# Curriculum Intent

# Science

**Raising the profile of science with all pupils and creating vibrant, energetic departments where every pupil achieves the best they possibly can and is prepared for their next steps.**

All students in NCDAT are without exception entitled to a world class education that is holistic, ambitious and aspirational. Our goal in science is to ensure all pupils have the same opportunities to reach their potential, regardless of background, gender, sexual orientation, or ability.

Almost everything in our lives and the world around us can be explained using science. Our young people will develop a sense of excitement and curiosity about natural phenomena by creating opportunities for increasing scientific knowledge, the development of practical skills, the immersion into science capital, as well as to develop pupils' deeper thinking/reflection abilities.

It is vital that we prepare our young people so that they are empowered to become engaged, positive and respectful citizens, through a dedicated focus on personal and professional development within the science curriculum. We aim to empower students to be able to use their science knowledge and skills to form their own opinions and make informed choices around ethical and controversial issues such as abortion, use of stem cells, use of vaccinations, climate change, biodiversity, single use plastic, pollution, renewable energy resources and healthy eating to name only a few examples.

We are responsible for ensuring our young people are confident to pursue ambitious next steps in education, employment or training which will support their future careers. Careers linked to the science curriculum are highlighted and periodically discussed in lessons as indicated in the MTPs, the transferable skills covered in science are made explicit.

STEM opportunities are offered to pupils often as possible, including afterschool clubs, in class workshops, assemblies, taking part in national themed days/weeks, opportunities to achieve a CREST award etc. at both a school and trust level.

Through a carefully sequenced curriculum, we introduce the big concepts early, so we can revisit them over time, to thoughtfully deliver a wealth of scientific knowledge to our students.

In all lessons the current learning is related to past and future learning both in science and across the wider curriculum, with specific links to careers and personal development. Through study in science pupils will develop skill including literacy, numeracy, communication, problem solving, analysis and evaluation.

At Key Stage 3, our goal is to ignite the passion for scientific enquiry and provide the fundamental knowledge and understanding to support pupils' progression through their science learning. We strive to engage pupils in learning through hands-on practical experiences and laboratory investigations, which can extend beyond the requirements of the National Curriculum.

As pupils move through to Key Stage 4, the curriculum builds on the skills mastered at KS3. Pupils are challenged to work and think more independently, reflect critically on their learning, and to evaluate areas for personal improvement. Students are required to use specialist terminology confidently and apply scientific concepts to different situations.

During KS4 pupils build the confidence, skills and knowledge they need to successfully progress onto their chosen Keys stage 5 pathway.

KS5 allows pupil to further broaden and deepen their knowledge in specific subject specialisms, building upon the fundamentals learnt during KS3 and 4.