How the Science department addresses the Whole school Curriculum Intent

Our aim is to provide an ambitious and relevant education for all our students so that we are 'Shaping Exceptional Futures' and are living our principles. We will do this by ensuring our curriculum:

Whole School Curriculum Intent	How the ... department addresses that intent
• is centred around The National Curriculum and is at least as ambitious.	The KS3 curriculum for Science follows the national curriculum through an adapted activate scheme of learning published by Oxford University Press and adapted units of work. At KS4 we also follow the national curriculum at L2 (GCSE) and offer Entry level certificate for a very small minority of learners with EHCP's.
• identifies powerful knowledge and the key knowledge students should have in their "toolkit".	See Long Term Plans and Medium Term Plans
• teaches students to be effective communicators, literate and numerate.	There is a high expectation of teachers and students surrounding discussion and answering questions. There is also an expectation that students are able to explain their thinking and how they came to conclusions/answers. In lessons staff support student's understanding of scientific literacy by breaking down the basis of words (eg methane meth = 1 carbon, and meaning an alkane). This supports students in their understanding and application of use of keywords. There is a strong focus on the accuracy and use of scientific keywords. The department also recognises and understand the subtle differences between numeracy in Maths and Science and have worked with the maths department on aspects of this such as a numeracy audit, numeracy display and language use in lessons. Tasks in lessons are designed to elicit Scientific knowledge and understanding including working scientifically encompasses implicitly the whole school 'thinking hard strategies'.

• equips students with the skills for the next stage in their education or employment.	Our keystage 3 curriculum builds upon prior knowledge from KS2 and further develops their working scientifically skills. Students develop a range of techniques using a variety of different apparatus and techniques that they would not have had as much experience of in their primary school. Throughout keystage 3, 4 and 5, scientific literacy is developed and teaches support students understanding of the roots of scientific keywords. Throughout the keystages, more demanding numeracy techniques and application of numbers is developed in an applied context within the Science curriculum. As part of our lessons students are often asked to work with others, especially during practical work where skills of team work and working collaboratively support a skill for life and work. The curriculum allows students the opportunity to develop their critical thinking skills, be analytical in their thinking and be creative and thoughtful in problem solving. All essential characteristics for future study and/or employment and highly transferable skills. The curriculum, its delivery and intervention where appropriate are focused upon giving students the 'golden key' of academic success that allows them to unlock opportunities to progress into further study or employment. We offer students the opportunity through additional experiences to build their CV to enable them to be able to have detailed and confident discussions with potential employers about their learning journey. We also focus upon equipping students with the confidence to raise their aspirations of what they are capable of.
• teaches the knowledge and skills to enable students to be active and engaged participants in society.	Students are supported in their understanding of how the Science they learn relates to the world around them. Teachers plan to place aspects of the curriculum into a real world and where possible local context. Practical skills within Science are 'part and parcel' of the curriculum and time is planned and devoted to the development of practical and scientific enquiry skills. This is designed to develop the natural curiosity and questioning of the world around them including other people's beliefs, ethics and opinions. Vital life skills of working collaboratively, independently and taking responsibility are explicit aspects of the work students carry out. Students develop an understanding of a range of

	scientific concepts to enable them to be active participants, useful to society and able to discuss and make evidence based judgements about current, past and future issues in the world in which they inhabit.
• offers a wide range of subjects and provides quality time for students to participate in a wide range of extracurricular opportunities, so as to enrich their personal development and broaden the quality of education.	The curriculum delivered mirrors the content in the National Curriculum. Students have a varied experience of Biology, Chemistry and Physics but also how what they are learning has a real world application in a local, national and international context. The Science department works with a range of outside agencies to provide a range of opportunities to students (such as Arkwright engineering scholarships in the #IAMSET programme, Salters festivals of Chemistry, STEM ambassadors, LJMU Chemistry outreach programmes, STEM Club. The department also takes advantage of a range of opportunities to enrich our curriculum including promoting how Science can be used for future careers.
• teaches and encourages students to have high aspirations and be excited about learning.	Teachers often refer to careers relating to Science during their teaching. At open evenings' the department also encourages students to think about a career in Science and has leaflets and flyers to support the promotion of these. Effective use of ICT to develop stimulating videos promotes the subjects and career progression along with supporting various whole school events encourages students to raise their aspirations to a related career in science. The department also encourages students to see their target grades as just that, a target and not an end point. Where students are consistently meeting their targets or exceeding them, the department liaises with DHT to amend these to make them more stretching. The use of differentiated worksheets in the department at 3 levels (Expected, Challenge and Super Challenge) also pushes students onto the next level and encourages them to strive to improve their knowledge and understanding. A range of extracurricular activities including the AMEY day and #IAMSET programme is primarily aimed at introducing the prospect of engineering to students who may never have thought about this as a career and we particularly focus upon girls and disadvantaged students on these programmes.

Curriculum Intent statement

5 Key bullet points that summarise your Curriculum Intent
• Have a curriculum and delivery that engages students in the subject, promoting them to ask questions and develop a natural curiosity for the world around them. To challenge their existing ideas and thinking (misconceptions) and to aspire for the highest level in their academic and personal development as a member of the Academy community.
• Develop students who have an appreciation and understanding of other people's views, ideas and conclusions even if they conflict with their own.
• Develop practical skills through investigation, and work collaboratively with others in a safe manner with an understanding of the scientific method of enquiry.

• Lessons build upon prior knowledge from previous lessons, units, years and keystage. Staff support students in making the links across the science curriculum and beyond this into the real world and application of the subject.
• Aim to support students to develop into young adults with transferable skills, knowledge and understanding to be useful members of society that are able to make a positive contribution.