

Year Group	3
Term	Summer 1
Subject	Science

Topic	Forces and Magnets
Curriculum Intent	To explore how force and magnetic force acts in everyday life through observation, raising questions and carrying out tests.

Key Vocabulary

contact force, force, air resistance, friction, non-contact forces, surface, texture, motion, resistance, tilt, attract, repel, horseshoe magnet, bar magnet, magnet, magnetic, iron, steel, magnetic field, magnetism, recycle, non-magnetic materials, magnetic needle, magnetic north, compass, direction, orienteering

Scientific Skills

Asking relevant scientific questions.
 Making predictions based on prior knowledge
 Setting up a fair test.
 Making systematic and careful observations
 Taking accurate measurements using standard units.
 Using a range of equipment (e.g., rulers, timers, magnets, compasses).
 Recording results.
 Simple scientific drawings and labelled diagrams.
 Classifying and grouping materials based on observable features.
 Reporting on findings.
 Using results to draw conclusions.
 Identifying patterns in data.
 Applying knowledge to solve problems or answer further questions

Scientific Knowledge

Pupils will be able to:

- Identify and describe different types of forces, including contact and non-contact forces
- Explain how forces affect the movement, speed, and direction of objects
- Compare how objects move on different surfaces and explain the role of friction
- Understand that magnets are non-contact forces that can act at a distance
- Describe magnets as having two poles and explain how they attract or repel each other
- Identify and classify materials based on whether they are magnetic or non-magnetic
- Explore everyday uses of magnets, including how compasses work
- Observe and measure the strength of magnetic forces
- Use observations and results to identify patterns and draw conclusions about forces and magnets

Week	Learning Objective	Activities	Outcome
1	Explore contact and non-contact forces	Investigate different types of forces using everyday playground activities. Identify forces acting during actions such as throwing, sliding, or pulling.	Identify and describe contact and non-contact forces and explain their effect on an object.
2	Compare how things move on different surfaces	Conduct a ramp investigation using various materials (felt, sandpaper, etc.) to test friction. Measure time taken for an object to slide.	Understand how surface type affects motion due to friction and represent data using charts.
3	Explore different types of magnets	Investigate bar and horseshoe magnets. Predict and test which poles attract or repel. Identify types of magnets used in daily life.	Describe magnets as having two poles and predict magnetic interactions.
4	Explore the properties of magnets and everyday objects that are magnetic	Test a variety of classroom objects for magnetic properties. Record and group data using a Carroll diagram.	Group and classify materials based on magnetic properties. Identify patterns in results.
5	Understand that magnetic forces can act at a distance	Test strength of different magnets by measuring distance from which they attract a paperclip. Record and compare results.	Observe how magnetic forces act through space without contact and compare magnet strength.
6	Explore the everyday uses of magnets	Use compasses to complete a treasure hunt. Learn how magnets are used in real life, including navigation and technology.	Explain how compasses work and describe everyday uses of magnets.