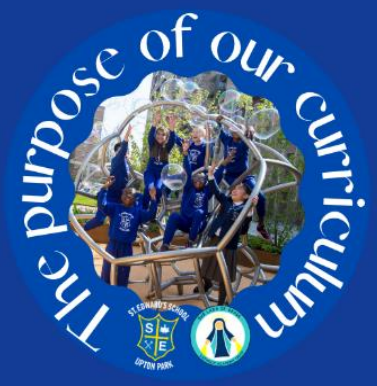
St. Edward's Catholic Primary School



Curriculum Intent

At St Edward's Primary School, it is our intention to recognise the importance of Science in everyday aspects of daily life. We give the teaching and learning of Science the prominence it requires. The scientific area of learning is concerned with increasing pupils' knowledge and understanding of our world, and with developing the skills associated with Science as a process of enquiry. It will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence. We intend to build a Science curriculum which develops learning and results in the acquisition of knowledge, and enables children to become enquiry based learners.

We encourage all students to think like Scientists, there are no limits on what students can do now and go onto do in the future. Through our lessons and extra-curricular activities such as Science week and Science club, students are exposed to and learn about a range of Scientists ensuring all ethnicities, religions and genders are reflected. We celebrate achievements of women in Science and actively discuss the workings of Scientists who students can identify with.

Science is the ideal subject in which students can become independent thinkers. Students formulate a hypothesis and then must think about how to investigate it, for examples through observations or experiments. They need to decide whether their hypothesis was correct and justify their choice. This is encouraged outside of the classroom too through the 'Science selfie' competition.

Science is everywhere and through Science we can encourage students to think responsibly about the planet and others. For example, we discuss climate change and what we can do to reduce the impact this is having on our planet. We can also look at the very important work scientists do in regards to treating and curing diseases. We can look at the ethics of Science and how Science can help make lives better for people globally.

We have many opportunities in the Science curriculum for students to develop group work skills as well as independent skills, particularly when conducting experiments in which they must think critically and use problem solving skills to come to their final conclusion. Due to the nature of Science investigations, students have ample opportunities to be independent learners.

Science and technology go hand in hand! Science couldn't develop without the use of technology and students are taught about this through learning about computer science and analysing data online. We also try and expose students to relevant technology, for example using VR headsets to go to outer space. We encourage students to use the internet to research and then complete presentations or infographics, so that we keep developing their technology skills.

'Following Christ we reach our goals'

St. Edward's Catholic Primary School

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The Primary Science curriculum provides the foundation for understanding the world we live in through the following disciplines:

Biology	Chemistry	Physics

TOPICS

Animals including Humans	Everyday Materials
Seasonal Changes	Living things and their habitats
Forces and Magnets	Electricity

EYFS

EYFS Science at St Edwards Primary School draws upon the guidance from Development Matters, exemplification materials for ELG14 'The World' and exceeding statements.

YEAR 1 and 2

Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Observe and describe how seeds and bulbs grow into mature plants.	**Animals, including humans** Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Notice that animals, including humans, have offspring which grow into adults.	**Living things and their habitats** Explore and compare the differences between things that are living, dead, and things that have never been alive. 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. habitats, including microhabitats.	**Everyday materials** Distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Describe the simple physical properties of a variety o everyday materials compare and group together a variety of everyday materials on the basis of their simple physical proper
Seasonal Changes observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies	**Uses of everyday materials** 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		

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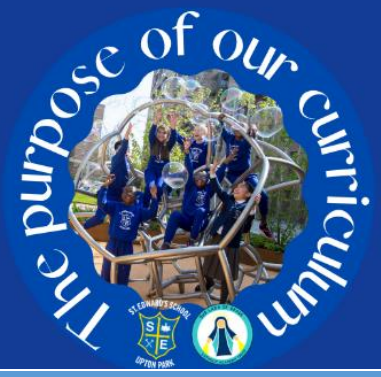

YEAR 3 and 4

Plants

Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
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

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.

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 changes.

Forces and Magnets

Compare how things move on different surfaces. Notice that some forces need contact between 2 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 2 poles
predict whether 2 magnets will attract or repel each other, depending on which poles are facing

Living thing and their habitats

Recognise that living things can be grouped in a variety of ways
explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.

Recognise that environments can change and that this can sometimes pose dangers to living things.

States of matter

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 in degrees Celsius (°C).
Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

Sound

Identify how sounds are made, associating some of them with something vibrating.
Recognise that vibrations from sounds travel through a medium to the ear.
Find patterns between the pitch of a sound and features of the object that produced it.
Find patterns between the volume of a sound and the strength of the vibrations that produced it.
Recognise that sounds get fainter as the distance from the sound source increases

YEAR 5 and 6

Living thing and their habitats

Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
Describe the life process of reproduction in some plants and animals.

Animals, including humans

Describe the changes as humans develop to old age.
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.
Describe the ways in which nutrients and water are transported within animals, including humans.

Forces

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.
Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.

Properties and changes of materials

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.
Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.

Earth and Space

Describe the movement of the Earth and other planets relative to the sun in the solar system.
Describe the movement of the moon relative to the Earth. Describe the sun, Earth and moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Evolution and Inheritence

recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

Light

Recognise 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.

Electricity

Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
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.

'following Christ we shall all be well'