

Science – Key Stage 3 Curriculum Overview

	HT1	HT2	HT3	HT4	HT5	HT6
Year 7	Introduction Cells Energy Matter Matters	It's Elemental Forces Human Reproduction	Interdependence Acids Electricity Universe			
Cross Curricular Links	• Energy – Y7 Geog. Unit (Environment and Resources) • Intro – Health and Safety – link to DT and GCSE Engineering • Matter matters – Y9 Maths Compound units - density	• Human Reproduction – Y7 RPSE, Y8 RPSE, Y9 RPSE	• Universe – Y8 Geog. Climate change and Antarctica – Polar regions • Electricity – GCSE Engineering			
Year 8	Science skills Electric circuits Moving by Forces Earth and Climate Energy	Separating mixtures Breathing/Keeping healthy Sound and Light	Inheritance Types of reaction Plant reproduction			
Cross Curricular Links	• Moving By Forces – Y7 Maths Algebraic notation, Y8 Maths Solving equations • Earth and Climate – Y7 Geog Where do we live (3 rock types), Y8 Geog. Weather and Climate, Y9 Geog. Restless planet, Y9 Glaciers and the Ice age	• Breathing/keeping healthy – Y8 PE fitness Y9 PE breathing rates	• Inheritance – Y9 Geog. Asia and Middle East – desert adaptations • Electric circuits – GCSE Engineering			

Year 9	Further forces Periodic table Photosynthesis and respiration	Waves Reactions of metals Chemical Energy Digestion	Heating and Cooling Magnets and Electromagnets Earth's resources Evolution
Cross Curricular Links	• Further forces – Y8 Geog. Weather and climate – air pressure • Further forces – Y9 Maths Compound Units, density and pressure	• Digestion – Y7, 8, 9 DT Food tech Nutrient groups • Waves – Y9 Geog. Restless planet	• Evolution – Y9 Geog. Asia and Middle East – deserts and adaptation • Magnets – GCSE Engineering • Heating and Cooling – Y7 DT Food tech

Mathematical Requirements in Science

Link stated is the **FIRST** time this is taught in maths, as these are taught frequently throughout the maths curriculum

1	Arithmetic and numerical computation
a	Recognise and use expressions in decimal form
b	Recognise and use expressions in standard form
c	Use ratios, fractions and percentages
d	Make estimates of the results of simple calculations

2	Handling data
a	Use an appropriate number of significant figures
b	Find arithmetic means
c	Construct and interpret frequency tables and diagrams, bar charts and histograms
f	Understand the terms mean, mode and median
g	Use a scatter diagram to identify a correlation between two variables
h	Make order of magnitude calculations

Y7 Maths 3 Place Value
Y8 Maths 4 Standard Form
Y7 Maths 11 Fractions, Decimals and Percentages
Y7 Maths 14 Numerical Reasoning

Y7 Maths 3 Place Value
Y7 Maths 5 Multiplication and division
Y7 Maths 4 Addition and Subtraction
Y7 Maths 3 Place Value, Y7 Maths 5 x and ÷
Y8 Maths 15 Data Handling, scatter graphs, tables
Y8 Maths 10 Proportion and scale, 11 Enlargement

3	Algebra
a	Understand and use the symbols: =, <, <<, >>, >, $\propto$, ~
b	Change the subject of an equation
c	Substitute numerical values into algebraic equations using appropriate units for physical quantities
d	Solve simple algebraic equations

4	Graphs
a	Translate information between graphical and numeric form
b	Understand that $y = mx + c$ represents a linear relationship
c	Plot two variables from experimental or other data
d	Determine the slope and intercept of a linear graph
e	Draw and use the slope of a tangent to a curve as a measure of rate of change
f	Understand the physical significance of area between a curve and the x-axis and measure it by counting squares as appropriate

5	Geometry and trigonometry
a	Use angular measures in degrees
b	Visualise and represent 2D and 3D forms including two dimensional representations of 3D objects
c	Calculate areas of triangles and rectangles, surface areas and volumes of cubes

Y7 Maths 3 Place Value
Y8 Maths 8 Solving Equations
Y7 Maths 2 Algebraic notation, 10 Solving Equations, Y9 Maths 10 Financial Maths
Y8 Maths 8 Solving Equations

Y7 Maths 4 Addition and Subtraction, Y8 15 Data handling
Y9 Maths 2 The Cartesian Plane
Y8 Maths 15 Data handling
Y9 Maths 2 The Cartesian Plane
Y11 H 4 Non-linear graphs
Y11 F 3 Non- linear graphs, Y11 H 4 Non-linear graphs

Y7 Maths 12 Measuring and construction
Y7 Maths 5 x and $\div$, Y9 5 3D shapes
Y7 Maths 5 x and $\div$, Y9 5 3D shapes