

Curriculum Rationale - Science

Question	Response
What do we aim to achieve through the teaching of our subject?	<p>We aim to nurture the love of science and curiosity through a well-planned, rigorous curriculum that blends both substantive and disciplinary knowledge, so students are able to apply their skills and knowledge in aspects of their future. Science is a constantly evolving subject and high degrees of science literacy and skills are essential for many careers. Through teaching separate disciplines of Biology, Chemistry and Physics, students develop a broad and balanced understanding of the scientific / natural world.</p>
What are our learners entitled to?	<p>All learners in science at John Taylor High School are entitled to a progressive curriculum, adapted to learners needs, delivered by highly passionate, skilled and knowledgeable teachers.</p> <p>A rich and varied enrichment programme is encouraged, which not only support the individual science disciplines but also the STEAM subjects.</p>
What building blocks are we trying to establish in preparation for further study?	<p>The building blocks for all scientists are rooted in the substantive knowledge across all three science disciplines. Scientists, when they join John Taylor High School, complete the 'How Scientists Work' topic and then build on 10 core topics from AQA (Forces, Electromagnets, Energy, Waves, Matter, Reactions, Earth, Organisms, Ecosystems and Genes).</p> <p>Students are also taught to 'think scientifically' across all disciplines and they make links between biology, chemistry and physics, intertwining skills from other subjects such as Maths, PE and Geography.</p> <p>With well-developed substantive and disciplinary knowledge, students can apply their skills and knowledge to abstract concepts and ideas.</p>
How does the curriculum we teach reference our local contexts?	<p>The curriculum is built to include reference to local industries, including multinational companies such as Coors, Rolls Royce and JCB. There are clear links to careers within the science curriculum and around our science environment. We also utilise outside speakers and career links to develop our students wider understanding of science-based careers.</p>
What skills do we seek to develop in our learners?	<p>We aim to develop the Scientific enquiry skills of all scientists. This encompasses all elements of 'working like a scientist' which permeate through each topic of the curriculum. We focus on the four principal areas of Communication, Analysis, Solve and Enquire.</p>
How our curriculum design is inclusive in respect to different:	<p>We aim to support students in their career choices through teaching about different jobs, breaking down pre-conceived gender stereotypes regarding careers and subjects.</p> <p>We explicitly teach about gender (biology, Sexual reproduction in humans and inheritance) and how this is fixed to m/f at birth, which is different to gender choice. We also discuss, but not explicitly teach (on the syllabus) about sexual orientation.</p>
How we enrich our students experience of our subject though additional or extra-curricular activities.	<ul style="list-style-type: none"> ● KS3 <ul style="list-style-type: none"> ● STEM club ● Mini-Medics ● Forensics ● MAT events (Quiz / Robotics) ● Eco project ● Science club ● Think Tank ● Space Centre ● Enrichment / Themed lessons (as per calendar year)

- KS4
 - Forensics Challenge
 - Intervention
 - Science Live
 - Chemsa
 - Enrichment / Themed lessons (as per calendar year)
- KS5
 - Café Scientifique
 - Technician support (Work Exp)
 - CERN
 - Biology fieldtrip
 - ES fieldtrip
 - Chemsa
 - Olympiads