

SCIENCE – CURRICULUM INTENT

ASPIRE – CHALLENGE – ACHIEVE

Spalding Academy’s Science Department aims to produce confident, enthusiastic scientists who are numerate, literate and able to think clearly and apply their understanding to new situations. We believe that an understanding of all fields of science is essential for students to appreciate their effect on the world around them and the fragility of the natural world.

Biology introduces varied and complex new concepts and vocabulary which enables students to understand the pressing environmental and social problems associated with a growing and ageing population. Students will be provided with all the information required to make informed decisions regarding diet and lifestyle choices.

Chemistry underpins all areas of scientific study and students develop an understanding of the principles of atomic structure and bonding which form the basis of all reactions, both in living organisms and in industry.

Physics is known as the fundamental science. By studying energy and matter in space and time, and how they are related to each other, students develop critical thinking and quantitative reasoning skills that they can apply to scientific problems and experiments.

Through a structured programme of practical investigations, we empower students to apply their understanding of key concepts to real life practical situations. At both KS3 & KS4 all formal assessment activities include the acquisition and application of key terminology and opportunities for extended writing, laying the foundations for success at KS5. Independent learning is encouraged at all Key Stages through the provision of research tasks, computer based self-evaluation activities and extended report writing.

All students are placed on aspirational flightpaths and curriculum intervention opportunities are embedded throughout all courses of study, which enables students to fulfil their potential. Revision activities and revision sessions are provided throughout the year, for all abilities.

SCIENCE – CURRICULUM MAP

Key = Matching colours denote links between topics either in content or skills across Key Stages

BIOLOGY **CHEMISTRY** **PHYSICS**

7	STARTING SCIENCE	ENERGY 1	FORCES 1	ORGANISMS 1	MATTER 1	WAVES 1	REACTIONS 1	ELECTRICITY 1	GENES 1	EARTH 1			
8	PRACTICAL SKILLS	FORCES 2	MATTER 2	ORGANISMS 2	ELECTRO MAGNETS 2	REACTIONS 2	ENERGY 2	EARTH 2	GENES 2	WAVES 2	ECO-SYSTEMS 2	INTRO-REQUIRED PRACTICALS	BIO-MIMICRY
9	CELL BIOLOGY	ATOMIC STRUCTURE AND THE PERIODIC TABLE	ENERGY	PHOTO-SYNTHESIS	BONDING, STRUCTURE AND PROPERTIES	ELECTRICITY	HEALTH MATTERS	ENERGY CHANGES	PARTICLE MODEL OF MATTER				
10	MOVING AND CHANGING MATERIALS	CHEMICAL QUANTITIES	ATOMIC STRUCTURE	CHEMICAL CHANGES	CO-ORDINATION & CONTROL	RATE OF CHEMICAL CHANGE	FORCES	HYDRO-CARBONS	GENETICS	CHEMICAL ANALYSIS			
11	ECOLOGY	CHEMISTRY OF THE ATMOSPHERE	WAVES	VARIATION AND EVOLUTION	SUSTAINABLE DEVELOPMENT	ELECTRO-MAGNETISM	REVISION	GCSE EXAMS					