

## **BARTON MANOR SCHOOL - SCIENCE**

### **Facilities**

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The Science Department has a suite of eight laboratories over 2 floors and two Science Prep rooms on the first and second floor of our spacious new building each equipped with the latest Smartboard. Teachers make full use of the SMART notebook software and use a range of other software to support teaching and learning. The department has its own stock of laptops and has various digital microscopes, data-logging equipment and virtual software that are used in all Key Stages as well as all of the usual full lab equipment that you would expect in a modern school.

In years 7 – 11 students are banded according to their ability. Each term the groups are reviewed and changes made based on teachers' assessment of students' unit test and examination results, class work and homework. Students are well informed of their current levels of achievement and take an active part in reviewing their own progress and setting targets.

Teachers follow the BCAT shape of a lesson using hierarchical learning objectives, including a do now activity, differentiated practice and mini-plenaries to review learning. Activate Smart is the text book used in class and also provides online homework progress checks. Lessons include a variety of activities to promote active learning as well as demonstration by examples, question and answer sessions, discussion and practice. Regular homework is set based on prior learning and marked regularly. Online external homework systems such as Seneca and Kerboodle form part of the assessment toolkit. Feedback is provided via the use of progress checks and whole class feedback at least once a week. Unit test assessments are conducted regularly using exam style questions. Praise is issued via Bromcom where Reward Points are accumulated. These will lead to rewards through the college system in Year assemblies.

### **Key Stage 3**

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KS3 (Years 7 - 8) Science is delivered through 8x 60 minute lessons per fortnight. Students follow a condensed National Curriculum in Years 7 and 8 in preparation for GCSE study in Year 9. The KS3 course is arranged into topics which are loosely Biology, Physics or Chemistry based. There is a heavy emphasis on practical work and discovery as well as developing investigative skills. There are several opportunities during the KS3 course for completion of the current STEM challenges to allow the students to gain a wider understanding of the wider science work place. The in-house developed programme of study is supported by resources from the Activate scheme in addition to other resource packs. Students will be banded by ability in Year 7. Current STEM clubs include Cosmetic biology, Rocket car club and Gardening club.

### **Key Stage 4**

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Science forms a compulsory part of the Key Stage 4 curriculum. In Key Stage 4, it is expected that the majority of students will take AQA Combined Science course.

In all disciplines a strong emphasis is placed on building the student's core scientific knowledge and regular retrieval practice to ensure all students become lifelong learners of Science. This is to not only enable them to excel in the science GCSEs but also transfer their knowledge and understanding to make sense of the science in the world outside of school.

The more able students will have the opportunity to study separate GCSEs in Biology, Chemistry and Physics through the AQA examining board. A series of required practicals are conducted in addition to the written exams. The department will place strong emphasis on rigorous practical work and will utilise the excellent new laboratory facilities in the school. The department uses practical work to underpin learning in science and will incorporate many more than the statutory minimum into the GCSE course.

## Key Stage 5

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A joint Sixth Form with Barton Court Grammar School is planned and suitable courses post-16 will be discussed and agreed with the Science Department nearer the time.

## Staffing

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The Science Department is led by Mr L Nowers, an experienced Middle Leader of Science supported by the 2i/c Mr L Frassoni. Leadership roles will naturally develop as the school grows in size and opportunities for further promotion within the Science Department and the wider school team will be readily available.