Rollercoasters

'Rita' rollercoaster at Alton Towers. Image: Jordan Hatch, CC BY-NC-ND 2.0 via Flickr.

The first rollercoaster, called 'switchback railway' was made in 1884 and was on Coney Island, New York.

Now there are **thousands of rollercoasters all over the world**. At Alton Towers, the biggest theme park in the UK, there are 40 rollercoasters all in one place.

Thorpe Park, another theme park in the UK, gets around **2 million** visitors every year.

How do rollercoasters work?

1. **Motors** pull the cars up to the top of the track.

2. When the cars are at the top of the track **gravity** pulls them down again.

3. As the cars rush down the track lots of **energy** builds up. It is this energy that can propel the cars around the rest of the track, including through loop-the-loops.

Image: paulbr75 on Pixabay.

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Engineers and rollercoasters

Structural, **electronic** and **mechanical** engineers:

- Design the track. What will it look like and be made of?

- Make it fun. Knowing what is possible and how to achieve it.

- Make it safe, e.g. keeping people strapped in and keeping the cars on the tracks.

Minecraft challenge

Build your own **rollercoaster** in Minecraft! Trying using:
- the Minecart and rails to make a rollercoaster
- redstone to make a powered track
- gravity to propel your cart downhill.

If you do not have access to Minecraft you could **draw** your design or build your own using simple materials, e.g. build a ramp for a toy car using cardboard, tape, and books or lego. Try adjusting the height of the ramp, or making the track more/less slippery, what happens?

You can find out more about a **real-life 'thrill designer'** here: https://www.thisisengineering.org.uk/meet-the-engineers/michelle/

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