

YEAR 1 UNIT 3 – GREAT INVENTIONS: TRANSPORT: How did the first flight change the world? Why were the Rainhill Trials important?

Related units: *Year 1 Unit 2: The Greatest Explorers*

Unit overview

In this unit, the children will explore the stories of two significant events in the history of travel, and the impact they had on people's lives, back then and in the future. They will begin by learning about the first aeroplane flight, before looking at early aeroplanes in greater depth. They will then focus on the Rainhill Trials of Stephenson's *Rocket*, using sources from the time to provide context. The children will examine the legacy of both events, and discuss the impact on our world today. You may decide to incorporate a visit to a local museum into the unit, and some ideas have been included on potential locations.

The Big Finish provides an opportunity for the children to apply their knowledge creatively, decorating a train to commemorate the Rainhill Trials. An alternative Big Finish is to take the children to a railway station and have a journey on a train, creating a display about it when you return to school.

Key vocabulary

Inventor, invented, flight, century, eyewitness account, travel, journey, evidence, aviation, transport, propeller, steer, pilot, glider, modern, cockpit, elevators, engine, fuselage, jet, landing gear, rudder, impact, trade, leisure, inventor, canal, toll, source, locomotive, freight, significance, commemorate, livery.

Knowledge, skills and concepts

In this unit, the children will:

- develop an awareness of the past, using common words and phrases relating to the passing of time
- know where the people and events they study fit within a chronological framework
- Ask and answer questions, choosing and using parts of stories and other sources to show that they know and understand key features
- use a wide vocabulary of everyday historical terms
- understand some of the ways in which we find out about the past
- identify similarities and differences between ways of life in different periods.

Cross-curricular links

- **Art:** collage, design for the commemorative train
- **DT:** exploring the design of the Flyer, making their own models, comparisons of aeroplane and train/engine designs over time
- **English:** writing a description of being on a train travelling somewhere, writing factual sentences describing the features of a train
- **Geography:** map work – locating places from both stories, routes, trade, communications
- **Maths:** chronology – timelining, time and distances of journeys
- **Science:** how things work, steam power, principles of flight

Subject knowledge and teaching guidance

The people who invented, built and piloted the world's first successful controlled aeroplane were American brothers Orville and Wilbur Wright. The Wright brothers' first aircraft of 1899 was a biplane kite capable of carrying a human into the air. The Flyer was their first powered aircraft: its first 12-second flight took place at Kitty Hawk, North Carolina, USA, on 17th December 1903. The first commercial aeroplane flight took place in 1914 in Florida, USA. The aeroplane has had a huge impact on the world because it made long-distance travel quick, cheap and easy. This led to a vast increase in overseas travel, and in the volume of international trade. With cargo transit times reduced to a few hours, many fresh foods are now available around the year. The aeroplane also plays a crucial role in warfare, through reconnaissance, bombing, fighting and transportation of personnel and supplies.

Prior to the development of the railway, travel was mainly by road on horseback or with a cart or carriage pulled by a horse. Richard Trevithick had developed a train carrying goods, powered by a steam engine in 1804. In 1825, George Stephenson held a demonstration of an engine pulling 12 coal and 21 passenger coaches on a track between Stockton and Darlington. It was led by a man on horseback waving a red flag to warn people it was coming. Stephenson went on to have two trains, the *Locomotion* and the *Hope*, running between the two towns. In 1829, a competition was held to find an engine for the first passenger railway travelling between Liverpool and Manchester. The day of the competition was a huge public event. Large crowds of between 12,000 to 15,000 people flocked to see the race held at Rainhill. There were 300 special police constables to keep people under control and avoid accidents on the day. People wore their best clothes and

there was lots of entertainment provided, including bands playing music. People bet on who would win the competition. The winner of the competition would get £500 (about £45,000 today). Stephenson's *Rocket* was the only locomotive to complete the course without any problems, and won the prize.

In delivering this unit, it is essential that you spend some time working with maps and timelines to support the children in understanding both the time and place in which these events occurred, and also to help them to make links between the events, as well as to the present day. There are many opportunities within the unit for you to adapt the activities to match the ability and interests of the children. You may wish to choose alternative ways for them to communicate their knowledge and understanding. There are also options for independent, paired and group work as appropriate. The children may have limited experiences of both forms of transport investigated within the unit. If so, you will need to spend more time enabling them to become familiar with them. You could use film, photographs and role-play to support them in developing understanding. If the children are unfamiliar with rail transport, the Big Finish visit to a station will provide an ideal opportunity for enrichment.

Within the railway topic, it may be possible to make links to events and developments in your local area. The visit to a local station will also provide an opportunity for links to your local history. Both of the Big Finish options will require forward planning to ensure you have additional support and can collect appropriate materials. There are many cross-curricular opportunities provided by this unit, particularly with design technology and science. These activities should be undertaken within time dedicated to these subjects, rather than using your history allocation.

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Related books for wider reading

- *Who were the Wright brothers?* by James Buckley Jr
- *Taking flight: How the Wright Brothers Conquered the Skies* by Adam Hancher
- *The Wright Brothers' First Flight: A Fly on the Wall History* by Thomas Kingsley Troupe
- *Three Cheers for Inventors!* by Marcia Williams
- *The Wright Brothers* by Helen Cox-Cannons
- *The Great Iron Horse, the Story of Stephenson's Rocket* by Margaret Nash

Assessment

Opportunities for assessment for learning are built in throughout the unit through questioning and activities. Children can both self and peer assess as appropriate using approaches familiar to them. The quiz is intended to be used during week 6, and will review knowledge, skills and concepts acquired during the unit. The Rising Stars Progression Framework assessment focuses on: *change and development; identify similarities and differences between ways of life in different periods*. **The assessment should be completed in week 5. Detailed information on the task can be found on the key assessment opportunity sheet.**

Places to visit

- Science Museum, London: Flight exhibition, Stephenson's Rocket
- Shuttleworth Collection, Old Warden Aerodrome
- IWM Duxford
- RAF Museum Cosford
- Yorkshire Air Museum, Elvington
- City of Norwich Aviation Museum
- Aerospace Bristol
- The National Railway Museum, York (workshops on Stephenson's Rocket available)
- The Stephenson Museum, North Tyneside
- Check local museums to see if they have any relevant exhibits