Science

Intent, Implementation and Impact

Intent	The intent of The Observatory School's Science department is to provide a safe and positively stimulating learning environment where pupils partake in educational practical tasks away from their nurture Bases. High engagement in Science lessons is associated with a high proportion of practical lessons. Practical work is an essential part of Science education. It gives students the necessary skills for higher education and employment, deepens their knowledge of scientific ideas, develops problem-solving ability, and enables them to participate in the processes of Science. The Science department also has an active and popular STEM (Science, Technology, Engineering and Maths) club, in which collaborative teaching and project-based work takes place. Pupils are motivated to take part in opportunities to explore STEM in an informal setting, allowing them to experiment, ask questions and tackle challenges that interest them. It is important that our learners have an understanding of basic principles behind STEM as this industry sector will become even more fruitful with employment opportunities as our pupils progress and mature.
Implementation	Science is taught by a subject specialist across all base classes at The Observatory School, with the exception of Curie at KS2 and the PSP (Personalised School Programme). In these instances, lessons are planned and delivered with input and direction from the Science specialist to ensure that lesson content is appropriate and high quality. Pupils visit the Science Lab for their practical Science lessons whereas, theoretical lessons are taught within nurture bases by the Science specialist to develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. New pupils in year 7 have one Science lesson per week and begin learning the 'Introduction to Secondary Science' unit of work, which prepares them for working safely and scientifically throughout their school career. Other pupils in Key Stage 3 are timetabled for 2 Science lessons per week. Their schemes of work are designed to develop important and fundamental understanding of basic scientific principles that will serve as imperative foundations for accessing GCSE content. Some of the more accessible GCSE topics have been moved down into the year 9 class to allow for the time demands of the GCSE course. At Key stage 4, Pupils complete the GCSE course of Combined Science,

	administered by Pearson Edexcel. Pupils are assessed during KS3 to determine an appropriate tier of examination (higher or foundation). Additionally, pupils that have difficulties with their; engagement in Science, behaviour for learning, attendance, literacy and/or numeracy will complete the Entry Level Certificate in Science, also administered by Pearson Edexcel, which is co-teachable with the aforementioned 9-1 GCSE. Pupils in year 11 sit mock examinations that comprise of 6 papers as specified by Pearson Edexcel. This is done to provide pupils with the experience of examinations so that they are best prepared for the official exams, to ensure they are sitting the correct tier, and will also highlight any gaps in knowledge
Impact	Our Science curriculum is engaging and is kept relevant and up to date by planning in new scientific discoveries and contexts that our pupils can relate to. Our pupils enjoy science and are encouraged to be inquisitive, ask questions and discuss; so that their curiosity of the universe and natural phenomena is nurtured. Pupils are assessed on their learning using a range of different assessment approaches. They are made aware of their flight paths and their respective progress using the stickers on the front and backs of their exercise books. Pupils also respond to teacher feedback both verbally and via purple pen in their books. The Science department praises pupils who are making good progress and effort within their science lessons. Parents are sent 'praise postcards' that pupils earn using the 'science stars' system. Pupils are also motivated by earning their science curriculum badge that they wear with pride once earnt. Photos of lessons are shared in weekly assemblies and on the school website to showcase the excellence of some of the work within the curriculum.