

Science Knowledge organiser: Forces – Autumn 1

Scientific enquiry:

- Can they explain that unsupported objects fall towards the earth because of the force of gravity acting between the earth and the falling object?
- Can they identify the effects of air resistance, water resistance and friction that act between moving surfaces?
- Can they recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect?
- What is friction and how does it affect moving objects?
- Why will a car always move faster than a boat?
- What is gravity and why is Isaac Newton linked to it?
- Can you design and make a parachute to help you understand more about air resistance?
- How do builders get heavy items onto the top of skyscrapers?
- Can you design, make and evaluate a structure that will propel a marble as far as possible?
- What helps you to climb hills on your bicycle?

Vocabulary:

- force
- gravity
- air resistance
- water resistance
- friction
- gears
- pulleys
- levers
- springs
- mechanism

Facts

- Isaac Newton discovered Gravity.
- Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- Some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
- Water resistance acts in the opposite direction to the direction of travel, so it slows the object down.
- Water resistance is a much greater force than air resistance.

Images

