

Science at Norbury High

Overview

The Science Faculty is committed to ensuring that all students reach their full potential through a rigorous, broad, challenging, enjoyable, adaptable and culturally diverse curriculum. We aspire to nurture students who are skilled critical thinkers, open-minded, problem solvers, and innovators, team players, kind, caring, resilient and tenacious. We develop the minds of students by providing access to a variety of courses that will support their curiosity, creativity, communication and critical thinking. We empower our students to become confident informed citizens who are capable of comprehending, analysing and making well-reasoned judgement on global issues. We work with parents, carers and other stakeholders to achieve the best outcomes for our students. At the conclusion of their secondary education, our students will be capable of applying their scientific knowledge to current issues, making connections between scientific disciplines and pursuing post-secondary education or careers in the fields of science and engineering.

KS3 Physics

Our KS3 Physics curriculum is adapted from the Kerboodle package of resources matching the AQA KS3 Physics Syllabus and Big Ideas principle. All resources have been designed to support our 3-year KS3 programme and help prepare students for AQA GCSE 9-1. Complemented by online learning, this furberishes students everything they need to introduce and explore the Big Ideas further. This includes access to Kerboodle Online Books, mathematics and literacy activities, and regular auto-marked assessments to help all students to make progress.

Year 7 Physics

Science in year 7 prepares all students for understanding scientific techniques, safe practice and development of experimental skills which underpins the understanding of theoretical constructs.

TOPICS

Forces, Sound, Light, Space

Year 8 Physics

In year we build on students' knowledge from year 7 and focus on deeper understanding of key scientific ideas and analysis.

TOPICS

Electricity, Magnetism & Circuits, Energy, Motion & pressure

Year 9 Physics

In year 9 we further build on students' knowledge from years 7 and 8 to focus on deeper understanding of key scientific ideas and analysis.

TOPICS

Forces & Motion, Energy, Waves, Sound & Light, Electricity & Magnetism

USEFUL WEBSITES RESOURCES

There are excellent resources available to help your revision. Please visit and use the websites below.

Website Name	Description	Website address
BBC Bitesize – KS3 Physics	Excellent topic summaries, videos, and quizzes for all KS3 Physics topics. Aligned well with national curriculum.	https://www.bbc.co.uk/bitesize/subjects/z4882hv
KS3 Physics Revision Monkey	Free videos	https://www.youtube.com/results?search_query=ks3+revision+monkey+Physics
Seneca Learning	Free interactive revision platform with courses tailored to KS3 science and AQA GCSE.	https://www.senecalearning.com
Twig Science	Short, high-quality science videos with questions. Some free content suitable for KS3.	https://www.twigeducation.com
KS3 Science by CGP	Free resources and paid revision guides; the site includes quizzes and revision tips.	https://www.cgpbooks.co.uk
Education Quizzes – KS3 Science	Fun and quick quizzes to reinforce knowledge and test understanding.	https://www.educationquizzes.com/ks3/science/
STEM Learning	Free resources and worksheets for teachers and students based on curriculum science topics.	https://www.stem.org.uk

KS4 Physics

This AQA GCSE Physics course, delivered through Oxford Kerboodle, provides a comprehensive and engaging approach to learning key biological concepts. Covering topics from electricity to forces, the course supports students with interactive resources, animations, quizzes, and assessments. It is designed to build strong scientific knowledge and practical skills, aligned with the AQA specification. The GCSE Physics course also provides students with the opportunity to explore the world around them through inquiry-based teaching and learning. Students are mandated to complete compulsory required practicals which constitute a huge component of the course. They are assessed on the knowledge of 'How Science Works' through required practicals during the GCSE.

AQA GCSE SEPARATE (TRIPLE) PHYSICS CONTENTS

YEAR 10

PHYSICS TOPICS

P4 Electrical circuits
P5 Electricity in the home
P7 Radioactivity
P6 Molecules/ matter
P1 Conservation & Dissipation
P2 Energy Transfer by Heating
P3 Energy Resources
P12 Wave properties
P13 Electromagnetic Waves

YEAR 11

PHYSICS TOPICS

P8 Forces in Balance
P9 Motion
P10 Force and Motion
P11 Force and pressure
P14 Light
P16 Space
P15 Electromagnetism

PHYSICS PAPER 1 UNITS

Energy
Electricity
Particle model of matter
Atomic structure

PHYSICS PAPER 2 UNITS

Forces

Waves

Magnetism and Electromagnetism

Space Physics

AQA GCSE SEPARATE (TRIPLE) PHYSICS REQUIRED PRACTICAL

Students will complete 10 required practicals over the course of the two years. Any aspect from the practicals may be assessed in the final exams. Below is a table highlighting information about the 10 required practicals.

AQA GCSE TRILOGY (COMBINED) PHYSICS CONTENTS

YEAR 10

PHYSICS TOPICS

P4 Electrical circuits

P5 Electricity in the home

P7 Radioactivity

P6 Molecules/ matter

P1 Conservation & Dissipation

P2 Energy Transfer by Heating

P3 Energy Resources

P12 Wave properties

P13 Electromagnetic Waves

YEAR 11

PHYSICS TOPICS

P8 Forces in Balance

P9 Motion

P10 Force and Motion

P15 Electromagnetism

PHYSICS PAPER 1 UNITS

Energy

Electricity

Particle model of matter

Atomic structure

PHYSICS PAPER 2 UNITS

Forces

Waves

Magnetism and Electromagnetism

AQA GCSE TRILOGY (COMBINED) PHYSICS REQUIRED PRACTICAL

Students will complete 7 required practicals over the course of the two years. Any aspect from the practicals may be assessed in the final exams.

USEFUL RESOURCES

There are excellent resources available to help your revision. Please visit and use the websites below and also download the apps.

WEBSITES

AQA: For copies of the syllabuses, past paper questions and more information from AQA, go to: <http://www.aqa.org.uk/subjects/science/gcse> and follow the links to specific subjects.

BBC Bitesize: <https://www.bbc.co.uk/education/levels/z98jmp3>

Free Science Lessons: <https://www.freesciencelessons.co.uk/>

Cognito: <https://cognitoedu.org/home>

Physics and Maths Tutor: <https://www.physicsandmathstutor.com/>

Seneca: <https://senecalearning.com/en-GB/>

Isaac Physics: <https://isaacphysics.org/>

APPS

There are several good apps available for you to download including:

Revision Buddies – Large selection of multiple-choice questions to choose from

Gojimo – Excellent question-based activities

GCSE 9-1 Scholastic Revision – Excellent revision planning and questions, just choose your subject and you are good to go

Brainscape Smart Flashcards – Excellent revision flashcards