Science
at Archbishop Cranmer C of E Primary Academy

Curriculum Rationale

At Archbishop Cranmer, we follow Kapow Primary's Science scheme of work as the foundation to our curriculum planning. This scheme, written by experts, 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. Our scheme of work is inclusive and meaningful, so all pupils may experience the joy of science and make associations between their science learning and their lives outside the classroom. Studying science allows children to appreciate how new knowledge and skills can be fundamental to solving arising global challenges. Our curriculum aims to encourage critical thinking and empower pupils to question the hows and whys of the world around them.

We encourage:

- 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.

Cross Curricular Links inc. SMSC

Maths 1.Classification/Sorting 2.Measurement 3.Statistics
English newspaper report, recounts, persuasion, biographies, fact files, class book linked with science theme.
History examples- space exploration, famous scientists
DT STEM projects such as buggies, rockets and the transportation of tomatoes
Computing example inputting and analysing data using excel

Support and Training

Opportunities for shared planning and teaching across school.
Well-stocked resource cupboards to ensure high-quality, take care work can be produced.
Whole-school display space to celebrate achievements.
Sessions led by external providers.

Big Ideas

To know about a range of famous scientists.
Recognise important scientific inventions and how these have shaped our world.
Create future scientists for the UK's STEM sector

Culture of Opportunity

Linked to topic – awe and wonder.
British Science week- external providers
Toot Hill – Activity Days
Visits to Science museums such as Magna in Sheffield

Curriculum Content and Sequencing

Our scheme of work is designed with the following strands that run throughout: scientific knowledge and understanding of: Biology - living organisms and vital processes, Chemistry - matter and its properties, Physics - how the world we live in 'works', working scientifically - processes and methods of science to answer questions about the world around us, science in action - uses and implications of science in the past, present and for the future.

By following Kapow Primary's Science scheme we ensure a spiral curriculum, with essential knowledge and skills revisited with increasing complexity, allowing pupils to revise and build on their previous learning. The Science in action strand is interwoven throughout the scheme to make the concepts and skills relevant to pupils and inspiring for their futures. Pupils explore knowledge and conceptual understanding with relevant specialist vocabulary. The 'working scientifically' skills are integrated with conceptual understanding rather than being taught discretely. This provides frequent, but relevant, opportunities for developing scientific enquiry skills.

Progress and Assessment

Impact is constantly monitored through both formative and summative assessment opportunities.
Stickers containing the Up2 (learning objective) and Go4 (steps to success) are used within individual lessons to provide ongoing formative assessment of pupil outcomes.
Verbal feedback and opportunities for rich discussion in every lesson also provide teachers with informative assessment for learning opportunities to adapt and monitor learning outcomes.
Attainment and progress is measured across the school using HeadStart end of unit tests, which also allow us to address any gaps in knowledge.
HeadStart progress tests, undertaken termly, show progress throughout the year.