

Intent

The Science and IT faculty aims to guide all students on a path of scientific & technological discovery, ensuring they are equipped with the knowledge, understanding & skills to become happy, healthy & high-achieving individuals. Faculty staff will support, enrich & academically challenge students to encourage them to achieve & progress. To do this we must provide:



Knowledgeable

Teachers plan & deliver a rich sequence of learning blocks, based around a **powerful knowledge curriculum**. Lessons are adapted to meet student needs based on our knowledge of their capacity to learn (KS2, GL, CATS, Provision maps). Key concepts are modelled using visualisers and effective questioning identifies student grasp. The program of study builds through a progressive schema, with opportunities to **re-learn**, and deepen their scientific fluency. **Feedforward tasks** are written by teachers based on moderated **formative assessment** that are used diagnostically to make rapid and sustained progress.

Understanding

Students should have regular opportunities to read, **think & speak deeply** about scientific concepts. Cognitive dissonance (conflicting ideas) are not avoided, but actively used during “set-list” lessons to develop **thought habits** and build science capital. Checks for understanding are done every lesson for both substantive knowledge recall, as well as **deductive reasoning**. Opportunities are not lost to interleave our curriculum with cross-curricular **numeracy & literacy** skills and build from a school wide “whole-child” character education.

Disciplined

Programming, logic, & heuristic skills-based tasks will be interleaved into lessons so that students are adept at applying specific **disciplinary** skills. Big questions, tied to learning intentions, are rooted in **cultural context, careers, & the societal impact** of science & technology. Students are expected to work hard in every lesson and at home every week. **Passivity** will be challenged. Teachers will monitor home learning to encourage independent learning through **praise**, and **communication with home**.