

Science

Curriculum Overview

All children are entitled to a curriculum and to the powerful knowledge which will open doors and maximise their life chances. Below is a high-level overview of the critical knowledge children will learn in this particular subject, at each key stage from Year 7 to Year 11, in order to equip students with the cultural capital they need to succeed in life. The curriculum is planned vertically and horizontally giving thought to the optimum knowledge sequence for building secure schema.

	Knowledge, skills and understanding to be gained at each stage*		
	Cycle 1	Cycle 2	Cycle 3
YEAR 7	Science skills Cells and life processes Forces Particles and solutions	Energy Reproduction Elements and compounds Acids and alkalis	Plants Waves
YEAR 8	Elements and compounds Acids and alkalis Plants Metals and reactivity Cells to organ systems	Forces and motion Health and disease Chemical reactions Electricity and magnetism	Variation, adaptation and evolution Ecology Earth and atmosphere Properties of matter
YEAR 9	P1 Energy B1 Cell Biology C1 Atomic structure and periodic table C2 Bonding, structure and the property of matter	B2 Organisation P3 Particle model of matter B3 Infection and response P4 Atomic structure	B4 Bioenergetics C3 Quantitative chemistry C9 Chemistry of the atmosphere
YEAR 10	C3 Quantitative chemistry P1 Energy P2 Electricity B4 Bioenergetics	C4 Chemical changes P4 Atomic structure B5 Homeostasis C5 Energy changes P5 Forces	B6 Inheritance, variation and evolution C6 Rate and extent of chemical change P6 Waves
YEAR 11	B7 Ecology C4 Chemical changes C7 Organic chemistry C8 Chemical analysis C9 Chemistry of the atmosphere	C10 Using resources P5 Forces P6 Waves	P7 Magnetism & electromagnetism

*A powerful, knowledge-rich curriculum teaches both declarative knowledge (facts; knowing that something is the case; what we think about) and non-declarative or procedural knowledge (skills and processes; knowing how to do something; what we think with). There are no skills without bodies of knowledge to underpin them.

In some subjects, a further distinction can be made between substantive knowledge (the domain specific knowledge accrued e.g. knowledge of the past) and disciplinary knowledge (how the knowledge is accrued e.g. historical reasoning).

Please refer to the DAT Curriculum Principles, published on our website, for further information about how we have designed our all-through curriculum.

