

Ideas Organiser: Planes, Trains and Automobiles



Knowledge: Science, DT and History

Key Question: How has travel changed modern life?



Big Ideas: Chronology Technology Society Evolution & Change

I know the chronology of when transport was invented-trains, aeroplanes and automobiles.	
I know where the history of transport fits in to my previous History topics eg Vikings/Stone Age	
I know the important people linked with inventing transport and how this changed our lives	
I know how important The Wright Brothers were in the history of Flight	
I know the history of train travel and how it influenced our world.	
I can talk about how cars work and how they were invented and know how their technology changed and improved over time.	
I can compare how two things move on different surfaces	
I can notice that some forces need contact between two objects, but magnetic forces can act at a distance	
I know and can observe that magnets repel each other and attract some materials and not others	
I can sort and compare a group of materials and test whether they are magnetic. I can identify some magnetic materials.	
I can describe magnets as having two poles.	
I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	
I can apply my understanding of how to strengthen, stiffen and reinforce more complex structures	
I can use mechanical systems in the models I make eg gears, pulleys, cams, levers, linkages.	

Vocabulary and background knowledge:

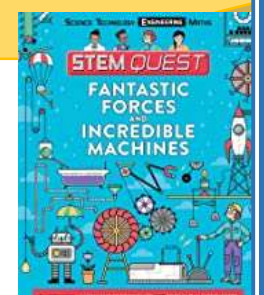
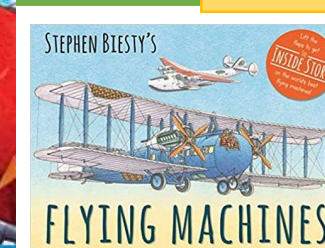
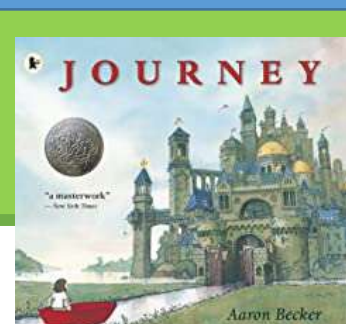
Leonardo Da Vinci	Designed the first flying machine in 1840's but never managed to build it.	
The Wright Brothers	They made the first successful aeroplane flight in 1903.	
Amelia Earhart	The first woman to fly solo across the Atlantic Ocean 1932.	
Stockton to Darlington Railway line	The first passenger carrying railway line built by George Stevenson in 1825	
Karl Benz	Invented the first petrol engine car	
combustion	Means burning	
Steam engine	Uses boiling water to make it move. The steam pushes the moving parts.	
glider	Aeroplanes with no engine.	
propeller	A device with blades that move around to push against air or water.	
engine	A machine that produces motion or power	
navigator	A person on board ship/plane that knows the exact position and plans the journey	
locomotive	A vehicle that moves using its own power	



Skills:

Measuring cutting drawing sketching ideas
planning making designing evaluating recording
results following instructions amending ideas

Recommended Reads:



Making Links:

Links between past and present -
how is transport similar /different?

Current local engineers/scientists-
inspiring a new generation of
designers

Science-understanding how things
work/move

Maths-
measuring/making/estimating/probl
em solving



British Values

Democracy- The role of
women in developing new
inventions

Tolerance- accepting changes
-embracing new
ideas/inventions

Rule of law- rules and
regulations for transport

Mutual Respect-respecting
new ideas/inventions

Values & attitudes we can always show in



this project:



This topic will help us when we learn about:

The Romans in Y4 Egyptians Y4 WW2 Y6

Past topics that help us with chronology/new
inventions are:

The Vikings The Stone Age

Quality Outcomes & Experiences:

- Trip to Magna-links with Forces
- WOW DAY-Designing and making a moving vehicle
- Science/DT Fair
- Testing paper aeroplanes
- Practical science experiments to develop enquiry skills

The World beyond our doorstep...

Local

- Transport in Lincoln through thre ages-transport museum
- local scientists/engineers/designers linked with Lincolnshire
- Local pilots-Red Arrows -their role in our country

National

- How transport changed lives in Great Britain through history
- British designers/engineers/scientists

International

- Knowledge of scientists, engineers around the world