

Year 8 Curriculum

Science

Physics

- **Fluids** – the particle model, calculations with density, state changes, pressure in fluids, floating and sinking, the force of drag
- **Light** – how light travels, the use of ray diagrams, ways of investigating light, reflection and refraction, the science behind cameras and eyes, explaining colour
- **Energy Transfers** – the difference between internal energy and temperature, transferring energy by heating, controlling energy transfers, power and efficiency, calculating the cost of energy, the effect of energy use on the planet
- **Earth and Space** – models of the solar system, understanding what causes the seasons, the Earth's magnetic field, gravity in space, beyond the solar system, studying space

Chemistry

- **Combustion** – burning fuels, reacting metals with oxygen, stopping combustion reactions, air pollution, global warming, reducing pollution
- **The Periodic Table** – Dalton's atomic model, reactions of elements, chemical formulae, Mendeleev's table, groups of the modern periodic table, physical properties and trends, chemical properties and trends
- **Metals and Their Uses** – metal properties, catalysts, rusting and corrosion, metals and water, the reactivity series, metals and acids, pure metals and alloys
- **Rocks** – rocks and their uses, the formation of igneous and metamorphic rocks, weathering and erosion, the formation of sedimentary rocks, materials in the Earth

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Science

Biology

- **Food and Nutrition** – nutrients in food, testing foods, uses of nutrients, balanced diets, deficiency diseases, starvation, obesity, the digestive system, gut bacteria, enzymes, absorption of food, small intestine adaptations
- **Plants and their Reproduction** – classification and biodiversity, sampling techniques, types of reproduction, pollination, cross-pollination, fertilisation and dispersal, germination and growth
- **Breathing and Respiration**- aerobic respiration, gas exchange, measuring respiration, internal transportation of oxygen, gas exchange in different organisms, anaerobic respiration
- **Unicellular Organisms** – unicellular vs multicellular, microscopic fungi, bacteria cells, protocista, decomposers and the carbon cycle, recycling carbon.



Year 8 Curriculum

English

In KS3 Year 8 English curriculum includes following topics-

Literature

Fiction Texts - Reading & Writing

Non-fiction reading

Non-fiction transactional writing

Poetry

Prose Study

Essay Writing

Spelling, Punctuation & Grammar

Spoken English

Shakespeare study



Year 8 Curriculum

Math

Number

- Fractions, decimals and percentages
- Place value
- Negative numbers
- Factors and multiples
- Indices
- Standard form
- Rounding
- BIDMAS (order of operations)

Algebra

- Manipulating algebraic expressions
- Expanding and factorising
- Solving equations
- Using formulae
- Sequences
- Graphs
- Inequalities



Year 8 Curriculum

Math

Ratio, proportion and rates of change

- Ratio
- Direct proportion
- Conversion rates

Geometry and measure

- Area and perimeter
- Surface area and volume
- Angles
- Parallel lines
- Properties of polygons
- Transformations
- Speed/distance/time
- Construction and loci
- Bearings
- Congruence
- Pythagoras Theorem



Year 8 Curriculum

Math

Probability topics

- Theoretical probability
- Experimental probability
- Sample space diagrams
- Venn diagrams

Statistics

- Data collection
- Pie charts
- Scatter diagrams
- Averages

