

SCIENCE

Year 7-8 curriculum

What does this course involve at KS3?

Science at Key Stage 3 involves developing students' key skills in science, known as enquiry processes, whilst learning about the 10 'big ideas'

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| 1. Forces | 5. Matter | 9. Ecosystems |
| 2. Electromagnetism | 6. Reactions | |
| 3. Energy | 7. Earth | 10. Genes |
| 4. Waves | 8. Organism | |

The aim of this course is to ensure students become fluent in the fundamentals of science and to ensure students can analyse data and ask questions about the world around them. This is achieved through the use of experiments that require students to deepen their knowledge of specific topics whilst enhancing their practical skills.

What do you need to be successful in this course?

To be successful students need to be open to and accepting of new and sometimes unfamiliar concepts. Students will enjoy the practical process of planning, developing, carrying out and then analysing and evaluating a range of scientific experiments.

Year 7	Students will cover: enquiry processes, the skeleton, movement, joints, cells, circuits, states of matter, changes of state, separating mixtures, balanced and unbalanced forces, distance-time graphs, speed, gravity, genes, adolescence, reproduction, sound waves, light, reflection, chemical reactions, acids and alkalis, reactions of metals, food chains, food webs and competition.
Year 8	Students will cover: enquiry processes, food and energy, space and the solar system, drugs, alcohol and smoking, the digestive system, friction, pressure, decomposition, chemical reactions, electromagnets and their uses, respiration, photosynthesis, energy transfers, global warming, recycling

Year 9-10 curriculum

What does this course involve at KS4?

In year 9 students will start their GCSE course AQA GCSE Combined Science: Trilogy (8464) they will study a range of modules under biology, chemistry and physics. They will follow the course allowing them to also develop their practical skills through a series of required practical activities.

At the end of the course students will have six exams, two papers in each of the science disciplines. Papers are at either foundation or higher tier:

- Foundation tier is targeted at grades 1-5
- Higher tier is targeted at grades 5-9

Year 9	<u>Students will study the following content:</u> cell structure, cell division, digestion and enzymes, organisation, photosynthesis, ecosystems, atomic structure, the periodic table, structure and bonding, electrical circuits, electricity in the home, molecules and matter, radioactivity.
Year 10	<u>Students will study the following content:</u> communicable diseases, preventing and treating diseases, non-communicable diseases, adaptations, interdependence and competition, chemical changes, electrolysis, energy changes, rates of reaction, crude oils and fuels, the earth's atmosphere, the earth's resources, forces, energy transfers, energy conservation, energy resources, motion.
Year 11	<u>Students will study the following content:</u> variation and evolution, respiration, reproduction, hormones, the nervous system, chemical analysis, electromagnetic waves, electromagnetism

