Science

Parent workshop

This workshop

- Our curriculum
- What you will see in a science lesson
- Can you help us?

Our curriculum

Is in line with the national curriculum for science which aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Year 1

Animals, including humans - All about me

This unit takes children through six lessons where they learn how to **identify, name, draw and label the basic parts of the human body** and say which **part of the body is associated with each sense.**

Year 1

This unit takes children through six lessons where they learn how to **identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals**. They learn how to **identify and name a variety of common animals that are carnivores, herbivores and omnivores.**

Year 1

This unit takes children through six lessons where they learn how to **distinguish between an object and the material from which it is made**. They also learn how to **identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock**.

Year 1

This unit takes children through six lessons where they learn how to **describe the simple physical properties of a variety of everyday materials**. They learn how to **compare and group together a variety of everyday materials on the basis of their simple physical properties.**

Year 1

Children learn how to **identify and name a variety of common wild and garden plants**. They also learn how to **identify and describe the basic structure of a variety of common flowering plants, including trees.**

Year 1

This unit on **'Seasonal Changes'** takes children through six lessons where they learn how to **observe changes across the 4 seasons and observe and describe weather associated with the seasons and how day length varies**.

Year 2

This unit '**Animals, including humans 1 - Growth**' takes children through six lessons where they **find out about and describe the basic needs of animals, including humans, for survival (water, food and air)**.

Year 2

This unit '**Animals, including humans 2 – Life cycles**' takes children through six lessons where they are taught how to **notice that animals, including humans, have offspring which grow into adults**.

Year 2

Children explore and compare the differences between things that are living, dead, and things that have never been alive. They learn how to identify and name a variety of plants and animals in their habitats, including microhabitats; and describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

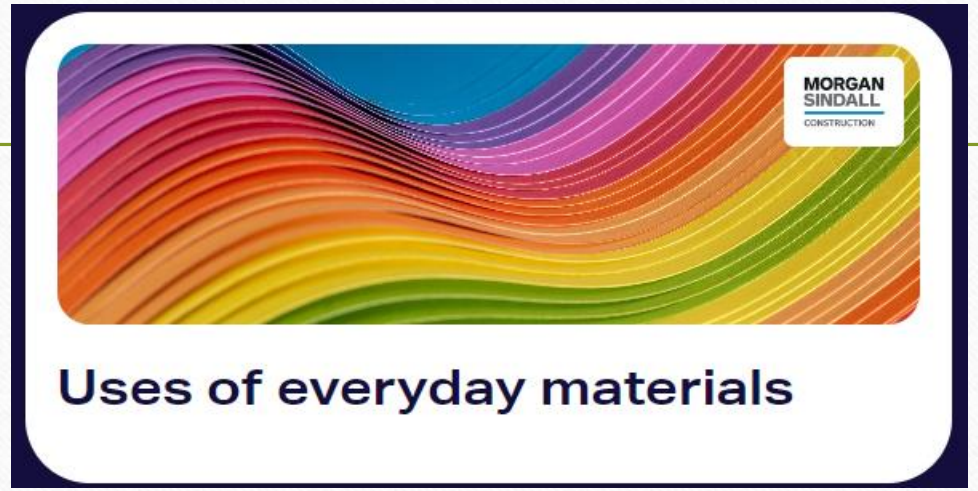
Year 2

Children learn how to **identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.**

Year 2

This unit '**Plants**' takes children through six lessons where they learn how to: **observe and describe how seeds and bulbs grow into mature plants;** and **find out and describe how plants need water, light and suitable temperature to grow and stay healthy.**

Year 2



This unit '**Uses of everyday materials**' takes children through six lessons where they learn how to: **identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses**.

Year 3

Animals, including humans

This unit '**Animals including humans**' takes children through six lessons where they learn how to: **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.**

Year 3

This unit '**Forces and magnets**' takes children through six lessons where they learn how to: **compare how things move on different surfaces; notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.**

Year 3

Light

This unit 'Light' takes children through six lessons where they learn how to: **recognise that they need light in order to see things and that dark is the absence of light; they recognise that light from the sun can be dangerous and that there are ways to protect their eyes.** Children learn how to **recognise that shadows are formed when the light from a light source is blocked by an opaque object;** and **they find patterns in the way that the size of shadows change.**

Year 3

This unit 'Plants' takes children through six lessons where they learn how to: **identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers**. They **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.** They **learn how to explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal**.

Year 3

This unit on **'Rocks'** takes children through six lessons where they learn how to **compare and group together different kinds of rocks on the basis of their appearance and simple physical properties**. They learn how to **describe in simple terms how fossils are formed when things that have lived are trapped within rock** and finally they learn how to **recognise that soils are made from rocks and organic matter.**

Year 4

Animals including humans

This unit '**Animals including humans**' takes children through six lessons where they learn how to: **describe the simple functions of the basic parts of the digestive system in humans; identify the different types of teeth in humans and their simple functions**; and finally, **construct and interpret a variety of food chains, identifying producers, predators and prey**.

Year 4

This unit '**Electricity**' takes children through six lessons where they learn how to: **identify common appliances that run on electricity; construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.**

Year 4

Living things and their habitats

This unit 'Living things and their habitats' takes children through six lessons where they learn how to: **recognise that living things can be grouped in a variety of ways; and explore** and **use classification keys to help group, identify and name a variety of living things in their local and wider environment.**

Year 4

This unit '**Living things and their habitats – Conservation**' takes children through six lessons where they learn how to **recognise that environments can change and that this can sometimes pose dangers to living things**.

Year 4

This unit '**Sound**' takes children through six lessons where they learn how to: **identify how sounds are made, associating some of them with something vibrating; recognise that vibrations from sounds travel through a medium to the ear.**

Year 4

This unit '**States of matter**' takes children through six lessons where they learn how to: **compare and group materials together, according to whether they are solids, liquids or gases; observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens.**

Year 5

Animals, including humans

This unit 'Animals, including humans' takes children through six lessons where they learn how to: **describe the changes as humans develop to old age.**

Year 5

This unit 'Changes of materials' takes children through six lessons where they learn how to: **describe how to recover a substance from a solution; demonstrate that dissolving, mixing and changes of state are reversible changes.**

Year 5

This unit gives children the opportunity to star-gaze by learning more about the Earth and the celestial bodies in our solar system. Starting with an exploration of each planet - from Mercury to Neptune - this unit then explores how scientific ideas surrounding Earth's movement and placement have changed and developed over time.

Year 5

This unit 'Force' takes children through six lessons where they learn how to: **explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object; identify the effects of air resistance, water resistance and friction, that act between moving surfaces.**

Year 5

Living Things and their habitats

This unit builds on work from previous years and deepens the children's understanding of life cycles, reproduction and animal characteristics. New concepts such as asexual reproduction and metamorphosis are introduced to help the children understand how life cycles are constantly progressing.

Year 5

This unit 'Properties of materials' takes children through six lessons where they learn how to: **compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.**

Year 6

Animals, including humans

This unit 'Animals, including humans' takes children through six lessons where they learn how to: **identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood; recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.**

Year 6

Electricity

This unit 'Electricity' takes children through six lessons where they learn how to: **associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit;** they learn how 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.**

Year 6

This unit introduces the children to the key concepts of evolution and inheritance by building upon previous topics, including animal characteristics and fossils. The children will learn about inherited traits and apply their knowledge to various animals and plants, before being introduced to the work of Mary Anning and Charles Darwin.

Year 6

This unit 'Light' takes children through six lessons where they learn how to: r**ecognise that light appears to travel in straight lines; use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye; explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.**

Year 6

Building on previous 'Living Things' units, this Year 6 National Curriculum course helps children identify the kingdoms of life and to classify living things within those kingdoms. The children will be introduced to the Linnean system of classification and will be able to develop their practical scientific skills through investigating mould growth on bread and mushroom spore dispersal.

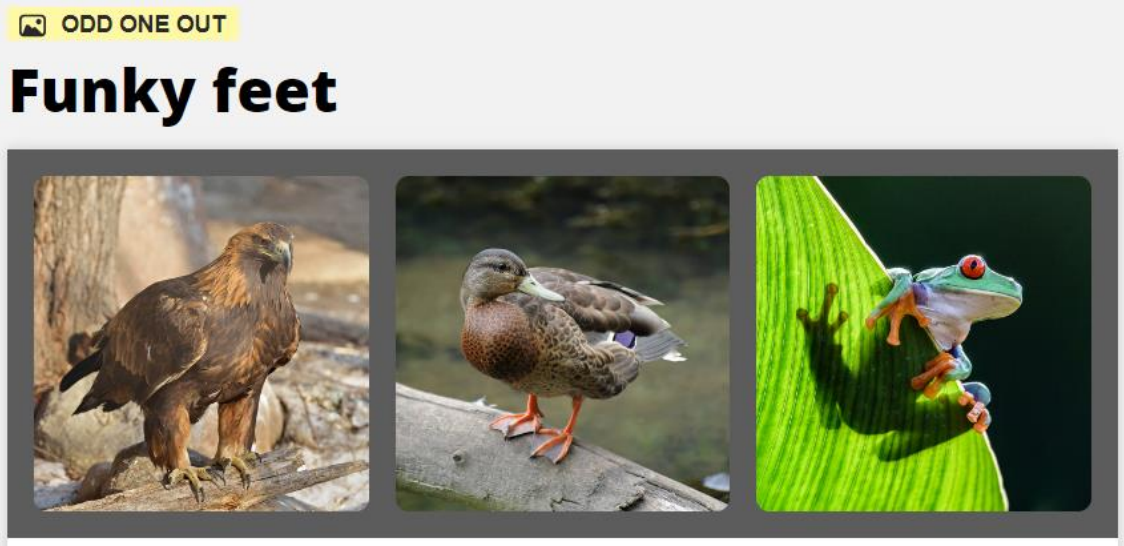
Year 6

Looking after our Environment

This unit ‘Looking after the Environment' takes children through six lessons and is designed to complement the DfE’s sustainability science curriculum this unit. To align with the National Curriculum this unit is delivered to further develop children's **working scientific skills**. Children explore: the core concepts – **'so what the climate is, how it changes, the difference between a man-made and natural environment and where different types of animals live'**.

During a science lesson in KS1/KS2 you will see:

- Explorify Starter on unit (E.g. Odd One Out, Zoom In, Zoom Out)



During a science lesson in KS1/KS2 you will see:

- Recap of prior learning.
- Teacher making children aware of what they will learn and what they will be able to do at the end of the lesson.
- Teacher letting children know what they should be doing and what the expected result should be.
- Differentiated activities for different groups of learners.
- Children engaged in independent learning.
- Review of the learning (Checking what children are learning throughout the lesson through mini-plenaries. Summarise everything in a plenary at the end of the lesson).

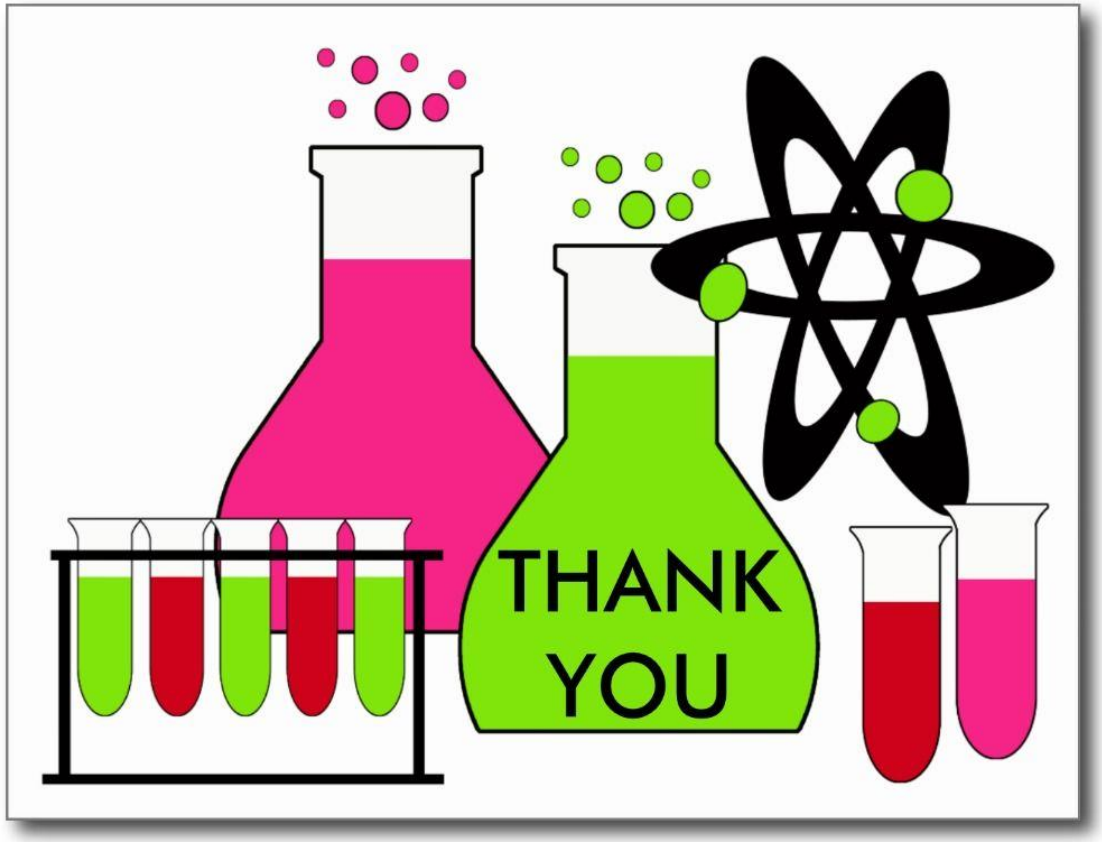
Can you help us?

Do you have a science background?

Do you work in a field of science?

Do you know someone who does?

We would love to build some links with parents to further our possibilities driver and give children context for their learning. If you have a background in any field of Science and would be willing to talk to one of our children about what a job in Science entails please email the school office. We will be looking for anyone who can talk about a career in Science to talk at various points through the year, including during Science Week in March 2024.


THANK
YOU