

Science Department

About us

At Liberty Academy, our Science Department inspires curiosity and a love of discovery.

We are committed to delivering engaging, hands-on learning across Biology, Chemistry, and Physics, helping every student develop critical thinking, problem-solving skills, and a deeper understanding of the world around them. Our passionate team fosters a supportive environment where all learners can thrive, explore, and achieve their potential.

Areas for development

This academic year we have aligned our curriculum in years 8 and 10. We are working hard to ensure this is implemented with fidelity and all students are able to succeed in Science.

Our lessons

All lessons follow the same format so students know what is expected of them in each part of the lesson cycle. Students are challenged to apply knowledge learnt from lessons in their independent learning zone activities.

We link abstract concepts with our reality whilst connecting and threading the 3 disciplines together.

Our ambitious and inspiring curriculum for all

Our ambitious and inspiring curriculum is designed for all students to explore, question, and excel. We provide a rich and challenging learning journey that nurtures curiosity, builds confidence, and equips every learner with the knowledge and skills to succeed in science and beyond.

We have focused on building a 5 year helical curriculum which allows students to revisit, reapply and strengthen knowledge over time.

Additionally to combined Science, we also offer an aspirational Separate Science

Curriculum enrichment

STEM club launching after October half term on Tuesday Lunchtimes for KS3 students

Y10 Science Buddies launching after October half term - an opportunity to develop leadership skills whilst exploring a love of Science

Half termly competitions - where students can work either independently or collaboratively to showcase their love for Science on various themes

Medical Mavericks will be coming to work with some KS4 students to explore the world of medicine

British Science Week - is celebrated with our Y7 and Y8 classes in lessons, and all year groups are exposed to the love of Science during tutor time during this week.

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Our curriculum intent

There are four main goals for our curriculum.

Foster scientific literacy – Ensure students gain a deep understanding of core scientific concepts and principles.

Develop critical thinking and problem-solving skills – Encourage students to apply the scientific method, analyze data, and think critically about evidence, fostering skills that are transferable beyond science.

Cultivate curiosity and inquiry – Inspire a love of learning and curiosity about the natural world through practical experiments, observations, and hands-on activities.

Promote environmental and social responsibility – Help students understand their role in addressing global challenges such as climate change, health issues, and sustainability, empowering them to make informed decisions.

Marking and feedback

Misconceptions are anticipated through our MTP using BEST research.

Misconceptions are then addressed through connect activities and through repair & rebuild lessons which feature in every topic.

AfL techniques vary across the department but AoL uses appropriate exam questions

Intervention

Students are selected for **lesson 6** on a weekly basis - but some staff offer additional support throughout the week. This includes morning breakfast sessions as well as lunchtime.

We also run in **subject intervention** where necessary where students will be taken out of lesson to work in smaller focus groups.

Teachers will frequently **communicate with parents** if additional support is required

Quality assurance

We are committed to maintaining the highest standards in teaching and learning.

Through regular learning walks, booklooks, reflective practice, and collaboration, we ensure that every student receives a consistent, engaging, and effective science education.

Home learning

Home Learning is set on **Sparx Science** every Wednesday at 3pm and is due the following Wednesday at 8am.

Students are rewarded every lesson with stamps & a raffle ticket - they have a chance to win a bike!

On top of this, students will also have opportunity to receive prizes every 3 completions of Sparx work.