

Knowledge Organiser

Year 5—Forces and Magnets

How do forces affect move-

ment?

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As a church school, we aspire to live life in all its fulness; Loving Faith. Loving People. Loving Learning, - following the footsteps of Jesus.				
Know your talents and use them for good	Internet Keep yourself and others safe	Be a critical thinker		
Mike Be a connection maker Be courageous	BTeamStFrancis	Be a role model	Be proud of yourself	
Be a team player	S There are its give you Its are all its follower: soler to the Love Learning.	Romy Be reflective	Learn from Jesus	
Paji Paji Paji Paji Paji	Bc resilient	Be physically and mentally healthy	Global Action Heroos!	

		what should Laiready know?		
Vocabulary		Year 3 Spring 2		
Force	Power, energy or physical strength	Notice that some forces need contact between two objects but magnetic forces can act at a distance.		
Design	To make or draw plans for the structure or form of.	Observe how magnets attract or repel each other and attract some materials and not others.		
Towards	Moving or facing in the direc- tion of.	compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.		
Friction	The rubbing of objects against each other.	Describe magnets as having two poles (like and unlike poles).		
Mechanism	The whole or parts of a ma- chine, mechanical system, or device.	Predict whether two magnets will attract or repel each other, depending on which poles are facing.		
Parachute	nute A large device made of	Year 2 Summer 2		
	strong, thin cloth that opens up like an umbrella. It slows the fall of a person who jumps from an airplane.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, rock, paper and cardboard for par- ticular uses		
Brake	A device used to slow or stop the motion of a vehicle or machine.	Find out how the shapes of solid objects made from some materials can be changed by squashing, bend-ing, twisting and stretching (applying a force)		
Gravity	The force by which all objects in the universe are attracted	Some materials can be found naturally; others have to be made.		
	to each other.			
Air Resistance	The act or process of re- sisting, in this case, resisting against air.	Children might work scientifically by: Exploring falling paper cones or cup-cake cases.		
Water Re- The act or process of re- sistance sisting, in this cae, resisting against water.		of parachutes. Carrying out fair tests to determine which designs are the most effective. Exploring resistance in water by making and testing boats of different shapes. Design and make [create/invent/design] artefacts that use simple levers, pulleys, gears and/or springs and explore their ef-		

What will I know by the end of the unit?

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 (causing things to slow down) Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. There are different types of forces (push, pull, friction, air resistance, water resistance, magnetic forces, gravity) which have different effects on objects Gravity can act without direct contact between the Earth and an object



Notable Scientist - Sir Isaac Newton

Sir Isaac Newton was an English mathematician, physicist, astronomer, alchemist, theologian and author, widely recognised as one of the greatest mathematicians and physicists and among the most influential scientists of all time. He formulated gravitational theory in 1665 and 1666 after watching an apple fall and asking why the apple fell straight down, rather than sideways or even upwards. He showed that the force that makes the apple fall and that holds us on the ground is the same as the force that keeps the moon and planets in their orbits. His theory of gravity wouldn't have got us global positioning satellites.