Science

CURRICULUM INTENT

STOCKSBRIDGE HIGH SCHOOL

"The whole of science is nothing more than a refinement of everyday thinking" - Albert Einstein
"To develop a complete mind: study the science of art; Study the art of science. Learn how to see. Realise that everything connects to everything else" - Leonardo da Vinci

Science is especially relevant for students in Sheffield, a city built on innovation and industry. With clear links that weave through many other subjects, Science can sometimes provide more questions than answers for our learners. Our curriculum reflects the school values of being Kind, Confident, Positive, and Reflective, ensuring that every learner grows not only academically but personallyTo facilitate this, the curriculum within the Department of Science is:

- Enabling
- Sequenced
- Accessible
- Enjoyable

Confidence and independence are two attributes that we aim to instil in all learners. We want everyone – regardless of age and stage – to be able to have the opportunity to experience what success feels like. Our curriculum provides numerous opportunities using practical work and in-class activities where learners can develop and nurture these skills. When learners are empowered, their chances of success increase dramatically. We provide opportunities for students to explore and think independently, using mistakes as valuable learning points.We also foster Kindness through collaborative practical work, encouraging students to support and respect one another in scientific inquiry. Our goal is to instil a love for Science in all our learners; and our curriculum is one of the main drivers for this vision. We aim to inspire and encourage more learners to make the most of opportunities outside of lesson times. Our extra-curricular program provides opportunities beyond the classroom to explore Science in depth. We encourage students to study Sciences Post-16 and to expand our extra-curricular offer to include visits that link to our curriculum—showing Science in the world beyond Stocksbridge.

Our curriculum uses the body of knowledge of learners have gained from Primary school and builds upon this throughout their time with us. The journey learners make is clearly signposted and shared across the department. We make links with prior learning, wherever possible as well as with other subjects through embedding recall opportunities right the way through to Year 11.This sequenced approach encourages learners to be Reflective, considering how prior knowledge connects to new concepts and applying this understanding thoughtfully. We are working closely with our Primary schools to ensure they teach the same definitions for key scientific terms that we use, including independent, dependent, and control variables. We work closely with feeder schools to embed concepts such as reproducibility and repeatability, ensuring students arrive confident and familiar with these ideas.
Key scientific and mathematical skills underpin the bodies of knowledge learners must know and remember, and these are continually practised and revisited throughout the curriculum during practical work. Our Schemes of Learning clearly identify the skills to be developed within each topic area, providing regular opportunities to hone and refine them.

Our curriculum contains key teaching points that all staff cover; ensuring that all learners leave each lesson with a consistent body of knowledge. However, it does not dictate a method of delivery as it is the job of the Class Teacher to adapt the approach for individual classes and learners. There are examples of support and challenge activities that can be used to ensure that everyone experiences appropriate challenge within lessons. We maintain a positive, inclusive learning environment where every learner feels valued and supported., ensuring that challenge and success are accessible to everyone.

The way in which the curriculum is sequenced means that it spirals across the 5-year journey on all courses. We aim to allow all students to be successful and make progress on whichever course they follow; revisiting content frequently and systematically to ensure that we embed the body of knowledge students need to remember. Our Schemes of Learning identify key scientific vocabulary that teachers explicitly embed within lesson sequences. This approach strengthens students' understanding and improves their chances of success by expanding their knowledge of Tier 3 vocabulary—specialist terminology essential for mastering scientific concepts.

These aims succeed only when learners are inspired by the awe and wonder of Science. Our curriculum must be enjoyable and motivating to everyone, regardless of their personal challenges and barriers. Enjoyment grows when learners feel Confident, work Kindly with peers, maintain a Positive outlook, and Reflect on their progress. These values underpin the empowering notion that we want all students to know what success feels like. If the aims above are consistently embedded and reflected in the curriculum that shapes our everyday practice, students will be motivated to learn. They will want to think and explore independently. In turn, by harnessing these attributes in our learners, we will create the scientists of tomorrow