Forces – effects of movement

Year 5 Spring 2

Inventors and Inventions

Science

Sticky Knowledge

What are forces? There are contact and non-contact forces. Contact forces are push, pull, friction, air resistance, water resistance, potential energy (springs). Non-contact forces – gravitational force, electrical force, magnetic force.

What is gravity? Gravity is the force by which a planet or other body draws objects towards its centre. The force of gravity keeps all the planets in orbit around the sun. Gravitational force is equal on all objects.

What is friction? Friction is a contact force created by two or more objects rubbing against each other. Different surfaces create different amounts of friction. Friction affects the speed objects move and travel and can stop an object from moving.

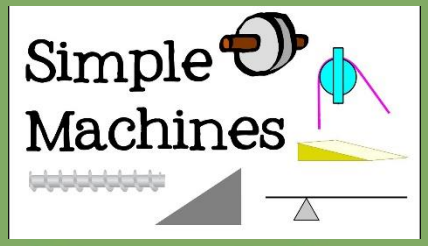
How can different forces help us?

Mechanisms use different forces to help ease of movement. Sliders, levers, pullies, gears and springs. Some slow down movement, some speed up movement.

How can we explore the effects of air resistance? Different materials and size of material will be affected in different ways by air resistance. Design a fair test involving different parachutes.

Which famous scientists discovered and explored forces and the movement of objects?

Galileo and Sir Isaac Newton



Key Vocabulary

Vocabulary	Definition
Contact and non-contact force	**Contact force –** when two things come together, they exert a force because they are touching e.g. friction, air and water resistance. **Non-contact force –** a force that is exerted when objects are not touching e.g. gravity and magnetic force.
Gravitational pull	It is an invisible force that pulls objects toward each other. Earth's gravity is what keeps you on the ground and what makes things fall.
mechanism	Mechanisms are **devices that we create to help us**. No matter how simple or complex they are: most mechanisms are designed to change smaller input forces and motion into greater output force and motion. Pulleys, levers, sliders and springs are examples of mechanisms.

Useful websites

Friction
https://www.bbc.co.uk/bitesize/topics/znmmn39/articles/zcmwkty

Gravitational pull
https://www.youtube.com/watch?v=x-NUOAyPj7Q

Water and air resistance
https://www.youtube.com/watch?v=fr9JxrqnpGU