

## INTENT

In science, we aim to create a learning environment that nurtures future scientists by developing enthusiasm for the subject; providing lessons that are high in quality, challenging and enjoyable. We also aim to build students' cultural capital by linking their learning of science to the world around them: locally, nationally and globally. As a faculty, we work with relevant colleagues and external companies to raise the aspirations of the students by opening their eyes to a variety of opportunities and careers science can provide for them.

Throughout their time at The Boulevard Academy, we aim to take students on a learning journey to build on, and develop, their scientific understanding and skills which makes them curious about the world around them. This enables them to develop a deeper understanding about how the topics within the subject interlink, and that science is not just about remembering disconnected facts. The skills they develop will not just be important if they want to go down a science or STEM route, but are transferable skills which are suitable for whichever direction they wish to go in their lives.

We feel it is important to support the rest of the Academy to create well-rounded individuals so there is evidence of the Academy core values in the delivery of the lessons: resilience, empathy, self-awareness, passion, excellence, communication and teamwork.

## IMPLEMENTATION

Here in the science faculty there is a strong team of specialist leaders who have designed the curriculum; the full science team collaborates regularly to reflect on and make improvements as needed. For this reason, we maintain a high level of subject and curriculum knowledge throughout the team; if necessary, CPD is put in place to support this.

There is a spiral curriculum in place in such that students revisit concepts regularly throughout their journey at the Academy. This allows the sequencing of tasks to be developmental and enables the embedding of knowledge into the students' long-term memory. MTPs outline prior, current and future knowledge to support the planning of lessons; each lesson begins with memory retrieval to support the interleaving and/or interlinking of content, as well as the identification and correction of misconceptions.

Lessons focus on a big question which is evident as a one off, or can be present over a series of lessons; this is a thought-provoking question which links the science they are learning to the world around them. As well as new content being delivered, a scientific, mathematics or literacy skill is usually developed within a lesson and is often assessed in a formative assessment.

The individual science class teachers plan for students to apply key concepts 'fluently'; there are application scenarios shared which link to the lesson. They are also aware of the individual needs of each of their students and employ strategies to support those who need it – with stretch and challenge being available for all, regardless of ability. We stress the importance of key scientific vocabulary for the students and they are present, developed and referred to throughout the lesson; these are the basis to some of the key scientific ideas. Class teachers also ensure the embedding of the personalised learning and thinking skills are evident in their lessons (e.g. the use of the 'C3B4ME' to help promote independent learning skills) and they follow the whole school behaviour policy to support the development of well-rounded individuals. Homework is set by the class teachers in accordance with the whole school policy and it supports the building on or consolidation of the key scientific concepts or skills.

To ensure our potential future scientists reach their full potential, AfL occurs regularly in lessons to support in addressing any gaps in knowledge, correct misconceptions and support the progress of the lesson. Throughout the year, planned formative assessment tasks demonstrate the students' understanding of the key concepts and skills from the unit they have just completed so gaps in knowledge can be identified. We have made key summative assessments cumulative to ensure prior knowledge is tested, which promotes the embedding of knowledge into the students' long-term memory. QLA's are in place after each of these summative assessments at KS4 to allow the students to reflect on their learning and class teachers to plan for future lessons.

To raise aspirations of our scientists, visits and events, which link to the curriculum, support cultural capital and develop understanding of different careers in science, take place throughout the year (including science week). For those students' who have chosen separate science options, particularly but not exclusively, we provide opportunities for them to engage with further education providers.

As the students and their futures are at the heart of our curriculum, students' voice is carried out throughout the year; this helps specialist leads develop the curriculum, extracurricular activities and it supports the mutual respect between science staff and students.

## IMPACT

Students will appear more enthusiastic about science around the Academy and in the student voice. Their work will show evidence of the progression of key skills we are developing throughout the curriculum and their individualised building on prior knowledge. Our students will also show evidence of independence, resilience, passion, engagement, positive communication and team-work in lessons.

Science teachers will be able to explain the reasoning behind the curriculum and understand the order of the delivery for each discipline; this will mirror with the students' explanations of their own learning journeys. The students' long-term memory will improve due to the focus on prior knowledge and they will be able to, more fluently, link multiple topics to different contexts provided over time.

Students' summative data, linked to their learning journey, follows the trajectory based on their end of key stage target. Each year there will be evidence of an increase in the percentage of students completing higher tier papers due to the accessibility of the high demand questions, particularly with the application of science being at the forefront of the teachers' minds.

Each year, an increasing percentage of students will go on to study science related subject's post-16 or will be successful at gaining a place on a science related apprenticeship.