

Science

Curriculum Intent

Pupils at Turves Green Boys' will become inquisitive and critical scientists who are equipped with skills to enable them to question and marvel at the world around them and the vocabulary to explain their ideas and thoughts.

Our pupils will develop the practical skills they need to be able to safely and effectively carry out scientific investigations and the mathematical skills they need to analyse the data and infer patterns and conclusions from it. These skills will not only serve them well in their study of science at Turves Green Boys but will equip them for their future, be it in science based further education or elsewhere, for being able to critically analyse facts is important in allowing an individual to form their own judgements on facts presented to them.

Our pupils will acquire a bank of knowledge, based around the big ideas of science, that will allow them to understand scientific phenomena both great and small and develop their own appreciation, understanding and view point about current scientific advancement and the ethical and moral questions that may occur. When they leave Turves Green they will be able to think deeply on the question that many scientist face – “Just because we could, does it mean we should?”

KS3

Aims

At KS3, pupils experience science in a way which is interesting, exciting, intellectually stimulating and relevant to the pupils ' present and adult lives.

The Science Department aims to provide all pupils with a broad and balanced view of science with subject matter that includes physics, biology, chemistry, geology, astronomy, meteorology, and technology.

Key Stage 3 Science

The National Curriculum for science divides the content, skills and processes which must be taught to children into 4 main strands. These are:-

Biology

Chemistry

Physics

Working Scientifically

At KS3 pupils follow the Oxford scheme, "Activate" supported by the "Kerboodle" online platform. Pupils work is continually assessed often jointly by staff and pupils. Assessment can take the form of traditional tests or tasks designed especially to assess pupils Progress.

The final level of attainment for KS3 will be the summation of these assessments.

KS4

Two possible pathways

Pathway 1 –Combined Science which will be followed as minimum by all pupils.

Combined Science GCSE AQA 8464

Or

Pathway 2 - "Triple Science" which involves the study of all 3 of the following courses for those with a greater interest in science and the intent to use it in their future education and careers.

Biology GCSE AQA 8461

Chemistry GCSE AQA 8462

Physics GCSE AQA 8463

Topics Covered:

Both pathways introduce the pupils to the key scientific principles that they will encounter in their everyday lives and teaches them how they work and what they mean to them as an individual and to society as a whole. The courses not only teaches the pupils the theory of the fundamentals of science but also equips them with the practical science enquiry skills to carry out a range of investigations, gather useful data, analyse it and make conclusions based upon it.

Both these pathways covers a wide range of topics which may be broadly grouped as follows:

Biology—The study of living things, their evolution and the environment they live in

Chemistry— The study of the elements, how they react and how we use them

Physics— The study of forces and energy, the rules that govern them and how they affect us.

GCSE Exam

The final assessment for both pathways consists of six papers:-

Two biology

Two chemistry

Two physics

The papers for the Combined Science pathway last for one hour and 15 minutes each.

The papers for the Triple science pathway last 1 hour and 45 minutes each

Each of the papers will assess knowledge and understanding from distinct topic areas.

Career Prospects

Many and varied! All areas of Medicine and Health Care, Forensic science, Research and Development, Engineering, Environmental Health, Bioinformatics, Nanotechnology, Science teaching.

<http://www.sciencebuddies.org/science-engineering-careers>