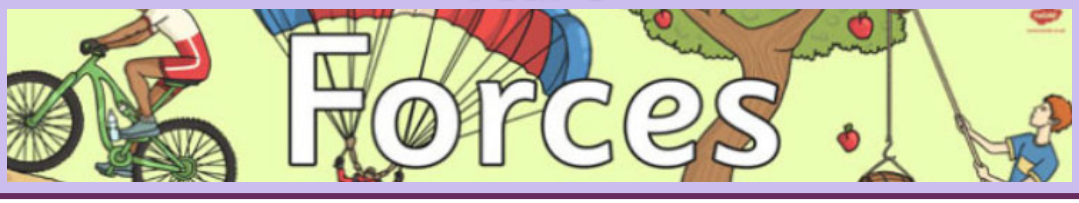
Year 5



Statutory Requirements:

- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
- Identify the effects of air resistance, water resistance and friction, that act between moving surfaces
- Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect

Key Knowledge:

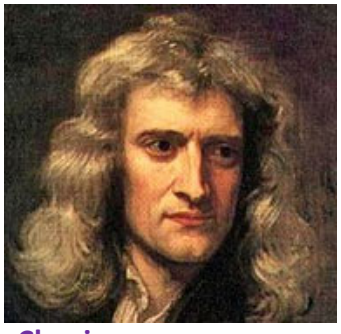
- Forces can be classified as 'push' or 'pull'.
- We can create forces by pushing, pulling, lifting, squashing etc.
- Gravity is a pull force. Gravity pulls objects towards the ground.
- Air resistance, water resistance and friction are push forces. They act against the direction of travel.
- Levers, pulleys and gears allow small forces to have greater effect.

Key Vocabulary:

- Force
- Gravity
- Friction
- Air resistance
- Up thrust
- Water resistance
- Newtons (N)
- Surface area
- Push
- Pull
- Balance
- Mass
- Weight
- Gear
- Lever
- Pulley

Key Scientists:

Classic
Archimedes
(c.287 - c.212 BC)
Ancient Greek physicist, and engineer, famous for principles of buoyancy.



Classic
Sir Isaac Newton
(1642 – 1727)
English scientist and mathematician famous for his laws of motion.

Contemporary
Torin Clark
(???? –)
Investigating artificial gravity at the University of Colorado Boulder.

Working Scientifically:

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- Using test results to make predictions to set up further comparative and fair tests
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations