

Combined Science – Enrichment

Intent

Our Science enrichment programme is designed to foster curiosity, independence, and confidence in scientific thinking from Primary through to Key Stage 4. We aim to broaden students' understanding of the world beyond the classroom and inspire interest in STEM-related futures.

Through enrichment, students develop investigative skills, resilience, creativity, and the ability to communicate scientific ideas clearly. We are committed to building cultural capital by providing access to national institutions and real-world scientific experiences.

Implementation

Science enrichment at NCA includes:

Weekly STEM Club

Students participate in a weekly STEM Club where they:

- Carry out practical investigations
- Take part in engineering and design challenges
- Develop teamwork and leadership skills
- Apply classroom learning to real-world scenarios

Annual NCA Science Fair

All students are given the opportunity to take part in our annual Science Fair. Students:

- Design and conduct an independent investigation
- Apply scientific methodology
- Present findings formally
- Respond to questions from judges

Projects are assessed using a structured judging system based on:

- Scientific understanding
- Investigation design
- Analysis and evaluation
- Presentation and communication

At the end of the event, **three winners are selected** and celebrated for their achievement.

Educational Visits

We provide enrichment opportunities for **Primary and Secondary students**, including visits to:

- The Science Museum
- The Natural History Museum
- Environmental and science-focused locations
- STEM-related exhibitions and events

These trips expose students to large-scale scientific discovery, innovation, and careers in STEM.

Impact on Students' Futures

Through enrichment, students:

- Develop independent research and analytical skills
- Strengthen presentation and communication skills
- Build resilience and problem-solving ability
- Gain awareness of STEM career pathways
- Experience national institutions that broaden aspiration

These experiences support progression into:

- GCSE Science pathways
- Post-16 STEM study
- Technical apprenticeships
- Health, engineering, environmental and emerging industries

How Home Can Support

Parents and carers can support by:

- Encouraging curiosity and scientific discussion at home
- Watching science documentaries together
- Supporting preparation for the Science Fair
- Encouraging attendance at STEM Club
- Visiting museums and science centres during holidays

Everyday activities such as cooking, gardening, or discussing how technology works can strengthen scientific understanding.

Reading & Enrichment Suggestions

◆ **Key Stage 1 (KS1)**

- The.Usborne.Big.Book.of.Science.Things.to.Make.and.Do
- National.Geographic.Little.Kids.First.Big.Book.of.Why
- DK.Find.Out*.Science
- Simple STEM storybooks (e.g. Rosie.Revere?Engineer)

◆ **Key Stage 2 (Primary Transition)**

- Horrible.Science series – Nick Arnold
- The.Usborne.Science.Encyclopedia

- Women in Science (selected pages) – Rachel Ignatofsky
- DK First Science series

◆ Key Stage 3

- A Short History of Nearly Everything (Young Readers Edition) – Bill Bryson
- The Science Book – DK
- George's Secret Key to the Universe – Stephen Hawking & Lucy Hawking
- How to Be a Scientist – Steve Mould

◆ Key Stage 4

- A Short History of Nearly Everything – Bill Bryson
- The Periodic Table – Primo Levi
- This Is Going to Hurt – Adam Kay (careers insight)
- The Selfish Gene – Richard Dawkins (for higher attainers)

Podcasts & Documentaries

- BBC The Infinite Monkey Cage
- Science Vs
- BBC Horizon
- David Attenborough documentaries
- National Geographic science documentaries

Competitions & Challenges

- NCA Annual Science Fair

Clubs

- Weekly STEM Club
- Eco / Sustainability projects

Super-Curricular Opportunities

- Independent research projects
- Presenting at Science Fair beyond curriculum requirements
- Completing online STEM short courses
- Reading beyond the GCSE specification
- Creating science revision resources for younger students