Currículum Content

The S3 Physics course provides students with a foundational understanding of the core concepts of physics, as well as the mathematical skills required to solve problems. The course covers key areas such as dynamics and space, waves and radiation, and electricity and energy. It encourages practical skills, scientific inquiry, and the application of physics concepts to real-world scenarios.

Movements and Matter:

This unit explores dynamics—pupils build an understanding of speed, distance, time, acceleration and forces. This unit also covers learning of cosmology—pupils gain an appreciation for the scale of our universe and explore big questions like "How did our universe begin?" "Will we ever be able to travel to other solar systems?"

Cosmic communication:

This unit focuses on understanding of sound and the electromagnetic spectrum (light). Students will carry out investigations to measure the speed of sound through different states of matter and understand the nature of light. Pupils will also explore learning of nuclear radiation, the potential applications and dangers. They will research the advantages and disadvantages of Nuclear Power in the context of climate change.

Powering a Planet:

This unit builds on learning done throughout first and second year on the nature of electricity, electrical circuits, safety and devices. Pupils will be given the opportunity to physically and digitally build practical circuits and gain an understanding of fundamental electrical concepts.

Assessment

Formative Assessment

- Quizzes •
- **Research Tasks**
- **Presentations** •
- Scientific in-•
 - vestigations
- Plenaries
 - Peer/Self Assessment

Class Discussions/

questioning

Tutorial work

Summative Assessment

Summative assessment is primarily focused on end of unit written assessments. Pupils will be tasked with answering questions based on their knowledge and understanding of physics concepts, and problem solve by applying their learning. This will prepare them for further study at National 4/5. Pupils are also tasked with a small research project towards the end of each unit to build the skills required to critically examine arguments and evidence and develop informed, reasoned perspectives on scientific concepts and topical issues.

Click the links to learn more about formative and summative assessment approaches:

- Updated guidance on assessment within \Rightarrow the broad general education
- **Bing Videos** \Rightarrow

Meta-skills

| Self-management | Focusing | ð | |
|---------------------|-------------------|----------|--------------|
| | Integrity | , | |
| | Adapting | | |
| | Initiative | ÷. | |
| Social Intelligence | Communicating | | \checkmark |
| | Feeling | | |
| | Collaborating | | |
| | Leading | 22 | |
| Innovation | Curiosity | 2 | \checkmark |
| | Sense-making | • | |
| | Creativity | 0 | |
| | Critical thinking | 9 | \checkmark |

To find out more detail about the meta skills learned in this curriculum area, please view the meta skills section on our school website.

- Mini Whiteboards

Kindness

Respect

Ambition

<u>UNCRC</u>



<u>Celebrating Success</u> Learner conversations Pupil work displays

Staff List

Mr Grehan

Mr McNeil (Technician)

<u>Pupil work</u>

Scale distance drawing of our solar system



Model of a Nuclear Powerplant



WINCHBURGH ACADEMY



<u>S3 PHYSICS Curriculum Over-</u> <u>view</u>