

Curriculum Intent

Curriculum Vision - Physics

Every child asks why – and Physics is the something that gives them an answer – and that answer is powerful.

You can use it to mould the world, to make wonderous creations that solve problems humanity faces. You can give light to darkness with electricity, seeing into people's bodies to fix them with light, generate energy for the world without cost to the climate and build machines to complete any ask. The curriculum gives the students the ability to access these magics.

Physics gives you control of nature. You can take solutions from one place and use them to solve an issue in another. Learning the relationships of nature and how to manipulate them is Physics.

-T. Samuel, Physics Teacher and NKS Chess Master

Successful navigation of the subject within the world

Physics at NKS aims to give students:

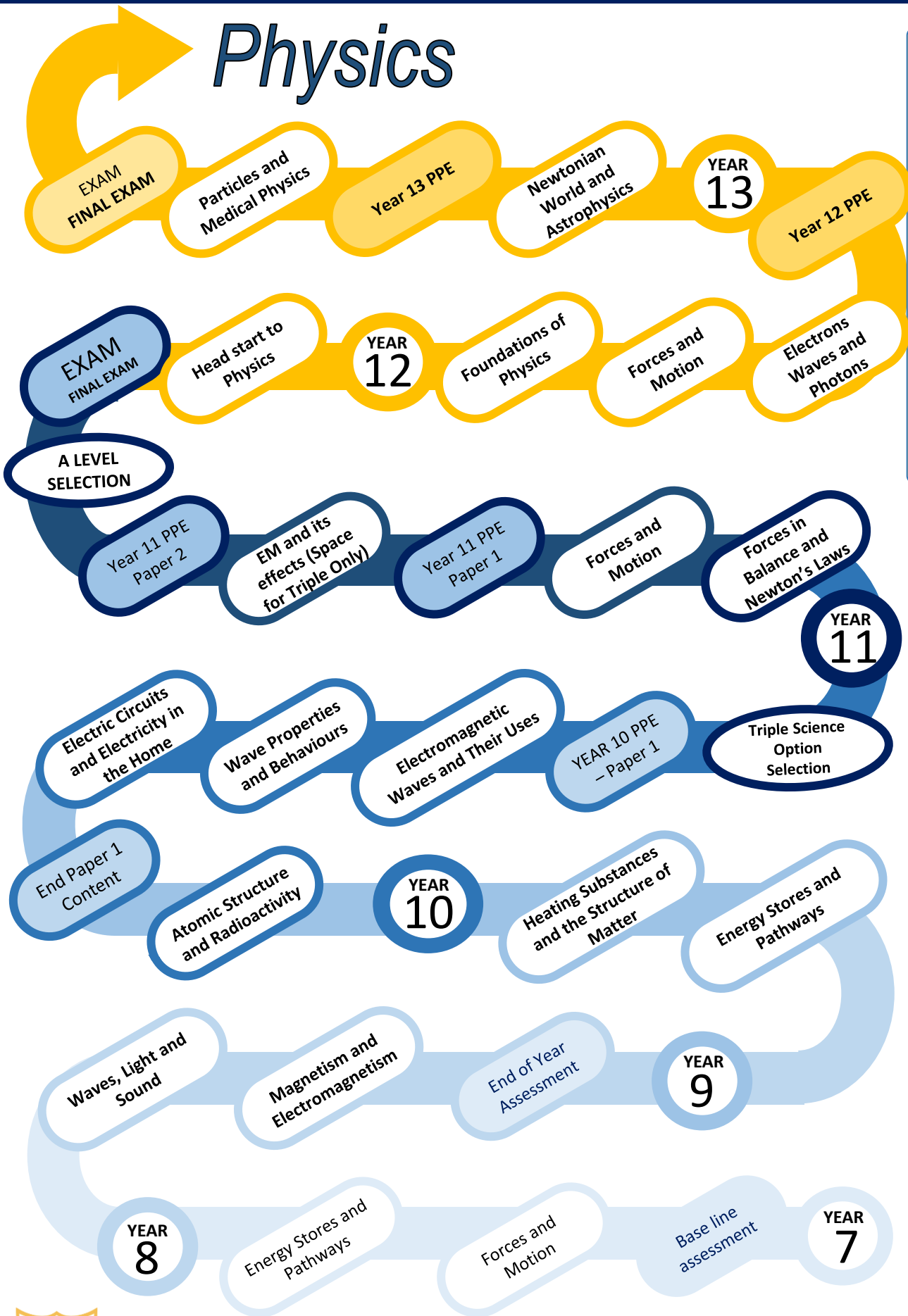
- An understanding of the natural world: Physics provides a deeper understanding of how the natural world works, including the fundamental laws and principles that govern the physical universe.
- Problem-solving skills: Physics involves solving complex problems. Which, through practical experimentation, develop a student's critical thinking, logical reasoning, and problem-solving skills.
- Mathematical and Technical Literacy: Give students transferrable skills for life such as estimation, measurement as well as graphical construction and algebraic rearrangement.
- Career opportunities: Physics is *the* fundamental science that underpins many technological advancements and innovations, which opens up a range of career opportunities in fields such as engineering, medicine, and renewable energy.
- Preparing for further studies: Physics is a pre-requisite for many scientific and engineering fields at a higher level of education, be that academic or vocational. Making Physics an important subject to study for students interested in pursuing these careers.

Curriculum Priorities for 2022-2023

In 2022-2023 Physics hopes to prioritise:

1. Develop a common technical language with Biology, Chemistry and Maths as to strengthen common skills such as drawing lines of best fit and raise the profile of common content
2. Reconstruct lessons to acknowledge research into the strength of low stakes recall practice in helping long term recall.
3. Re-organise a scheme of work to create a better flow of the "story" of Physics. Giving students a better understanding of the linking and underly concepts in physics such as forces and energy.

Physics



Key Stage 5
 In KS5 students dive into much greater depth in each prior topic from KS3&4, exploring the fine nuances of each part of Physics, and seeing how they are used in the modern world practically. This alongside study of new high level topics such as Particle Physics results in the students connecting them together to allow them to problem solve and carry out more complex practical work.

Key Stage 4
 In KS4 students learn explore the root and relationship between the visible effects of Physics and their mathematical origins.

Key Stage 3
 The aim of KS3 curriculum is for students to master the key skills, build foundational knowledge which can be applied to challenging and unfamiliar contexts.

The KS3 curriculum is broken down into topics from each of the three specialisms. Students focus on one topic before moving onto the next, enabling students to link the learning.
 In Year 9 students begin the GCSE course allowing allow students the opportunity to study Triple Sciences.

