Crich Carr Church of England Primary School

SCIENCE

SUBJECT Policy (V1)

September 2023

What is Science?

Science is about making sense of, and being curious about, the world around us – including living and non-living things.

SECTION 1 - INTENT:

We aim to encourage and develop a child's interest in Science and the world we live in, helping them to appreciate its importance and how it contributes to all aspects of everyday life.

We aspire to:

- Build on children's natural curiosity and for them to acquire a growing understanding of the world around them.
- Encourage children to question and ask 'Why…' and 'What if…?'
- Develop children's practical skills and their ability to hypothesise and investigate 'fairly', making accurate records.
- Promote critical thinking and draw accurate conclusions.
- Use and apply maths skills to real-life situations.
- Promote future jobs and ambitions in the field of STEM.
- Prepare our children with the required skills and knowledge for their next stage of education, and life in an increasingly scientific and technological world – today and in the future.

We have a developed a detailed intent document which further outlines our curriculum intent from nursery to year 6. Please see the attached document.

SECTION 2 - IMPLEMENTATION:

a) Planning

- Long term overviews in place.
- Science will be taught as a discrete subject each week all year round for children in year 1 – year 6.
- Units in Class 1 are taught on a 2 year rolling programme. Units in KS2 are taught on a 4 year rolling programme. See attached.
- There will be separate Science books.
- When planning a unit, teachers take account of previous learning including long term overview and curriculum intent document. Evidence of this should be seen in the introductory lesson – pre learning tasks.
- At the start of the planning process, teachers use the long term overview to identify the unit to be taught that half term and then plan the unit by using the intent document.
- Key knowledge and vocabulary will be planned to be taught using a knowledge organiser.
- Pre learning task used at the beginning of a unit to check children's knowledge and understanding and any misconceptions.
- 'Working scientifically' should not be taught as a separate unit but embedded within each unit (the National Curriculum for Science give examples at the beginning of each key stage). See intent document.
- Prior to the planning stage, teachers must ensure they have the sufficient resources to complete the unit including high quality investigations.
- 'Knowledge of scientists' – units will include learning about key scientists where appropriate linked to the unit being taught. See intent document.
- 'Statistics' (taken from National Curriculum for Maths) – every unit will include statistics learning based on year groups maths per class. See intent document.
- Format of short term planning to suit teachers.

Science in Early years is covered in the 'Understanding the World' area of the EYFS Curriculum. It is introduced directly and indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them.

b) Format of a unit

- Cover page (optional)
- Pre learning task – checking on knowledge and skills (such as a mind map, planning an investigation, knowledge organiser with missing sections etc.)
- Knowledge organiser – children are expected to retain this information. Includes key words, definitions, knowledge and concepts.
- Sequential – building on prior knowledge.
- Some development of the working scientifically throughout the unit.
- Include knowledge of scientist/s.
- Include statistics/data handling linked to maths curriculum for each year group/key stage.
- Post learning task – reflect on progress.

c) Format of a lesson

- At the beginning of each Science lesson there is a reminder about the subject – what is Science? Why learn about it? Link to intent (e.g. curiosity about the world around us, critical thinking, jobs, maths links etc.)
- MEMORY – all lessons start with 'Can you still' activities (whether verbally or written in books). These recap prior learning within a unit and from previous units and years if appropriate.
- Contextualise the learning – explain where this lessons new learning sits in their science learning for this unit and how this new learning fits in with reallife concepts and opportunities.
- Clear learning objective – linked to intent.
- Vocabulary focus – introduce new vocabulary for the lesson or to use within the unit.
- Differentiation is in place to support all to achieve expected level. Challenge and support clear. Differentiation may include additional challenges for high ability children, adult support, use of resources or peer coaching.
- Variety of activity types e.g. practical, written, sorting, investigation, data handling etc.
- Pupils operating as scientists.
- Engagement in practical work.
- The application of scientific skills, knowledge and understanding.
- Pupils show curiosity.
- The teaching stimulates pupils' inquisitiveness.
- Within the lesson there is evaluation and discussion.
- Pupils are given the opportunity to present their findings.
- Science is put in context and, as such, pupils understand its value and its impact on society.
- The teacher has strong subject knowledge.
- Teacher explanations are clear and are articulated with confidence.
- Pupils have opportunities to carry out research using books and the internet.
- Pupils are able to summarise their findings and communicate them clearly.
- Pupils use scientific language.

d) Pupil outcomes and books

- Cover page (optional).
- Pre learning task – checking on knowledge and skills (such as a mind map, planning an investigation, knowledge organiser with missing sections etc.)
- Knowledge Organiser includes key words, definitions, knowledge and concepts.
- Sequential – building on prior knowledge and intent.
- Clear Learning objectives.
- Include knowledge of scientist/s.
- Include investigation/s including fair testing.
- Include statistics/data handling linked to maths curriculum for each year group/key stage.

- Post learning task – celebrate progress.

e) Marking and feedback
- All work marked in line with the marking policy.
- Every piece of work acknowledged by the adult.
- Marking focused on Science learning.
- Live marking is preferable as it provides instant feedback to the children.
- When providing feedback, making mistakes and then reflecting on them i.e. during investigations will be seen as an integral part of the scientific learning process.

f) Assessment
- Opportunities to regularly revisit to check retention of core knowledge.
- Assessed against Intent.
- Formative assessment is used to provide feedback lesson by lesson.
- Science data collection point – Summer 2. At the end of the year teachers to record those children that are not secure and very secure. Rest assumed to be at the expected level.

g) SEND & Inclusion
All children will be provided with the opportunity to build on their current knowledge and understanding. This may be done by setting specific differentiated work, adult support, scaffolding and peer work.

SECTION 3 - IMPACT

Monitoring and evaluation will be carried out by the subject leader to ascertain how well this policy is followed. This will be done through:
- Lesson observations
- Book look
- Assessment Data
- Professional Dialogue
- Pupil Voice
- Staff audit of confidence / knowledge
- Learning walk – e.g. environment audit

Key question – is progress made over time?

Do children know what the subject is and why we study it?
Have children retained what was intended?
Do children enjoy lessons in this subject?