



Tuition, Medical and Behaviour Support Service

Curriculum Policy Science

Adopted:	September 2023
Next Review:	September 2024
Responsibility:	Steven Davies

Science espouses to the TMBSS curriculum model and is delivered in all Centres across all the relevant key stages. For Health and Safety reasons, aspects of practical science requiring laboratory facilities may not be offered in the home or hospital settings, however, practical science is taught in all Education Centres where possible. All strands of the science curriculum are taught so that students have the opportunity to access chemistry, biology, and physics content.

Science supports Literacy across the Curriculum in line with whole service policy.

Advice on the curriculum is available from the Co-ordinator, subject specialists and Education Centres.

As students are unlikely to attend for full academic years and have a wide range of ages and ability, it is not always possible to cover the full breadth of the National Curriculum.

A Development Science curriculum enables students to understand and grasp concepts at their own level.

The study of science gives students an opportunity to understand about their own health and lifestyle through human biology. They learn about safety when using a variety of equipment and chemicals, and about the effects of human activity on the environment. Students have the opportunity to achieve qualifications in science which may lead to further study at F.E. level. Science provides a basis for understanding of processes in a wide range of industries.

Science links closely to the development of literacy and numeracy skills, including speaking and listening, and the production of precise and accurate reports.

Students learn and develop investigative skills. These transferable skills include: devising and investigating testable questions, identifying and controlling variables, analysing, interpreting and evaluating data for accuracy, reliability and validity when assessing material from different sources.

Aims

- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- Students are equipped with the scientific knowledge required to understand the uses and implications of science, becoming World Ready, today and for the future.

Objectives

Students will learn to:

- Carry out simple investigations and experiments to develop the skills of research and evaluation as in 'Working scientifically'.
- Be able to use scientific terms.
- Develop science skills e.g. observation, measurement, investigation.

- Understand scientific processes and how they impinge on daily life.

Planning

Resources within the Education Centres may limit the range of practical science which can be taught and creative planning is necessary in order to meet the requirements of the National Curriculum particularly for students who have experienced extended gaps in their education.

The structured nature of the National Curriculum guidance for science teaching does, however, make student progress tracking relatively straightforward and accurate liaison with feeder or receiving schools is possible. In view of our students therefore, staff adhere as closely as possible to the national sequence of the schemes of work.

At TMBSS the National curriculum at KS3 has been consolidated to accommodate an annual Science programme of study of 17 topics sequenced to cover the key concepts in Biology Chemistry and Physics. This programme acts as a guide, as individuals and the transitory nature of the cohort at TMBSS will be offered bespoke learning established from baseline testing, prior knowledge and shared information from previous educational provision, this will help establish a starting point and schedule of study which helps learning and development of practical skills.

At KS4 students follow the AQA GCSE specifications with topics sequenced to align to their syllabus and is based on a 2-year programme of study which allows students to make the transition to educational placements that helps with continuity in year 10 or 11.

Students may be given structured guidance to enable them to produce written work of an appropriate standard.

The use of ICT will be encouraged.

Methodology

Though covering all abilities, TMBSS has a disproportionate number of students with learning difficulties and the vast majority have interrupted education so even within small groups significant differentiation may be required and implemented through a personal curriculum.

At KS3 students follow a programme based on the Activate 1, 2, and 3 schemes of work. Where possible STEM activities are included to increase engagement, promote scientific enquiry skills an increase awareness of potential career opportunities. Many TMBSS students have had restricted access to Practical science lessons. To prevent this becoming a barrier to their future progress in GCSE science, a student's developmental curriculum will enable core science practical skills to cultivate and progress.

At KS4 students follow the formal curriculum of the AQA GCSE Trilogy combined science course or Single Science Biology, Chemistry or Physics. Differentiation at KS4 is by course selection, double entry being possible due to the programmed overlap of material. Unless a student arrives with considerable prior learning or application and ability in this area, it is not usual to attempt triple science GCSE.

Entry Level qualification in science will only be used where a learning difficulty prevents access to a higher award, or a student has already embarked upon the qualification at a previous school.

The AQA unit award scheme is used to certificate students in core practical skill alongside their GCSE qualifications.

Assessment

At KS3, students can be assessed as appropriate upon completion of the scheduled units within the Activate programme, and at least once per term. Assessment information is reported to the Assessment coordinator for recording on the 4Matrix data collection program.

At KS4 students may be directed to take separate GCSEs in Biology, Chemistry, or Physics or undertake the Combined Science qualification. If appropriate for that candidate, an Entry Level Science qualification may be considered.

At KS4 a programme of practical tasks and experiments is also covered, in line with the new requirements for GCSE, and these core practical tasks are set by each examination board – TMBSS is currently using AQA.

Students will be taught according to the examination syllabus. Teachers should refer to the appropriate examination specification, and consult the Co-ordinator for more information.

Gifted and talented students may have the opportunity to access the triple science programme, or if they have a particular strength in a particular strand of science they may be guided toward taking one of the separate science qualifications.

Resources

KS3

Activate Science 1,2, & 3

Teacher's Resources, student books and electronic resources are continually added to, for support and are available throughout TMBSS.

KS4

Year 10

Teachers resources, AQA student text books (new GCSE 1-9), and electronic resources for support.

Year 11

AQA student text books (new GCSE 1-9)

CGP revision and exam practice guides

Teachers resources

and electronic resources.