



Trafford Alternative Education Provision



TRAFFORD HIGH SCHOOL
Pursuing Potential

Science Curriculum

2019

1. Science Department

The Science Department is a highly experienced and committed team of qualified specialist teachers and teaching assistants. They are committed to closing the gap and providing targeted intervention in order to ensure that students come close to meeting or exceeding their target grades.

Specialist Teachers:

Teacher	Year Group
Angela Henry	KS3/4
Pervin Nadim	KS3/4
Jill Mundy	KS3

Our goal is to develop and sustain learners' curiosity about the world, enjoyment of scientific activity and understanding of how natural phenomena can be explained. The Science education that they receive should provide every student equally with opportunities that enable them to take an informed part in decisions and to take appropriate actions that affect their own wellbeing and the wellbeing of others and the environment. The aims can be summarised as follows:-

- To ensure students develop scientific knowledge and understanding of science in the specific disciplines of biology, chemistry and physics.
- To develop understanding of the nature, processes and methods of scientific questions about the world around them.
- To relate their scientific knowledge to its uses in society today and in the future.

2. Science KS3

In Years 7, 8 and 9 pupils will study Science according to National Curriculum specifications.

3. Science KS4

In Years 10 and 11 pupils are encouraged to study for GCSE Trilogy Science . Our students will have the opportunity to undertake Entry Level Certificates (ELC) in Science. The ELCs are also great as a progression to GCSE for students who are unmotivated or have low attendance.

4. Reporting to Parents

Progress Reports are completed every half-term. All students are set individual Learning Challenges.

5. Department Meetings

Calendared half-termly department meetings take place, to discuss new initiatives share resources, good practice or moderation.

6. Evaluation and Assessment

Student's progress is evaluated using Fischer Family Trust predictions and their baseline assessments upon entry to the Trafford Alternative Education Provision and the progress they make. This allows necessary intervention to be put in place in order to give students the best chance of obtaining their expected outcomes.

The ultimate goal of evaluating the Science curriculum is to ensure that it is effective in promoting the quality of the student learning. Assessment of student learning is our driver for how and what is taught. Strategies for evaluation use assessment of student learning, which could be summative or formative. A lot of the evaluation comes down to knowing the individuals and making a judgement on whether they can access the current content of the curriculum or making the necessary adjustments so that it can be accessed at some level.

7. AQA Unit Award scheme

Trafford Alternative Education also offers AQA Unit Award scheme. This allows the school to accredit the work that students complete throughout the Key Stages.

8. AQA GCSE Trilogy Science

Biology

- Cell biology
- Organisation
- Infection and response
- Bioenergetics
- Homeostasis and response
- Inheritance, variation and evolution
- Ecology

Chemistry

- Atomic structure and the periodic table
- Bonding, structure, and the properties of matter
- Quantitative chemistry
- Chemical changes
- Energy changes
- The rate and extent of chemical change
- Organic chemistry
- Chemical analysis
- Chemistry of the atmosphere

- Using resources

Physics

- Energy
- Electricity
- Particle model of matter
- Atomic structure
- Forces
- Waves
- Magnetism and electromagnetism

Assessments:

There are six papers: two biology, two chemistry and two physics. Each of the papers will assess knowledge and understanding from distinct topic areas.

Biology Paper 1

What's assessed

Biology topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics.

How it's assessed

Written exam: 1 hour 15 minutes

Foundation and Higher Tier

70 marks

16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

Biology Paper 2

What's assessed

Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

How it's assessed

Written exam: 1 hour 15 minutes

Foundation and Higher Tier

70 marks

16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

Chemistry Paper 1**What's assessed**

Chemistry topics 8–12: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.

How it's assessed

Written exam: 1 hour 15 minutes

Foundation and Higher Tier

70 marks

16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

Chemistry Paper 2**What's assessed**

Chemistry topics 13–17: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere; and Using resources.

How it's assessed

Written exam: 1 hour 15 minutes

Foundation and Higher Tier

70 marks

16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

Physics Paper 1

What's assessed

Physics topics 18–21: Energy; Electricity; Particle model of matter; and Atomic structure.

How it's assessed

Written exam: 1 hour 15 minutes

Foundation and Higher Tier

70 marks

16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

Physics Paper 2

What's assessed

Physics topics 22–24: Forces; Waves; and Magnetism and electromagnetism

How it's assessed

Written exam: 1 hour 15 minutes

Foundation and Higher Tier

70 marks

16.7% of GCSE

Questions

Multiple choice, structured, closed short answer, and open response.

9. Entry Level Science

This qualification is linear. Linear means that students submit all components that form the assessment at the end of the course.

Two Entry Level Certificate Science qualifications are available.

- Entry Level Certificate (Single Award)
- Entry Level Certificate (Double Award)

Students will be entered for either ELC Science – Single Award. Students will submit a portfolio of work containing the appropriate number of Externally-set assignments (ESAs) and Teacher-devised assignments (TDAs).

There are three levels of award available: Entry 1, Entry 2 and Entry 3. Entry 3 is the most demanding.

Subject content:

The specification comprises six components. Each component has two assessments: one externally set and one internally set.

The six components meet the Programme of Study Key Stage 4 requirements.

Biology

- 1. Component 1 - Biology: The human body
- 2. Component 2 - Biology: Environment, evolution and inheritance

Chemistry

- 3. Component 3 - Chemistry: Elements, mixtures and compounds
- 4. Component 4 - Chemistry: Chemistry in our world

Physics

- 5. Component 5 - Physics: Energy, forces and the structure of matter
- 6. Component 6 - Physics: Electricity, magnetism and waves

Assessments:

There are two different types of assessment.

1. Externally-set assignments (ESAs) consist of a short written test.
2. Teacher-devised assignments (TDAs) consist of a short piece of practical work.