

# THE MAGIC OF MOTION

In Summer 2021. the Years 5 and 6 children from Plover School, Doncaster, began their Learning Expedition - The Magic of Motion. The guiding question was: 'How have trains been on a journey of change?

### Learning targets

### Case Study 1 (Science - Chemistry

- Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution lse knowledge of solids, liquids and gases to decide how mixtures might ons, based on evidence from comparative and fair tests, for the rticular uses of everyday materials, including metals, wood and plastic.
- emonstrate that dissolving, mixing and changes of state are
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible.

### Case Study 2 (History)

- l can study a theme in British histor A study of an aspect or theme in British history that extends pupi
- chronological knowledge beyond 10
- investigate and interpret the past Use sources of evidence to deduce information about the pa
- Select suitable sources of evidence, giving reasons for choices
- To build an overview of world histor Describe the social, ethnic, cultural or religious diversity of past socie Describe the characteristic features of the past, including ideas, beliefs attitudes and experiences of men, women and children.
- escribe the main changes in a period of history (using terms such as social, religious, political, technological and cultural).
- dentify periods of rapid change in history and contrast them with times of relatively little change Understand the concepts of continuity and change over time, representin
- them, along with evidence, on a time line
- Use dates and terms accurately in describing events
- o communicate historically Use appropriate historical vocabulary to communicate
- Case Study 3 (Art)
- can improve my mastery of art and design techniques, including drawing, painting and sculpture with a range of materials.

### Master drawing

- Choose a style of drawing suitable for the work Use a choice of techniques to depict movement, perspective, shadows and reflection
- Use a variety of techniques to add interesting effects (reflection, shadow, direction)
- Develop a personal style of painting, drawing upon ideas from other artists Use a variety of techniques to add interesting effects (e.g. reflections, shadows, direction of sunlight).
- Master painting • Use the qualities of water colour to create visually interesting pieces.

### **Our learning**

We studied changing states, we looked at solids, liquids and gases as well a reversible and irreversible changes. We developed our art skills by using the qualities of water colours and pen to create visually interesting pieces using erspective. We researched the work of Quentin Blake and took inspiration m his techniques and illustrations. We studied Harry Potter and the ilosopher's Stone and made links with the Hogwarts Express. We looked t the British history of railways specifically focusing on Doncaster and the ndustrial Revolution. We used texts such as Street Child and Oliver to make connections to characters who worked in the workhouses to gair understanding and empathy for those who lived through the Industrial Revolution. We also looked at the future of railways.

Hooks / Learning visits and environments The children were hooked in to their learning by immersing our classrooms They were enhanced by developing the learning environments to include: trains, Platform 9 <sup>3</sup>/<sub>4</sub> and Harry Potter themes (potions to link to science etc).

Our significant assessment pieces for this expedition were art and literacy based; writing non-chronological reports and explanation texts Ne produced artwork celebrating the heritage of Doncaster railways We used rubrics and protocols throughout to assess our learning. Lesson targets, success criteria and anchor charts (good models) enable us to produce beautiful work through critique and multiple drafts. You can see more on 'The Magic of Motion' and all of our other Expedition

All train artwork and written content produced by Year 5 and 6 childre Crew Blackham Amez A, Danir A, Lacie B, Jenson B, Lola-Rose B, Kaycie F Franky H, Maison J, Lacey J, Lucas-John KK, Coby L, Craig LS, Tilly L, Oliver M, Leon S, Christopher W, Maisy W, Marley R, Darin A Crew Chapman Kristians A, Shang B, Kian C, Mia EM, Oliver H, Rajitha

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Sign designed and produced by XP Trust Comms Crew

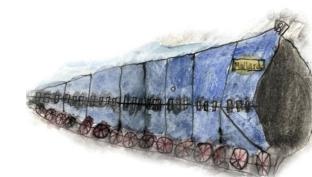
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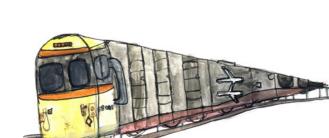


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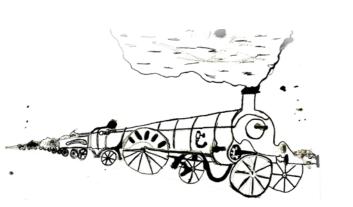
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in 1963.















## THE FLYING SCOTSMAN

The Flying Scotsman was built in 1923 at Doncaster Plant Works.

Unbelievably, the cost of the Scotsman was £7,944. The train was painted apple green. Before it was built, Sir Nigel Gresley designed this indescribable locomotive as a part of the A1 Class. Surprisingly, this powerful form of transport was the world's first train to hit 100mph in 1934. It was selected to appear at the British Empire Exhibition (BEE) in London.

The train was the first locomotive to run on the newly formed - LNER -London and North Eastern Railway, making it a very popular and successful steam train. After four long, hard working decades, the famous train retired

Presently, it is owned by the National Railway Museum and is maintained by Riley & Son (an engineering and refurbishment company).

## THE MALLARD

March 3rd, 1938, saw the birth of one of England's most famous trains: The Mallard!

It was designed by Nigel Gresley who, as a result of his achievements in mechanical engineering, was later knighted and became Sir Nigel Gresley.

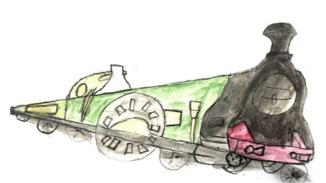
Built at Doncaster Plant Works, the Mallard soon became one of the fastest steam locomotives in British history. Unfortunately, Coronation Scot's previous ecord was decimated, as the magnificent Mallard achieved a new top speed of 126mph (203 km/h) as it raced down Stoke Bank, just south of Grantham this astonishing record still stands today.

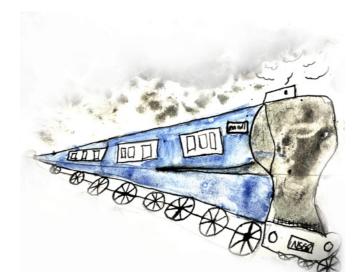
After his death, Sir Nigel Gresley left an ever-lasting legacy. These locations in the town of Doncaster are all named after him: Gresley Road, Balby; Sir Nigel Gresley Square, Waterdale; and Gresley House on Ten Pound Walk.



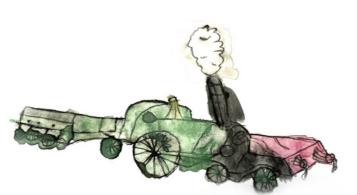














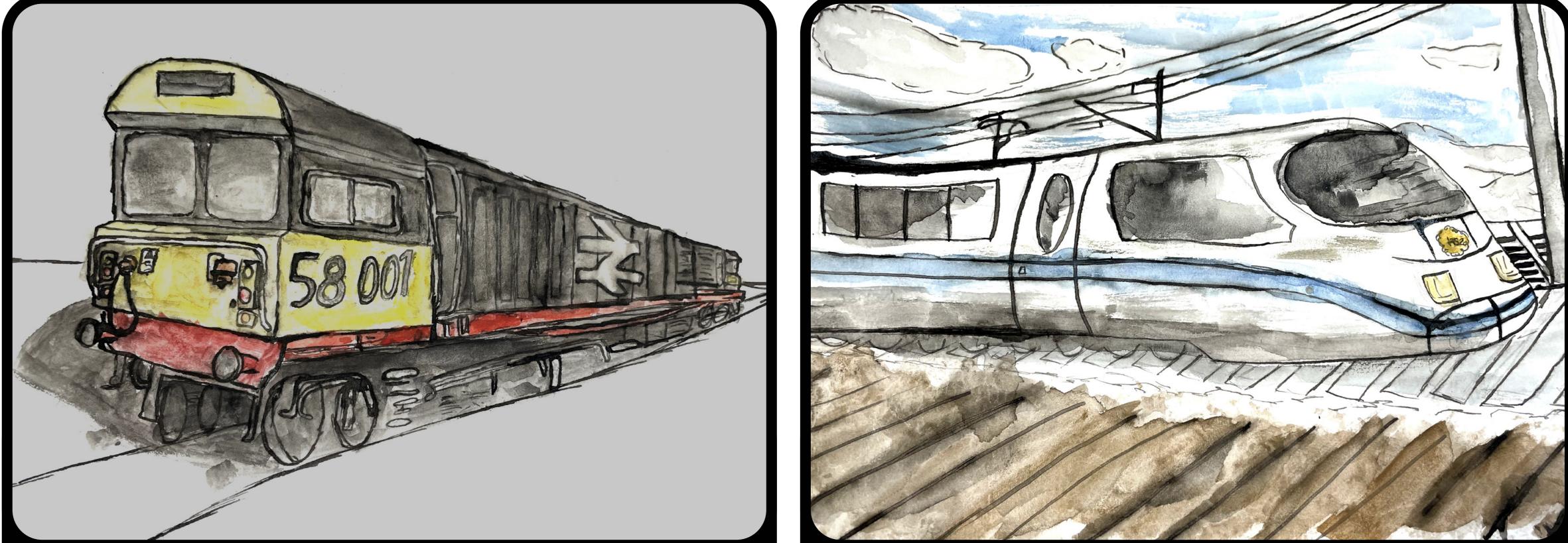


## THE STIRLING SINGLE

Patrick Stirling, (born on the 29th June, 1820) was the inventor of the 'Stirling Single' locomotive called the 'Eight-footer' because of the 8ft diameter driving wheel

Initially, Stirling was a Locomotive Superintendent of the Glasgow and Western Railway from 1853 - 1866. He spent most of his later career working as the Chief Mechanical Engineer, employed by Great Northern Railway at Doncaster Plant Works.

There are still locations in Doncaster named after him: Patrick Stirling Court and Stirling Street (near the railway station). There is also a carved train of the Stirling Single opposite the town centre flats as well as a memorial water fountain currently located at Patrick Stirling Court, Hexthorpe. This Grade 2 listed lamp and drinking fountain was commissioned by the drivers and firemen of the Great Northern Railway (GNR).



## **BRITISH RAIL CLASS 58**

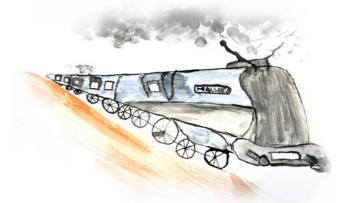
The British Rail Class 58 was a diesel electric locomotive designed for pulling heavy freight. Built at The Plant Works, Doncaster. Its length was 19.13m [62ft] and its width was 2.72m [8ft 11in]. Its fuel capacity was 4,480 litres. Its top speed was 80 mph even though it weighed an impressive 130 tonnes! It was given the nickname 'bone' by train enthusiasts as it had a narrow body with cabs at each end. It was used from 1983 to September 2002.

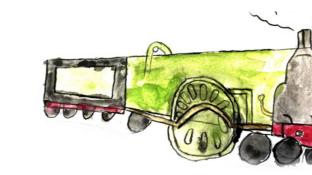
The Class 58 was mainly used by the coal industry for moving coal. Eventually, it was used in foreign countries such as France and Spain. These countries also have some stored Class 58 locomotives too.

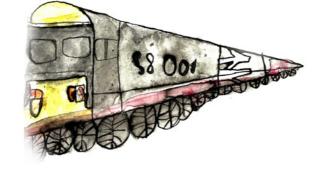
The only known incident was a derailment, which occurred on 6th August 1987. The locomotive No. 58 013 was hauling a freight train that ran away then derailed.



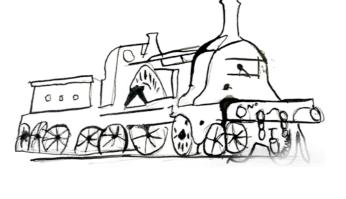


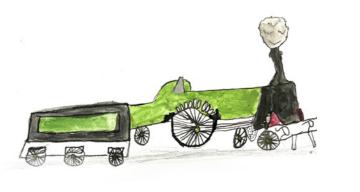


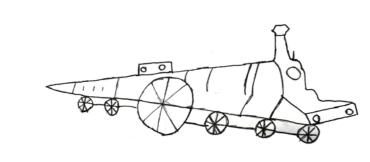












## THE FUTURE OF HIGH SPEED TRAINS

Did you know that a new 330 mile railway network is being constructed in England for high speed trains? This will be known as the HS2.

Construction started in 2015 and it is hoped to be fully completed by 2040. Amazingly, 40,000 jobs will be created through this and many will train as engineers in Doncaster at the New High Speed Railway College.

The trains that will run on this new railway will be approximately 400km faster than other high speed trains - the fastest speed in Europe!

However, the HS2 is proving to be very controversial: the new railway line will rip through the countryside, demolishing habitats and upsetting wildlife around the country.

Furthermore, many houses will need to be torn down, including near Doncaster.



