

ROLL UP ROLL UP!

SCIENCE BASED THEME - FORCES IN ACTION

Key Knowledge

Examples of **forces** in action:



Water resistance and **air resistance** are forms of **friction**. **Friction** is sometimes helpful and sometimes unhelpful. For example, **air resistance** is helpful as it stops the skydiver hitting the ground at high speed. **Friction** on a bike chain can make the bike harder to pedal so it is unhelpful.

Key Vocabulary

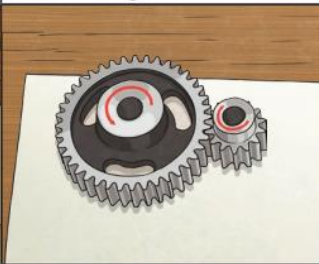
friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
air resistance	A type of friction caused by air pushing against any moving object.
water resistance	A type of friction caused by water pushing against any moving object.
buoyancy	An upward force that a liquid applies to objects.
streamlined	When an object is shaped to minimise the effects of air or water resistance .
mechanism	Parts which work together in a machine. Examples of mechanisms are pulleys, gears and levers.

Pulleys



Pulleys can be used to make a small **force** lift a heavier load. The more wheels in a pulley, the less **force** is needed to lift a **weight**.

Gears/Cogs



Gears or cogs can be used to change the speed, **force** or direction of a motion. When two gears are connected, they always turn in the opposite direction to each other.

Lever



Levers can be used to make a small **force** lift a heavier load. A lever always rests on a pivot.

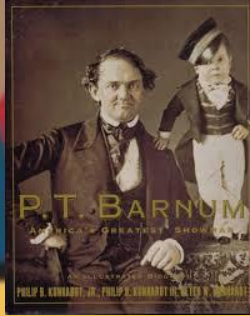
KEY QUESTIONS

- **HOW ARE FORCES USED IN THE CIRCUS?**
- **IS IT RIGHT TO HAVE ANIMALS IN THE CIRCUS?**
- **WHO IS NELL GIFFORD AND WHAT IS SPECIAL ABOUT HER CIRCUS?**

KEY FIGURES FROM PERFORMANCE AND THE CIRCUS



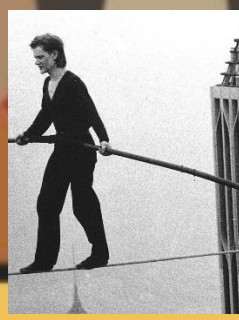
NELL GIFFORD



P.T. BARNUM



PABLO FANQUE



PHILIPPE PETIT

Nell Gifford- (24.1.73- 8.12.19) was the owner and co-founder of Gifford's Circus. Gifford's Circus is based in Stroud but travels the UK every summer and has a traditional village green style big top.

P.T.Barnum- (5.7.1810- 7.4.1891) The "real" greatest showman. He founded the Ringling Brothers and the Barnum and Bailey circus. He toured America with a menagerie of animals and acts.

Pablo Fanque- (30.3.1810- 4.5.1871) a greatest British Victorian showman- rode and performed on horses. He was the first black circus owner.

Philippe Petit- (13.8.49-) French high wire artist who became famous for walking on a tightrope between the Twin Towers of the World Trade Centre in New York.

RECOMMENDED READING

