



Science at Vanguard School

Subject Statement September 2019

Intent:

At Vanguard School, through the study of biology, chemistry and physics, our science curriculum aims to support all students to:

- Develop their understanding of scientific thinking and connections between different scientific concepts;
- Build their knowledge of scientific vocabulary and symbols allowing them to better understand the world around them scientifically and equip them for being able to better communicate their understanding;
- Nurture their scientific interests and explore the world around them through scientific enquiry, applying observational, practical, modelling and problem-solving skills. This will allow students to develop an understanding of the nature, processes and methods of science, whilst being encouraged to apply their skills to everyday life;
- Develop an ability to analyse and evaluate claims and situations critically, both qualitatively and quantitatively. This includes being able to evaluate risks and critically evaluate the uses and implications of science in today's world and the future and communicate their thoughts effectively. This will help students develop their understanding of causes and effects both in scientific and non-scientific situations.

As a school, we recognise that autistic pupils may display highly varied profiles of ability in Science and therefore a personalised approach to taking examinations, for example through the study of unit awards, will be taken where appropriate. As a school, we appreciate the unique skillset profiles our pupils are likely to exhibit in the subject and will personalise learning accordingly. Additional specialised support will be provided, for example, for the delivery of the most abstract concepts in science should pupils find these challenging.

Implementation:

At Vanguard School, students we follow the AQA KS3 Science Syllabus. This consists of a spiral curriculum within each discipline of science: physics, chemistry and biology. This will allow students to become familiar with the fundamental categories of each discipline whilst exploring different topics. Our key categories for each discipline are:

- Physics:
 - Electromagnets
 - Energy
 - Waves
 - Forces
- Chemistry:
 - Earth
 - Reactions
 - Matter
- Biology:
 - Ecosystems
 - Organisms
 - Genes

Each term students will study a topic from each of these categories. Each week science lessons will usually consist of a biology, chemistry and physics lesson. However, during some of these lessons, the lesson will be specifically focused on scientific protocol, with an emphasis on the key requirements when working scientifically. They will also have

lessons emphasising science in the news and specifically relating material they are learning across all scientific disciplines to everyday life.

Impact:

Science is a strength for many of our pupils at Vanguard School. Each half term all pupils complete an assessed practical and have the chance to gain a Vanguard Scientist Certificate aligning with our Vanguard Values. 100% of pupils have achieved both certificates at their expected level so far! We look forward to pupils continuing to thrive in science and experiments as they progress through the school.