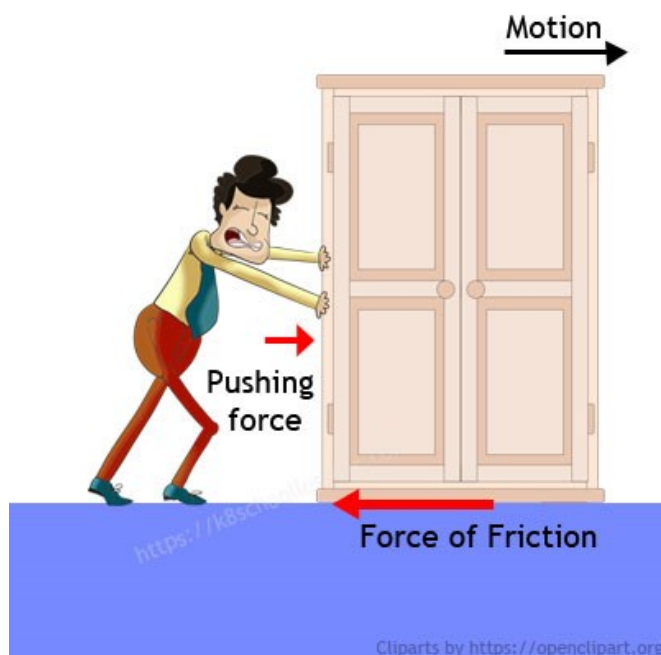


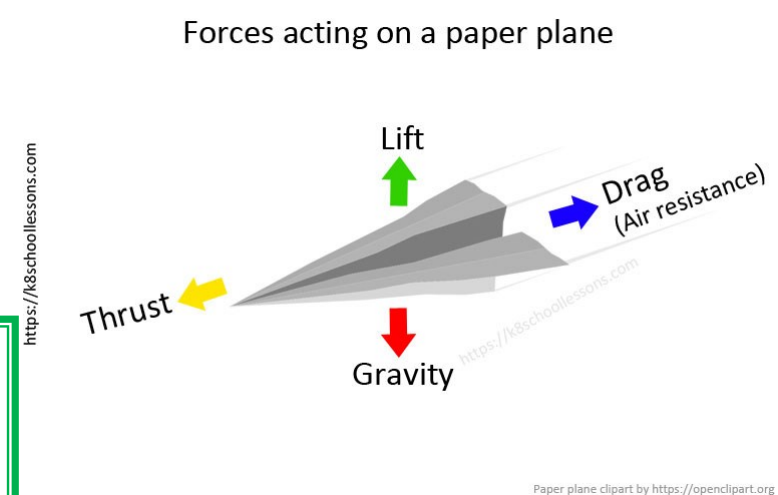


Year 5 Forces

Science Knowledge Organiser

Knowledge
Skills
Vocabulary

- Curriculum Coverage**
- 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.



Researching

- Skills Progression**
- To be able to identify scientific evidence that has been used to support or refute ideas or arguments.
 - To be able to take repeated accurate measurements using a stopwatch.
 - To be able to explain the degree of trust in results.
 - To be able to use test results to make predictions to set up further fair-tests.
 - To be able to plan a fair-test; identifying the control variables.

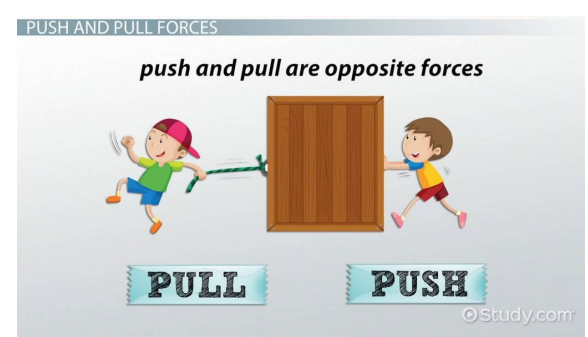
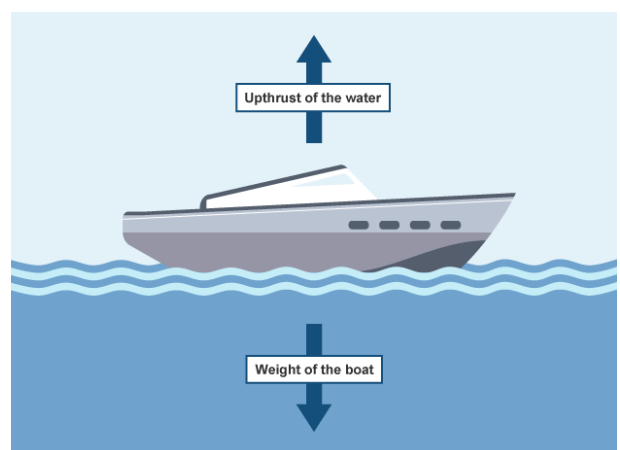
- Knowledge Progression**
- Can I explain why unsupported objects fall towards the Earth because of gravity?
 - Can I identify the effects of air resistance that act between moving surfaces?
 - Can I identify the effects of friction between moving surfaces?
 - Can I identify the effects of water resistance that act between moving surfaces?
 - Can I recognise that some mechanisms including pulleys, allow a smaller force to have a greater effect?
 - Can I recognise that some mechanisms including gears, allow a smaller force to have a greater effect?
 - Can I recognise that some mechanisms including levers, allow a smaller force to have a greater effect?

Scientific vocabulary

Force, contact force, non-contact force, gravity, friction, air resistance, upthrust, water resistance, weight, mass, grams, kilograms, Newton meter, Newtons (N), particles, surface area, push, pull, balanced, unbalanced, mechanical devices, gears, levers, pulleys, springs.

Scientific enquiry

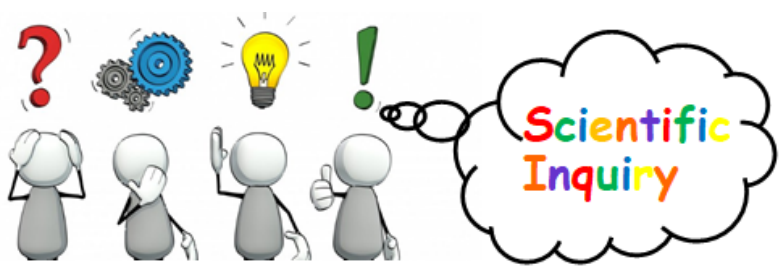
Why do things fall to the floor instead of floating away? What is gravity, where does it work and where doesn't it work? How does gravity affect weight and mass? How do aeroplanes and parachutes work? Why do boats float? How does friction work? Why does friction help racing cars go faster? What is a mechanism? How do simple mechanisms work? How do levers work and where might I be using one? How do pulleys work and where might I be using one? How do gears work and where might I be using one? How is a force measured? Can I use a Newton meter to measure a force in my own experiments? Can I prove that forces exist, and how?



Pattern Seeking



Observing over Time



Fair Testing



Identifying and Classifying

