p style="text-align: center;">Key Knowledge – Year 3</p> <p style="text-align: center;">Our Pupils will be moving on to:</p>	<p style="text-align: center;">Key Skills – Year 3</p> <p style="text-align: center;">Our Pupils will be moving on to:</p>
<p>Plants</p> <ul style="list-style-type: none"> ○ identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers ☑ 	<p>Plants</p> <ul style="list-style-type: none"> ○ To dissect a plant ○ To grow a plant ○ To locate how water travels in a plant

- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant ☒
- investigate the way in which water is transported within plants ☒
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Animals including humans

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat ☒
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Rocks

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties ☒
- describe in simple terms how fossils are formed when things that have lived are trapped within rock ☒
- recognise that soils are made from rocks and organic matter.

Light

- recognise that they need light in order to see things and that dark is the absence of light ☒ notice that light is reflected from surfaces ☒ recognise that light from the sun can be dangerous and that there are ways to protect their eyes ☒
- recognise that shadows are formed when the light from a light source is blocked by an opaque object ☒
- find patterns in the way that the size of shadows change.

Forces and magnets

- compare how things move on different surfaces notice that some forces need contact between two objects, but magnetic forces can act at a distance ☒
- observe how magnets attract or repel each other and attract some materials and not others
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials ☒
- describe magnets as having two poles ☒
- predict whether two magnets will attract or repel each other, depending on which poles are facing.

Animals including humans

- Be able to identify sources of food for a variety of animals

Rocks

- Group and give reasons for groupings

Light

- To create shadows of different shapes and sizes

Forces and magnets

- To use magnets to attract
- To use magnets to repel

Working scientifically

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests ☒
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers ☒
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions ☒
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables ☒
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions ☒
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions ☒
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.