St. Chad's Catholic Primary School

Science Overview

The intent of Science at St. Chad's

At St. Chad's Primary School, we want our children to be enthused scientists! We want pupils at St. Chad's to recognise and understand the importance of science in our daily lives through a practical, hands-on approach involving experiments and investigations, giving our children opportunities to be curious and test out their theories.

We aspire for our children:

- To develop their scientific knowledge and conceptual understanding.
- To be equipped with the scientific knowledge and skills required to understand the uses and implications of Science today and for the future.
- To develop a sense of excitement and curiosity about the world around them.
- To build upon the learning and skill development of the previous years.

Presentation

- Date to be written top left.
- LO on the next line on the left.
- Date and LO to be underlined with a pencil and ruler in KS2
- PP (perfect presentation) on the next line on the left.

Science Learning

- Science is taught once every week. Science lessons are 50 mins / one hour long a week.

- Science lessons with the following structure:
  - Date and LO
    Monday 20th November
    LO: To be able to identify a variety of materials and sort them according to a variety of criteria.
  - PP – Perfect Presentation
    A Science vocabulary word related to the lesson
  - PK - Prior Knowledge Question (Not always evident in book, this can be a discussion to recap on prior learning)
  - Main teaching and learning with adaptive teaching
  - Blue dot challenge

Assessment

• Summative end of unit assessments (Know More / Remember More Quizzes) are used to check understanding. Extra lessons are taught as a result of these assessments if necessary to fill gaps in learning.

Marking

- Tick or dot to indicate whether an answer is correct or incorrect
- Where appropriate, circle mistakes
- Frequent positive comments in books.
- Provide a clarity question, when necessary:
  Clarity/misconception marking is used to clarify whether a child understands what they have been learning or to further challenge them.
  Blue dot questions are used to 'deepen the moment' during lessons meaning clarity questions are not often needed but can be used when necessary.

Adaptive Teaching

•All children (unless very specific SEN needs) should be working on the same LO.

•Adaptive teaching is used where a teacher will adapt activities/tasks to better match pupil need. Prior knowledge questions are used to assess children's knowledge and understanding at the beginning of each lesson, teachers then adjust teaching to support all pupils to make progress.

•There are high expectations for all pupils and lessons are adapted so that all pupils have the opportunity to meet expectations.

Examples of Adaptive Teaching Methods

•Adjust the level of challenge (whilst ensuring expectations are high for all children).
•Change your language.
•Clarify a task or provide success criteria to breakdown learning into manageable steps.
•Clarify/model what 'good' looks like.
•Highlight essential content.
•Re-explain new content or explain it in a different way.
•Give additional examples.
•Use peer tutoring.
•Elicit via questions.
•Split children into groups based on the mini mission and provide additional scaffold for those who need it.
•Use an analogy.
•Set an immediate goal.
•Provide a prompt.
•Structure a group attempt before children attempt individually.
•Improve accessibility (read text to a child, proximity to board).

Pupil Premium

- Pupil premium children are to be asked first, any misconceptions are to be addressed straight away.
- Pupil premium children's books are marked first and interventions are planned to address misconceptions.
- Any Science based trips will be funded for PP children to ensure they can access all areas of the science curriculum and are not disadvantaged.

Marking codes

Symbol	Details
I	Independent
S	Supported
PW	Paired Work
Signature	Work initialled by teaching assistant or supply
VF	Verbal feedback
Sp	Incorrect spelling
P	Missing/inaccurate punctuation
DP	Dojo Point
	Learning objective not met Work highlighted shows an area of development
	Learning objective met Work highlighted

Science Terminology

Substantive knowledge (knowledge of the products of science, such as concepts, laws, theories and models) this is referred to as **scientific knowledge and conceptual understanding** in the national curriculum.

Disciplinary knowledge (knowledge of how scientific knowledge is generated and grows): this is specified in the **'working scientifically'** sections of the national curriculum and it includes knowing how to carry out practical procedures.

	Substantive knowledge	Disciplinary knowledge
Conceptual... know that... because...	Liquids expand when they are heated (for example, the liquid inside a thermometer).	All measuring instruments, such as a thermometer, have a built-in degree of uncertainty.
Procedural[footnote 73]... know how to... and be able to...	Draw a particle diagram for a liquid.	Use a thermometer to measure the temperature of a solution.