



# CURRICULUM INTENT

## Science

- **Challenge** lies at the heart of our curriculum. It goes beyond what is statutory or typical; students are encouraged to deepen their understanding of the fundamentals of their learning at every opportunity.
- Our curriculum is fully **inclusive**. All students have access to a broad range of experiences for as long as possible, regardless of prior attainment or additional needs.
- Our curriculum is **knowledge rich**, with subject curricula designed to ensure that any 'powerful' knowledge and skills that are critical to future success are regularly re-visited.
- Our curriculum is **expertly planned** and is therefore sequenced to enable students to build their knowledge and skills towards ambitious agreed end points.
- Wherever appropriate our curriculum gives students the opportunity to **personalise** their experience, thereby facilitating enjoyment and success for all.
- The importance of reading and wider **literacy** skills is a key thread that runs through our curriculum. As well as broadening students' vocabulary, all subjects will develop students' subject-specific literacy, so they can speak, read and write as, for example, a Historian, an Artist or a Physicist.
- A carefully considered and inclusive **extra-curricular** programme supports broader and deeper understanding of the taught curriculum, as well as developing the cultural capital our young people need to be global citizens.
- Students' **personal development**, including careers education, is central to our curriculum, through all subject areas, as well as PSHE lessons, tutor time, assemblies and off-timetable activities.
- Homework and summative **assessment** tasks are strategically designed to promote the concepts of regular review and spaced practice, therefore contributing to a long-term retention of knowledge and skills.

Marling Science Department has a broad, challenging, and enriching curriculum that is designed to engage and excite students from Year 7 through to A level. Science is at the forefront of future advancements, and we want to best prepare our students for this by not only looking at the knowledge of the subject, but also the methods, processes, skills and applications associated with it. We aim to produce scientifically literate students who can make informed decisions about the world around them. Many of our students go on to study science-based University courses or apprenticeships and ultimately take up STEM careers.

All students have access to the full Science curriculum. At GCSE students can choose between Combined Science (Trilogy) and the Separate Sciences, irrespective of ability. In the Sixth Form all three sciences are available, along with AS Geology.

Science is a subject that continually builds upon prior learning and the curriculum is carefully designed to support students in retaining prior knowledge, so it can be applied and linked to future learning. Students are supported in their long-term retention of such knowledge, through regular re-visiting and practising. This could happen in a variety of ways e.g. retrieval practice takes place at the start of lessons, homework is strategically set to ensure that key knowledge is engaged with at regular intervals, and tests are designed to be cumulative as well as topic focussed. When students complete assessed tasks, time is always allocated for them to embed their learning further from the feedback they receive.

Communicating science is a skill for life, so teachers set high expectations in this regard. During lessons students will always be expected to use correct vocabulary, both orally and in written work, with this being supported through the sharing of key terms at the start of each new unit of learning. Students are encouraged to read current news items and published research to develop their wider understanding of science. Students have access to the Review magazines for Biology, Chemistry and Physics. In year 9 all students take part in the FameLab competition.

Access to super and extra-curricular opportunities is hugely important to us. At KS3 students have access to Microbit club, Knex club, Rocket club, Summer Science sessions as well as a science trip to Florida. At KS4 and 5 students have access to the Science Live trips, the Chemistry/Physics/Biology Challenges, Olympiads, MedSoc, Dissection club, Particle Physics club, a Gene Technology workshop at Oxford University, a visit to a local incinerator to learn about energy from waste, and residential trips to Berlin and CERN.

