

SCIENCE CURRICULUM

socially mistakes morally potential
confidently spiritually
Grow Learn
Love St Jesus world
ourselves faith
others Joseph's

INTENT

Our science curriculum aims to develop a sense of excitement and curiosity about natural phenomena and an understanding of how the scientific community contributes to our past, present and future. We want pupils to develop a complex knowledge of Biology, Chemistry and Physics, but also adopt a broad range of skills in working scientifically and beyond. We will be using the Kapow Science scheme to support teaching and learning.

Our curriculum aims to encourage critical thinking and empower pupils to question the hows and whys of the world around them.

Our curriculum encourages:

- A strong focus on developing knowledge alongside scientific skills across Biology, Chemistry and Physics.
- Curiosity and excitement about familiar and unknown observations.
- Challenging misconceptions and demystifying truths.
- Continuous progression by building on practical and investigative skills across all units.
- Critical thinking, with the ability to ask perceptive questions and explain and analyse evidence.
- Development of scientific literacy using wide-ranging, specialist vocabulary.

IMPLEMENTATION

Throughout KS1 and KS2 essential knowledge and skills will be revisited with increasing complexity, allowing pupils to revise and build on their previous learning. A range of engaging recall activities promote frequent pupil reflection on prior learning, ensuring new learning is approached with confidence. Cross-curricular links are included throughout each unit, allowing children to make connections and apply their Science skills to other areas of learning.

Each unit is based upon one of the key science disciplines; Biology, Chemistry and Physics and the National curriculum content has been grouped into six key areas of science:

- Plants
- Animals, including humans
- Living things and habitats
- Materials
- Energy
- Forces, Earth and space.

Pupils explore knowledge and conceptual understanding through engaging activities and an introduction to relevant specialist vocabulary. The 'working scientifically' skills are integrated throughout with conceptual understanding.

This provides frequent, but relevant, opportunities for developing scientific enquiry skills.

Each year group has an exploratory 'Making connections' unit that delves beyond the essential curriculum and allows children to explore inspirational scientists and their work, as well as potential careers in science.

IMPACT

The expected impact is that children will:

- Develop a body of foundational knowledge for all topics in the National curriculum.
- Be able to evaluate and identify the methods that 'real world' scientists use to develop and answer scientific questions.
- Identify and use equipment effectively to accurately gather, measure and record data.
- Be able to display and convey data in a variety of ways, including graphs.
- Analyse data in order to identify, classify, group, and find patterns.
- Use evidence to formulate explanations and conclusions.
- Demonstrate scientific literacy through presenting concepts and communicating ideas using scientific vocabulary.
- Understand the importance of resilience and a growth mindset, particularly in reference to scientific enquiry.

SCIENCE – TOPICS OVERVIEW

| YEAR | ADVENT 1 | ADVENT 2 | LENT 1 | LENT 2 | PENTECOST 1 | PENTECOST 2 |
|-------------------------------|--|---|----------------------------------|---------------------------------|------------------------|-----------------------------------|
| Nursery/ Reception | Me & My Community | Once Upon a Time | Starry Night | Dangerous Dinosaurs | Sunshine & Sunflowers | Big Wide World |
| Year 1 | Seasons – week 1 – observation Key scientist – Isaac Newton | Seasons – week 2 – observation Materials | Seasonal changes | Animals: Sensitive bodies | Introduction to plants | Animals: Comparing animals |
| Year 2 | Key Scientists | Materials | Living Things and their habitats | Animals | Plants | Science in Action |
| Year 3 | Light | Material Properties - Rocks | Forces | Animals: Movement and nutrition | Plants | Science in Action |
| Year 4 | States of Matter | Key Scientists | Electricity | Sound | Living things | Animals: Digestion and food |
| Year 5 | Life Cycles | Materials | Forces – Earth and Space | Materials | Forces | Living things/ animals |
| Year 6 | Key Scientists | Electricity | Living things – classification | Light | Evolution | Animals/ circulation and exercise |