Idle CE Primary School is a caring and supportive community where everyone is encouraged to thrive. We foster bravery in facing challenges, celebrate teamwork, and nurture a spirit of helping others.

Through faith, learning and shared purpose, we grow together, guided by Christian values and the belief that each child is wonderfully made by God.

Science at Idle

Headteacher:	Mrs Emily Hobson
Subject Leader:	Mrs Elisabeth Whitehead

Science Intent Statement: Idle CE Primary School

1. Subject Intent:

Purpose of Science

At Idle CE Primary School, Science enables pupils to explore, understand and question the world around them through enquiry and investigation. Through developing scientific knowledge and working scientifically, pupils build curiosity, resilience and a deep understanding of natural phenomena.

Rooted in our values of love, courage and joy, pupils learn to respect living things and the environment, confidently ask questions, test ideas and experience the excitement of discovery.

Why Science Matters: Bradford Context

Science prepares pupils to understand and engage with the modern world.
Through Science, pupils:

- Develop curiosity about how the world works
- Understand real-life issues (health, environment, technology)
- Build confidence in questioning, investigating and problem solving
- Develop knowledge relevant to future learning and careers
- Become informed and responsible citizens

Core Knowledge

The Science curriculum is structured through four key strands:

- **Biology** – living things, animals, plants, evolution
- **Chemistry** – materials, properties and changes
- **Physics** – forces, light, sound, electricity, Earth and space
- **Working Scientifically** – enquiry, investigation and analysis

Content is carefully sequenced across the school:

KS1: basic identification and observation

LKS2: understanding processes and systems

UKS2: explanation, reasoning and application

Curriculum Lenses in Science

Biology

Pupils study living things, including animals, plants, habitats and human systems. They progress from identifying features in KS1 to explaining life processes and systems in KS2.

Chemistry

Pupils explore materials and how they change. Learning progresses from identifying materials to understanding properties, changes and uses.

Physics

Pupils investigate forces, light, sound, electricity and Earth processes. They move from simple observation to explaining cause and effect in the physical world.

Working Scientifically

Pupils develop enquiry skills across all units, including questioning, observing, testing, recording and analysing. These skills underpin all learning.

Disciplinary Thinking: Our Scientific Skills

Questioning

- KS1: ask simple questions
- LKS2: ask relevant scientific questions
- UKS2: develop and refine enquiries

Planning & Investigating

- KS1: carry out simple tests
- LKS2: set up fair tests
- UKS2: plan investigations and control variables

Observing & Measuring

- KS1: observe using senses
- LKS2: measure using standard units
- UKS2: take accurate and repeated measurements

Recording & Communicating

- KS1: drawings and charts
- LKS2: tables and graphs

- UKS2: detailed graphs, diagrams and explanations

Analysing & Evaluating

- KS1: describe what happened
- LKS2: identify patterns
- UKS2: explain findings and evaluate reliability

This ensures progression from **explore → explain → analyse → evaluate**

Cultural Capital

Science provides opportunities for pupils to explore the wider world:

- Learning about significant scientists (e.g. Darwin, Curie, Newton)
- Understanding how science shapes everyday life
- Investigating real-world problems
- Developing curiosity and a sense of wonder

Progression

The curriculum is sequenced across Y1–6:

- **KS1**: awareness and observation
- **LKS2**: processes and systems
- **UKS2**: reasoning and explanation

By the end of Year 6, pupils can:

- Explain scientific concepts across disciplines
- Plan and carry out investigations
- Record and analyse data accurately
- Use scientific vocabulary confidently
- Apply knowledge to new contexts

2. Implementation of Science

Lesson Structure

All Science lessons follow a consistent structure:

Retrieval

- Revisit prior learning and vocabulary
- Link to previous units

New Learning

- Explicit teaching of key scientific knowledge
- Use of models, diagrams and real-world examples

Application (Enquiry)

- Practical investigations and testing
- Opportunities to apply scientific thinking
- Development of enquiry skills

Review

- Evaluate findings
- Explain conclusions using scientific vocabulary

Use of Enquiry, Practical Work and Vocabulary

Practical Enquiry

- Embedded in every unit
- Pupils ask questions, test ideas and gather evidence

Recording

- Progression: drawings → tables → graphs → analysis

Vocabulary

- Explicitly taught
- Progressively built
- Used in speaking and writing

How Knowledge is Revisited

- Retrieval used every lesson
- Concepts revisited across units (e.g. materials → changes)
- Skills revisited in every investigation

How Skills are Built Over Time

- KS1: observe and describe
- LKS2: investigate and explain
- UKS2: analyse and evaluate

3. Assessment of Science:

Assessment is based on end-of-unit "Can the pupil…" outcomes across all year groups.

Pupils are assessed on their ability to:

- Recall scientific knowledge
- Use accurate vocabulary
- Explain processes and relationships
- Apply enquiry skills
- Analyse results and draw conclusions

Assessment shows clear progression from:

- simple understanding in KS1
- to independent enquiry and evaluation in KS2

4. Impact of Science at Idle

Pupils at Idle CE Primary School develop as curious, confident and capable scientists.

By the end of Year 6, pupils are able to:

- Explain concepts across biology, chemistry and physics
- Plan and carry out independent investigations
- Use scientific equipment and measurement accurately
- Analyse data and draw evidence-based conclusions
- Evaluate reliability and suggest improvements

Pupil voice demonstrates curiosity, engagement and confidence in applying scientific knowledge. Pupils show a strong understanding of how science relates to the real world.