Cornwallis Academy
Ambitions for All

SMILE
SUCCESSFUL | MOTIVATED | INSPIRED | LEARNING | EXCITED & ENGAGED

KS3 Science

Curriculum Intent

We believe that all our students can be scientists who are curious about the world around them and confident in applying scientific knowledge and skills in everyday life. All students, irrespective of ability, should be given the opportunity to achieve their full potential in science.

We are aiming for all of our students to be:
- Curious learners who question, investigate and explore the natural, physical and chemical world around them
- Critical thinkers who can analyse evidence and draw informed conclusions
- Resilient problem solvers who develop confidence through practical enquiry and investigation
- Effective communicators who can explain scientific ideas clearly using appropriate scientific language
- Committed to understanding the 'why' behind scientific phenomena, not just memorising facts
- Equipped with the knowledge needed to understand the world and technology around them.

At Cornwallis Academy, we teach the AQA KS3 Science curriculum, which aims to ensure that all pupils:
- develop secure knowledge and understanding of the key concepts in biology, chemistry and physics, building a strong foundation for future scientific study
- work scientifically by planning investigations, collecting and analysing data, evaluating evidence and drawing conclusions using scientific methods
- apply their scientific knowledge to explain natural phenomena and solve problems in familiar and unfamiliar contexts
- understand the relevance of science in the wider world, including its impact on society, the environment and future technologies
- develop curiosity, independence and resilience through practical work, enquiry and collaborative learning
- become scientifically literate citizens who can make informed decisions about the world around them and appreciate the importance of science in everyday life

Assessment, Marking and Feedback

Year 7 sit a Baseline Assessment upon entering Key Stage 3 to help us gauge their knowledge and understanding from KS2.

Year 7 and 8 sit an assessment at the end of each term, which creates a personalised Yellow Assessment Sheet that provides feedback to each student on their strengths and weaknesses. These assessments include a series of multiple-choice questions based on retrieval from previous terms (except for Term 1 in Year 7).

Year 9 assessments use GCSE style exams to introduce them to the type of exams they will take in Year 11 which also creates a personalised Yellow Assessment Sheet that provides feedback to each student on their strengths and weaknesses. Some of these assessments are cumulative which encourages them to access previous knowledge, much like the GCSEs will.

Students in Key Stage 3 Science undertake end of year exams alongside the rest of the school. For Year 7 students, this is in Term 5, and Year 8 and 9 students have theirs in Term 6.

Homework

Sparx Science is an online homework platform designed to support students' learning in science through regular, personalised practice. The platform sets targeted tasks that align with the curriculum and provides immediate feedback, helping students identify and correct misconceptions independently. By combining retrieval practice, knowledge checks, and guided support, Sparx Science encourages consistent study habits and improves long-term retention of key scientific concepts. The platform also allows teachers to monitor progress, identify areas where

students need additional support, and ensure that homework is meaningful, accessible, and tailored to individual learning needs. Students can log in to this website using their school Microsoft login details.

Links to National Curriculum / Syllabus Specifications

Key Stage 3 National Curriculum
https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study/national-curriculum-in-england-science-programmes-of-study

AQA KS3 Curriculum Specification
https://www.aqa.org.uk/subjects/science/ks3/science-3/specification/specification-at-a-glance

Exam Support & Revision Resources

- Tutorial videos for all topics and interactive questions available on Sparx Science.
- Websites:
  - BBC Bitesize
  - Physics and Math Tutor (PMT)
  - Save my Exams
  - Youtube: Science Shorts
  - Youtube: Revision Monkey
- Students require a scientific calculator.

Extracurricular and Enrichment Opportunities

Enrichment week also hosts a STEAM (science, technology, engineering, arts and maths) project for a day. Previous examples include:

- Creating your own laser tag arena,
- Forensic science-based murder mystery,
- Creating devices to help homes in flooded areas to minimise water damage
- Designing a home suitable for all.

Throughout the academic year we deliver assemblies on a range of topics including:

- World Space Week
- World Science Day
- British Science Week
- World AIDS day

KS3 have dedicated ‘drop-in’ sessions during a lunchtime to ask questions about homework, or lesson content they may need to go over again.

The Science department also co-ordinate with the house team to deliver competitions based on science. Recent ones have included creating models of cells, doing insect counts in a local green space, a British Science Week national competition to design something to help improve air quality and preventing the spread of diseases in hospitals, growing sunflowers, building the biggest and sturdiest towers and the British Science Week Poster competition on the topic of growth.

Interested to know more?

To read:

- **Horrible Science series – Nick Arnold,** Fun, gross, and memorable explanations of biology, chemistry, and physics.
- **Kay's Anatomy – Adam Kay & Henry Paker,** A humorous but accurate look at the human body systems.
- **A Really Short History of Nearly Everything (Young Reader's Edition) – Bill Bryson,** Big ideas in space, atoms, Earth, and life explained simply.
- **Science You Can Eat – Stefan Gates,** Explores food science, reactions, and chemistry through cooking.
- **The Way Things Work Now – David Macaulay,** Brilliant visual guide to physics, machines, and engineering principles.

To watch:

- **Wall-E,** Environmental science, pollution, sustainability, and robotics.
- **Big Hero 6,** Robotics, engineering design, AI, and materials science.
- **Hidden Figures,** Real-life physics, space exploration, and problem-solving in NASA.
- **The Martian,** Survival science, chemistry of oxygen and food production in space.
- **October Sky,** Rocket science, physics, and inspiration through experimentation.

To listen:

- **BBC Inside Science** Up-to-date science news explained clearly.
- **Wow in the World** Fun, storytelling-based science for younger teens.
- **Brains On!** Questions answered like "Why do we dream?" or "How do plants grow?"
- **Tumble Science Podcast for Kids** Focuses on how discoveries are made and how science works.

To visit:

- **Kent Life**
  Focus: farming, habitats, animals, food production, sustainability
  Why it's interesting: hands-on experience of biology and ecosystems in real life
- **Leeds Castle**
  Focus: engineering, structures, materials, history of construction
  Why it's interesting: shows how science and engineering shape real buildings over time
- **Dover Museum and Bronze Age Boat Gallery**
  Focus: materials science, decay, preservation, archaeology
  Why it's interesting: one of the oldest preserved boats in the world
- **Chatham Historic Dockyard**
  Focus: physics, engineering, ships, buoyancy, forces
  Why it's interesting: huge historic ships and real engineering examples
- **Science Museum, London**
  Focus: electricity, space, chemistry, inventions
  Why it's interesting: interactive exhibits and real scientific breakthroughs
- **Natural History Museum, London**
  Focus: biology, evolution, fossils, Earth science, chemistry of materials
  Why it's interesting: dinosaurs, meteorites, earthquakes, evolution galleries, and interactive science exhibits