



OAKFIELD ACADEMY SCIENCE DEPARTMENT 2022-2023

INTENT

Science education should provide every student equally with opportunities that enable them to take an informed part in decisions, and to take appropriate actions, that affect their own wellbeing and the wellbeing of others and the environment. It should aim to develop:

- *understanding of a set of big ideas in science which include ideas of science and ideas about science and its applications*
- *scientific capabilities concerned with gathering and using evidence*
- *scientific attitudes and dispositions.*

(‘Working with Big Ideas of Science Education’, Edited by Wynne Harlen)

Aims:

- Support the Oakfield Academy Infinity core concepts;
- Enjoy learning science and be inspired to learn more;
- Understand key concepts to help solve problems in unfamiliar situations;
- Use scientific methods of investigation to solve problems in a disciplined way;
- Appreciate the contribution science makes to society and realise that applying science can lead to moral and ethical issues having to be addressed;
- Understand that learning in science contributes to personal development because the interest and curiosity shown need to be balanced by an awareness of health and safety matters and respect for living things and the environment;
- Appreciate the powerful, but provisional nature of scientific knowledge and understand that science is always developing;
- Promote that it is fine to get things wrong as long as we do this safely and learn from our mistakes;
- Provide opportunities to consider careers in STEM.

We aim to promote the Oakfield Academy motto by achieving these aims through getting the children to BELIEVE AND ACHIEVE.

IMPLEMENTATION

- A four year science course spanning Year 5 to Year 8 called ‘Evolving Science’.
- KS2 Science resources include use of a digital resources bank for units of work, planning for progression and retrieval over time. Developing Experts resources are used to support the curriculum. TAPS assessments are also used periodically for assessing skills development.
- KS3 Science is based on the Blueprint 5-year plan – a big ideas curriculum created by Mastery Science, with support from AQA and the Institution of Mechanical Engineers. AQA GCSE Science is undertaken at Frome Community College. Unit assessments happen at KS3, and cumulative tests are used in class which means that pupils are tested on previous big ideas they have been taught during the key stage. The aim is for the pupils to understand that they cannot just forget previous learning and mimics what they need to be able to do for end-of-term GCSEs.
- Prior learning is regularly checked through the use of low-stakes retrieval quizzes.
- The relevance of science in modern life is maintained through STEM clips and regular use of ‘science in the news’.