



Trains and Automobiles

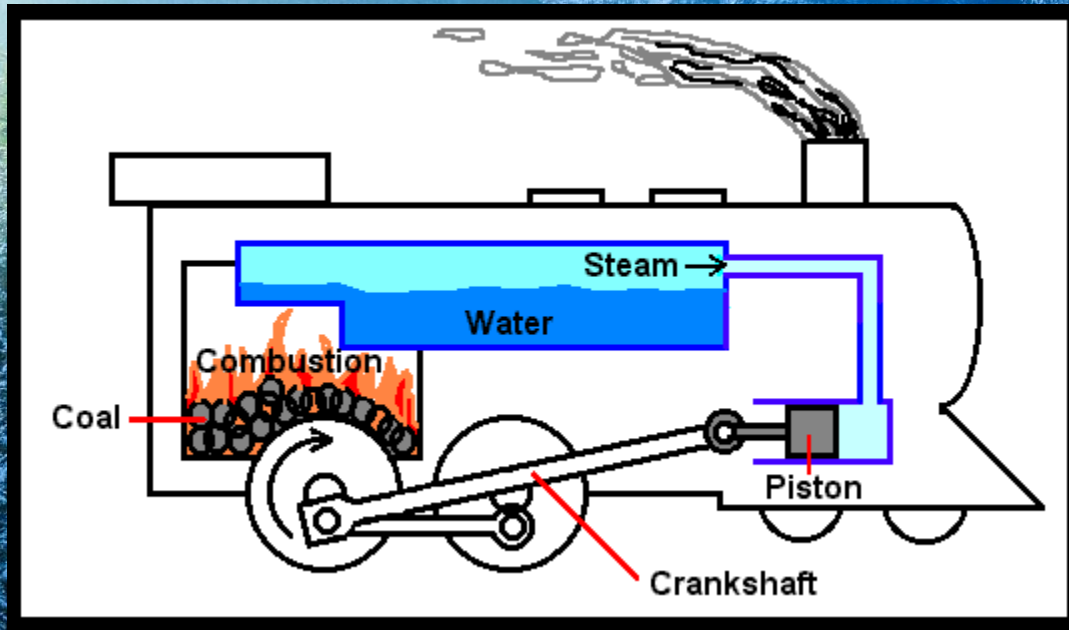


Oisin Callan



History of Trains

- External Combustion Engine.
- Uses fuel to heat water.



History of Trains

- Penydarren steam locomotive.
- Built in 1804 by Richard Trevithick.
- Used to haul iron.



History of Trains

- Could the trains go wherever they wanted?
- Trains need a **railway**.
- Cannot go up **steep** slopes.



History of Trains

- A rail track has **four** main components.
- Rails
- Sleepers
- Fasteners
- Ballast



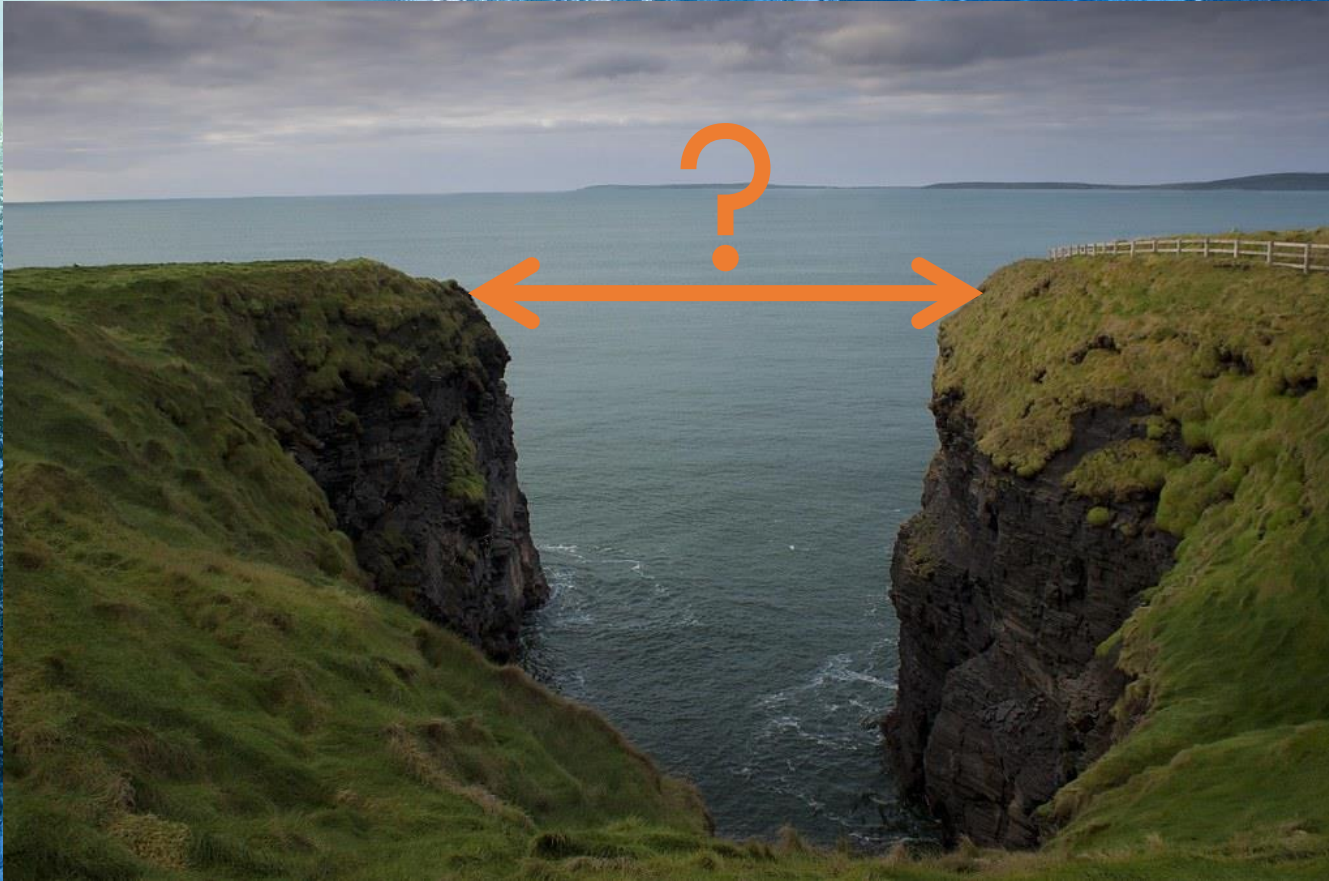
History of Trains

- What happens when railway builders come across a gap like this?



History of Trains

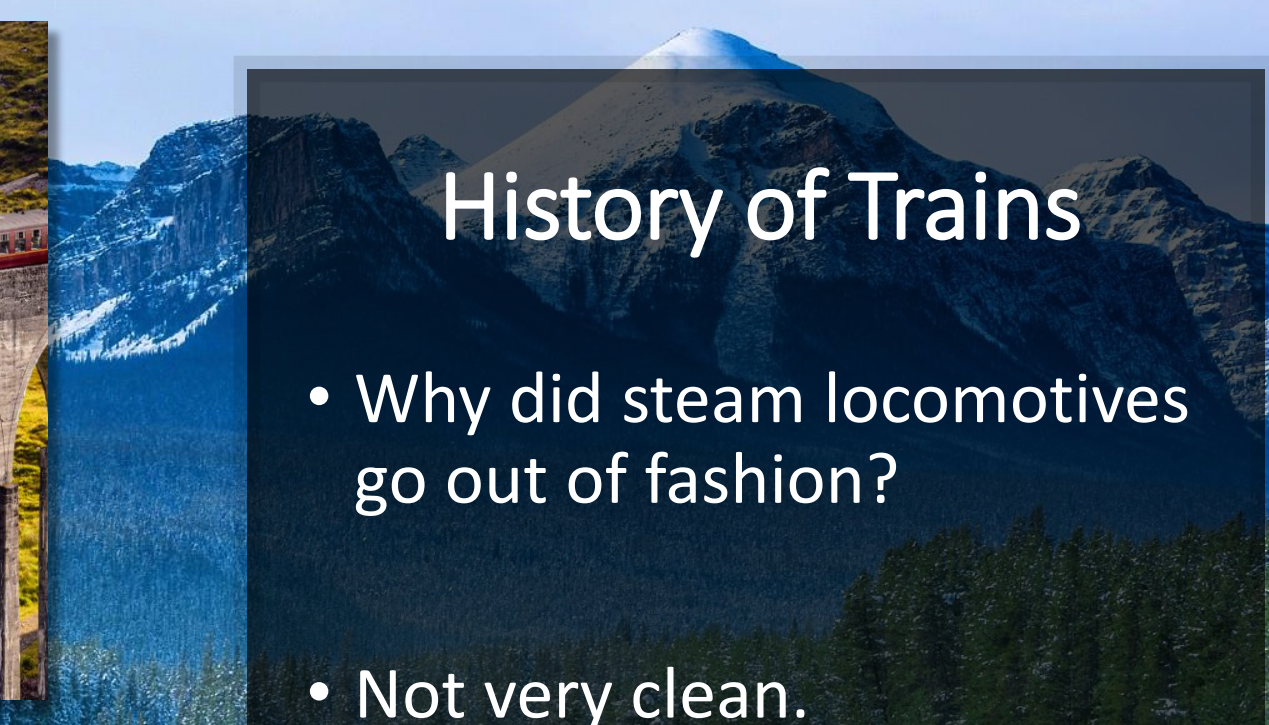
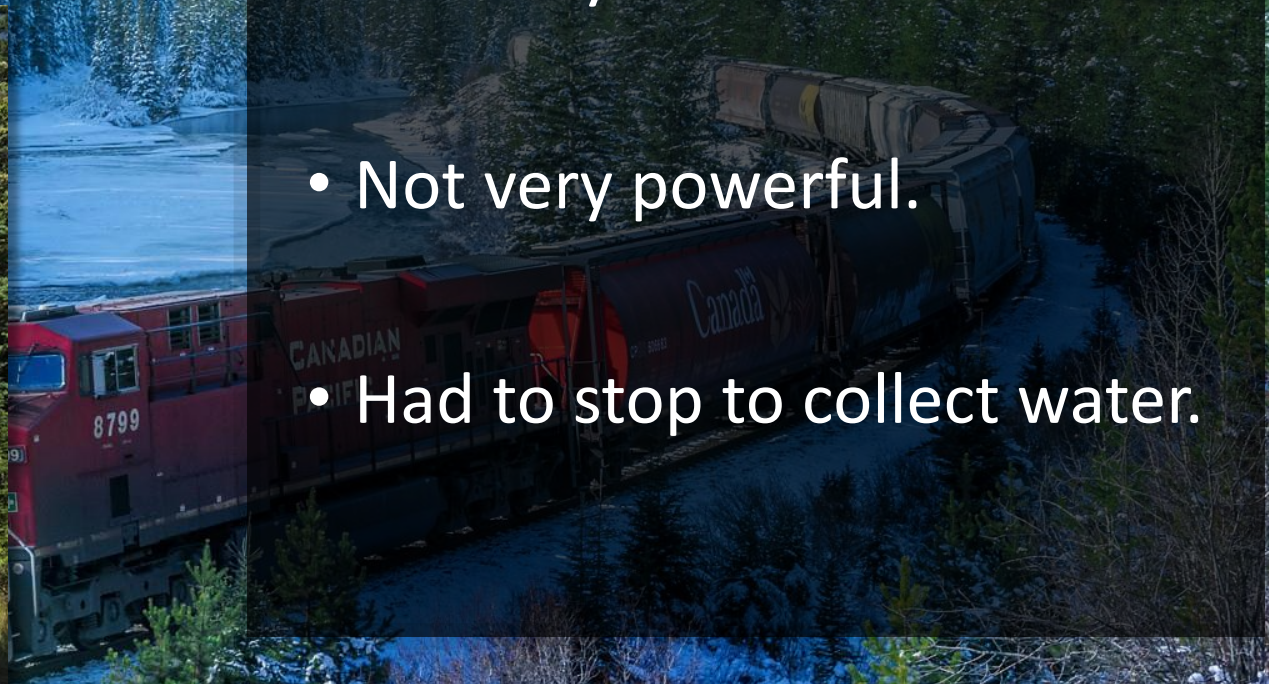
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History of Trains

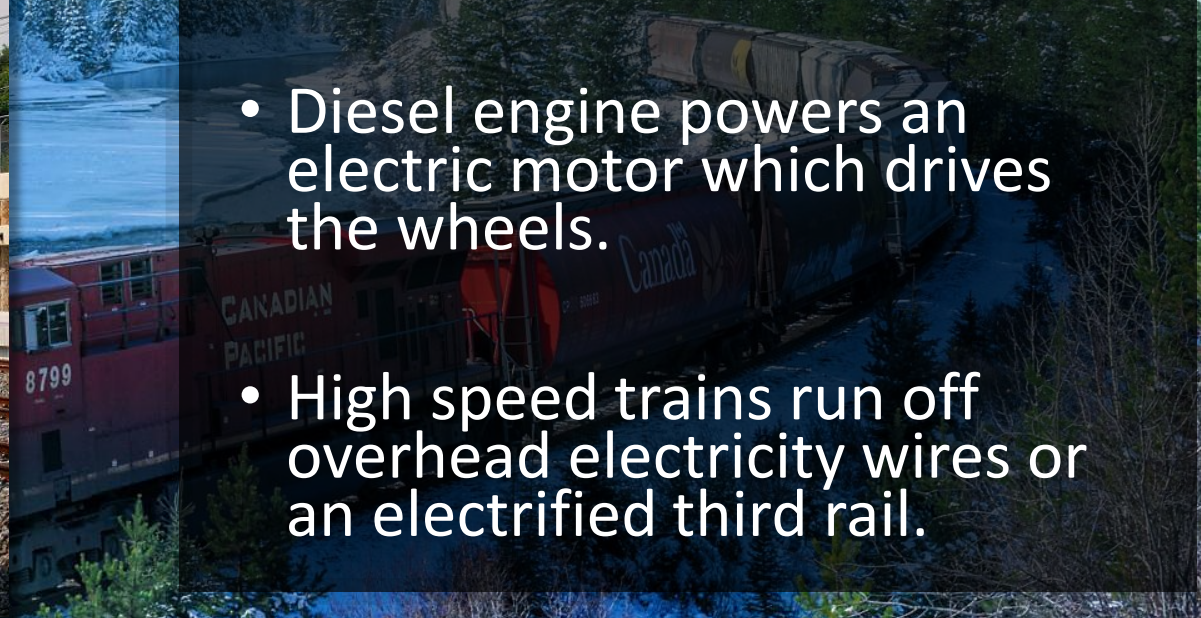
- Why did steam locomotives go out of fashion?
- Not very clean.
- Not very powerful.
- Had to stop to collect water.





History of Trains

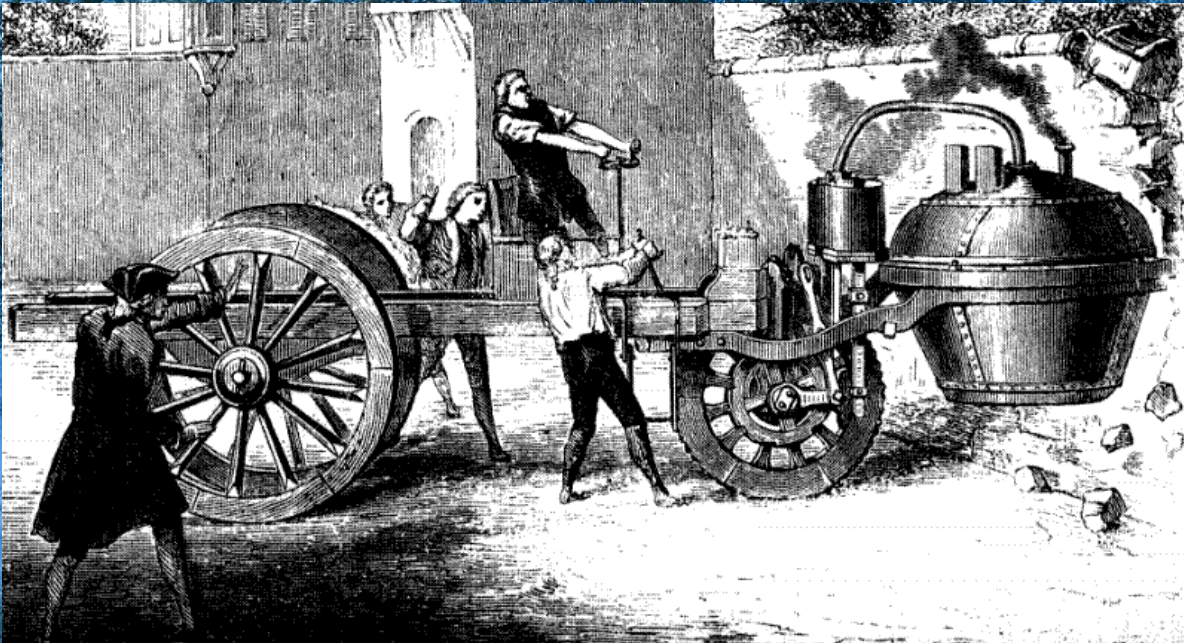
- Replaced by diesel and electric trains.
- Diesel trains were cleaner and more powerful than steam trains.
- Diesel engine powers an electric motor which drives the wheels.
- High speed trains run off overhead electricity wires or an electrified third rail.





History of Automobiles

- Built in 1769 by Nicolas-Joseph Cugnot.
- Steam powered.
- Top speed of 3km/h.
- Ran for an hour on one tank.
- Had no brakes and caused the world's first motoring accident!





History of Automobiles

- 1901 Mercedes 35HP.
- First “modern” motorcar.
- Top speed of 53mph!
- Powerful petrol engine.
- Originally designed as a racing car.

History of Automobiles

- 1908 Ford Model T
- First affordable **mass-produced** motorcar.
- Ford was the first to use the moving assembly line.
- Cost \$825 (\$23,000 in 2018)
- High chassis was designed to clear the bumps in rural roads.

