

Science Overview – Forces

Year 5

Autumn 1

Key Question: How has exploration shaped what we know?

National Curriculum

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

SUBSTANTIVE KNOWLEDGE

- Know what forces are and what they can do to an object.
- Know what water resistance, air resistance and friction are.
- Know the difference between mass and weight.
- Know what gravity is and Isaac Newton's theory of gravity.
- Know that the mass of a planet/spherical body can change the gravitational pull it has on Earth.
- Know the difference between a pulley, gears and levers.

Key words:

Forces
Gravity
Weight

Vocabulary:

mass, friction, air resistance, water resistance, mechanism, upthrust, lever, pulley, gear

Working scientifically

- Use test results to make predictions to set up further comparative and fair tests

Enquiry type to cover and enquiry question

Fair testing (enquiry type)

How does the surface area of a parachute affect the time it takes to fall to the ground?

Learning Milestones /Assessment

I can...

- Describe Newton's theory of gravity.
- Name a piece of equipment we can use to measure force.
- Identify forces in real life examples – a person swimming for example.
- Explain what water and air resistance are.