

Bristol Aerospace Resources

Organise an inspirational visit to the Aerospace Museum and help children to investigate and answer their own science questions.

Our new Aerospace resource packs which complement funded visits to the Bristol Aerospace Museum, are designed to help teachers and leaders to develop their curriculum to explore and investigate the local context of aerospace engineering and flight.

The Bristol Aerospace Museum offers an insight into the timeline of innovation that has existed here in South Gloucestershire for well over 100 years, including a celebration of Concorde: a magnificent feat of engineering.

Aerospace resource pack overview

Key Stage One

Materials – Exploring forces and movement

Lower Key Stage Two

Sound – Forces and movement

Pre-visit activities

Key Stage One

- Exploration activities and asking questions linked to materials and forces
- Opportunities for children to ask questions: I notice...I wonder..?
- Explore materials and moving toys

Lower Key Stage Two

- Exploration activities and asking questions linked to sound and forces
- Make predictions about museum exhibits, e.g. how big is an aircraft wheel?
- Timeline of Concorde
- Familiarity with Scratch (for coding workshops)

Upper Key Stage Two

- Exploration activities and asking questions linked to materials, space, forces and flight
- Make predictions about museum exhibits, e.g. how big is an aircraft wheel?
- Timeline of Concorde
- Familiarity with Scratch (for coding workshops)
- Learn about the Wright Brothers and their first powered flight

Funded Aerospace Museum visit and interactive workshop

Funded visits to the museum for South Gloucestershire schools include an interactive workshop to link with your curriculum, engaging children in first-hand STEM activities related to the aerospace industry. They also offer themed learning linked to the science curriculum.



Upper Key Stage Two

Forces and flight – Space – Materials

Post-visit activities:

Supporting the teaching of 'Science Working Scientifically' skills

Key Stage One

Exploring forces and materials

- Re-test and improve flying models made at the Aerospace Museum
- Make and test new flying objects
- Test and select materials to make flying machines and uniforms

Lower Key Stage Two

Sound

- Measuring sound investigations
- Testing sound insulation

Forces and movement

- Evaluate, re-test and improve models made at the Aerospace Museum
- Exploring forces, including magnetism and compasses

Upper Key Stage Two

Forces and space

- Evaluate, re-test and improve models made at the Aerospace Museum
- Investigate a range of forces (gravity, air resistance and thrust) through practical activities and making and testing vehicles
- Investigating streamlining

Materials

- Evaluate materials used to make aircraft
- Investigate heat conductivity/ insulation – 'why is Concorde white?'

Additional teaching inspiration and curriculum links:

Quality text links, maths, local geography and history (including the effects of war on Bristol and the aerospace industry), ICT, design and technology

With an increased focus by Ofsted on the 'Intent, Implementation and Impact' of a school's curriculum, it is essential that schools provide children with 'the knowledge and cultural capital they need to succeed in life' (Ofsted, 2019), including an appreciation of humans' achievements and creativity. South Gloucestershire is privileged to have a strong heritage linked with the Aerospace industry, with a history of outstanding pioneers in the fields of flight engineering and aerospace design.

Our resource packs are based on the principles of the *Science Capital Teaching Approach**, which contains the outcome of research by King's College London and University College London, the aim of which is to increase children's Science Capital, i.e. their science knowledge, attitudes and experiences. This approach focuses on learning and applying knowledge and skills in STEM subjects to inspire and support future learning and employment opportunities. We also put a clear focus on developing the scientific vocabulary that will support pupils with their future learning.

Throughout the resources there are opportunities to develop scientific literacy, work scientifically and to experience the transferability of STEM skills into real contexts.

Our packs provide a progressive sequence of teaching resources that link to the wider curriculum. We include activities to support enquiry, exploration and investigation, along with:

- Lesson plans
- Supporting resources
- Key questions
- Vocabulary
- Tips for teachers
- Curriculum links including suggested texts for English



*Godec, S., King, H. & Archer, L. (2017) *The Science Capital Teaching Approach: engaging students with science, promoting social justice*. London: University College London.

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