

National Curriculum:

- Compare how things move on different surfaces,
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance,
- Observe how magnets attract or repel each other and attract some materials and not others.
- 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,
- Describe magnets as having two poles
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Subject: Science

Year 3/4

Magnetic Mayhem!



Context:

Pupils in Year 3 and 4 should be given a range of scientific experiences to enable them to raise their own questions about the world around them.

Sticky Knowledge:

Things move differently according to the surfaces on which they move i.e.

things slide easily on shiny surfaces, things drag on rough surfaces (1)

Magnetic forces can act without direct contact, direct contact is required for other forces eg opening a door. (1/2)

Aluminium is not magnetic but steel is. (2/3)

Magnets have 2 poles (4)

Magnets attract and repel according to the poles which are moved together (5)

Prior Knowledge:

This Year 3 unit builds on pupils' knowledge of how things move on different surfaces with a focus on the force friction.

Skills:

Set up simple practical enquiries, comparative and fair tests (1/4/5)

Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment. (1/4/5)

Gather, record, classify and present data in a variety of ways to help in answering questions drawings, labelled diagrams, keys and child constructed bar charts and tables (5)

Identifying differences, similarities or changes related to simple scientific ideas and processes (2/3/4)

Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions (1)

Key Vocabulary:

force
magnet
pole
attract
repel
steel
aluminium
predict
results

Enquiry Questions:

- 1) Which surface is best to stop you slipping?
- 2) Which materials are magnetic?
- 3) Can you sort materials into magnetic and non-magnetic?
- 4) What does attract and repel mean?
- 5) Can I predict whether a magnet will attract or repel another magnet?