Our Intent is: To develop inquisitive children who are excited about investigating with curiosity, "How can scientific enquiry explain the world?" Exploring answers by gathering and analysing evidence.

Forton Primary School
Science

Clougha Class
Summer 2
Year A

Etymology: Forces - an influence tending to change the motion of a body or produce motion or stress in a stationary body.

Key Concept: Forces and Magnets

Key Questions: How do things move?
Are magnets useful?


Forces are Fantastic
By Sabrina Rose and Pipi Sposities

Unit Overview:

N.C. LINKS:

Forces and Magnets Pupils should be taught to:

- 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.

Vocabulary:

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<table>
<tr><td>Magnetic Forces.</td><td>Subject Specific:

Forces, friction, surface, magnet, magnetic, magnetic field, poles, repel, attract.</td><td>Working Scientifically:

Research
Comparative and fair test
Systematic Careful observation
Thermometer Data Gather
Record Classify Labelled diagrams
Keys Bar charts Tables
Conclusion Prediction difference
Similarities
Changes evidence</td></tr>
<tr><td>. New Knowledge Progression:
Compare how some 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 (like and unlike poles).
Predict whether two magnets will attract or repel each other, depending on which poles are facing.</td><td colspan="2">Building on Prior learning KS1:
Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, rock, paper and cardboard for particular uses.
Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (applying a force).
Some materials can be found naturally; others have to be made.</td></tr>
<tr><td colspan="3">Key Skills (Disciplinary)
Suggest their own ideas on a concept and compare these with what they observe / find out.</td></tr>
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- Use observations to suggest what to do next.
- Discuss ideas and develop descriptions from their observations using relevant scientific language and vocabulary.
- Ask / raise their own relevant questions with increasing confidence and independence that can be explored, observed, tested or investigated further.
- Choose / select a relevant question that can be answered [by research or experiment / test].
- Make decisions about which information to use from a wide range of sources and make decisions about how to present their research.
- Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.
- Make a visual representation or a model of something to represent something they have seen or a process that is difficult to see.
- Suggest their own ideas on a concept and compare these with models or images.
- Make some decisions about an idea within a group *(e.g. I think we should find out by testing…)*
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Sequence of Lessons:

1. LO – To identify the forces acting on objects.
2. LO – To investigate and compare how objects move on different surfaces.
3. LO – To sort magnetic and non-magnetic materials.
4. LO – To investigate the strength of different magnets.
5. LO – To explore magnetic poles.
6. LO – To observe how magnets attract some materials.

Enhancements:
The Science and Industry Museum.

End of Unit Outcome:
Create a poster about forces and make their own magnetic game using their knowledge of what they've learnt from this unit.

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Oral Assessment:
How do forces act upon object
How do objects move on different surfaces?
What are magnetic and non-magnetic materials?
What do you know about the strength of different magnet
What do you know about magnetic poles?
How do magnets attract some materials?