

Broadening Horizons

Our intent is that all students have a full understanding of how to develop themselves as well rounded citizens, maintain healthy relationships and understand how to keep themselves safe both online and in their day-to-day life. We want all students to know what options are open to them in the future and understand the routes they have in order to progress on their life journey.

Our curriculum includes:

- Links with local industries and national organisations, innovative external speakers, events and resources
- Opportunities for students to visit University Science Departments
- Science based activity days
- First hand fieldwork

Careers

We run a series of 'Careers in the Curriculum' weeks in our school. For Science, this week takes place in January.

Careers in Science:

- Biomedical/ Environmental Scientist
- Physiologist
- Conservationist
- Pharmaceutical Scientist/ Medicinal Chemist
- Electrical Engineer
- Aerospace Engineer
- Computer Programmer
- Physiotherapist
- Nurses
- Port Scientist

Immerse Yourself



Kerboodle
Online
Resources

A-Level Biology

Biological science review magazines. The Biology Olympiad will be opening in March. After school P5 session runs every week on Thursdays.

A-Level Chemistry

Kerboodle, Chemguide, Physics and Maths Tutor Online. Students can also attend Wednesday P5 sessions.

A-Level Physics

Kerboodle, textbooks, CGP revision guides, workbooks, and student checklists which should be thoroughly utilised throughout their study. Thursday P5 study sessions occur weekly in C7.



Physics and
Maths Tutor
Online

BTEC Applied Science - For support students can use the Applied Science revision guide and workbook, as well as the textbook. They should use their checklists provided by teachers to guide their revision.

Praise and Reward

Our rewards system can be broadly split into four categories: classroom level, subject level, school level and privilege rewards. We'll focus on classroom and subject rewards here - for more information about our rewards schemes, please see our website.

CLASSROOM LEVEL REWARDS

Awarded for: working hard, taking risks and rising to a challenge, making mistakes and learning from them, helping others, and taking pride in the school community.

Rewarded by: praise postcards, positive phone calls to parents/ carers, positive text messages home, and lesson based prizes.

SUBJECT LEVEL REWARDS

Reward scheme: star of the week, curriculum awards (Subject/ School Way, participation, working with pride, embracing the whole curriculum), high flyer, extra mile, most improved.

Rewarded by: names displayed on reward boards, certificates, social media posts.

Contact



David Frith
WPT Science
Subject Director
dfrith@wickersley.net



Wickersley Subject
Coordinators
Physics - Mr S Gascoigne
sgascoigne@wickersley.net
Chemistry & BTEC Science - Miss L Haley
lhaley@wickersley.net
Biology - Mr A Rogers
arogers@wickersley.net

The Royal Society

Independent Scientific Academy of the UK, dedicated to promoting excellence in Science for the benefit of humanity.



Edition 4
January
2023

SCIENCE
Curriculum Newsletter
YEAR 13



Curriculum Intent

The Science curriculum is inclusive and ambitious for all students, designed to engage students and strengthen the memory of what is being learnt.

The curriculum is organised into 12 Big Ideas that are developed through a series of key concepts organised into teaching topics which are revisited throughout the KS3, 4 and 5 programmes of study.

The Science curriculum is planned to build increasingly sophisticated knowledge of the products and practices of Science.



Year 13 Curriculum

A-Level Biology

Year 13 have been learning about the biochemical processes involved in respiration. At the same time they have discovered how the nervous system is involved in controlling heart rate. This allowed them to complete an investigation where they observed the beating heart of a water flea with the aid of a microscope. Currently Year 13 are starting their final module, focusing firstly on genetics and how patterns of inheritance can be predicted.

A-Level Chemistry

In Physical Chemistry, students have been studying enthalpy changes, including lattice enthalpies and born haber cycles. These are used to calculate theoretical energy changes for reactions that cannot practically be carried out. In organic chemistry, students are midway through the analysis topic. They've already covered GCMS and chromatography, as well as produced and presented mini projects on NMR. They have now begun to use NMR as an analytical tool.

A-Level Physics

In Year 13, students have studied capacitors, nuclear physics, gravitational, electric and magnetic fields, as well as oscillations and circular motion. They are currently learning about medical physics and thermal physics, and will go on to learn about astronomy and cosmology.

BTEC Science

Year 13 double scientists are currently writing up their trial run for their practical work in unit 6 which is a research project of their choice.



Have your say!

At WPT we're always looking for feedback. If you have any thoughts/opinions on this Curriculum Newsletter, its content or the curriculum in general, please scan the QR code to fill out a short feedback form.



Assessment Points

A-Level Biology, Chemistry and Physics

Students will have mock exams covering all Y12 and taught Y13 content at the start of March. Students will also have in-class end of topic assessments.

BTEC

Students have regular coursework hand in dates. Students will have a mini mock this half term in any exam units they study (Either unit 3 or unit 5).

The Science Way

The Science Way is followed in all of our lessons. It is designed to help students become young subject specialists and has two main purposes: to teach students the vital skills needed to achieve their full potential, and to demonstrate how Science relates to the wider world.

THE SCIENCE WAY

WE MAKE LINKS BETWEEN BIG IDEAS IN SCIENCE

We can make observations **describe what we see** &

We work safely & look out for hazards

We can learn from successes & failures **and adapt to do things better**

WE EVALUATE EXPERIMENTAL RESULTS IN LIGHT OF THE ORIGINAL PROBLEM

We use scientific vocabulary accurately & talk like a scientist

We can explain everyday things in a scientific way

We can work practically with people with different skills & knowledge

We can use numbers and data to support our work and obtain meaningful **information**

We can identify key issues in a problem and use our scientific knowledge to tackle them

WE ALWAYS ASK QUESTIONS AND TRY TO FIGURE OUT WHY

BICKERSLEY PARTNERSHIP TRUST

SUBJECT WAYS