

Science Curriculum at Brownhills Ormiston Academy

The departments vision

As scientists we are ready to thrive in our world, respect our environment and all living things within it and to make safe, informed choices throughout.

- We incorporate the values of the academy into our subject to show students their importance and relevance to their future.
- We develop the ability to question science in the news and make informed and ethical decisions about the scientific questions facing society.
- We expose students to a range of scientific careers, highlighting, where relevant, the careers that link directly to students learning.
- New vocabulary is explicitly taught to students so that they can articulate and communicate in a scientifically

Sequencing of lessons

Across both key stage 3, and key stage 4, lessons are carefully sequenced to allow students to build on their prior knowledge.

The curriculum addresses 9 Big Ideas and the 6 key scientific skills, these are planned so that each lesson, unit and year builds on previous learning.

The Big Ideas are:

Biology	Chemistry	Physics
<ul style="list-style-type: none">• The building blocks of life• The interaction of life• The human body	<ul style="list-style-type: none">• Chemical reactions• Our earth• The behaviour of matter	<ul style="list-style-type: none">• The behaviour of energy• Objects effects on other objects• Beyond our earth

The scientific skills are:

- Thinking scientifically
- Understanding the application and uses of science
- Communicating and collaborating in science
- Using investigative approaches
- Working critically with evidence
- Mathematical skills

During each year every opportunity is taken to support students to make increasingly more complex links within each discipline, for example links within Physics and then, across each of the disciplines, between Biology, Chemistry and Physics. We call this the interplay of science.

As students' progress to key stage 4 all students learn the core content to be successful in Science. In year 11 students follow one of two pathways resulting in either a combined science GCSE, which is two GCSE's or triple science GCSE, this is 3 GCSE's.

Assessment

Students will receive regular formative assessment, for example, multiple choice questions, low stakes quizzes or for examination groups practice exam questions. This assessment allows pupils to develop the essential skills of retrieval and recall and apply their new learning in a variety of different ways. Self-assessment opportunities are provided in each lesson and are embedded into the scheme of learning.

Across both key stages formal assessments are planned as part of the scheme of learning. Following feedback from staff, target work is provided to support students to close gaps identified in assessments. In year 10 and 11 students are supported to prepare for their pre-public examinations which in turn are preparation for the final GCSE exams.