

**Science Knowledge Organiser**

Magnets and Forces Year 3

Summary Statement

A force is a push, a pull or twist. When an object moves on a surface, the texture of the surface and the object affect how it moves.

A magnet attracts magnetic material. The strongest parts of a magnet are the poles. Magnets have two poles – a north pole and a south pole.



**By the end of the unit children can:**

* Compare how things move on different surfaces.
* Notice that some forces need contact between 2 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 2 poles.
* Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.

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| **Key Vocabulary** | |
| **Spelling** | **Definition** |
| friction | When two surfaces slide together a force called friction makes them stick very slightly to each other. |
| gravity | This force makes all objects fall down towards the centre of the Earth. |
| magnetic poles | The ends of the magnets are called its poles. One end of a magnet is the North pole; the other is the South pole. |
| magnets | Objects that push or pull things with their invisible force called magnetism. |
| force | A push or pull on an object. |
| attract | When opposite poles are brought together they will pull together. |
| repel | When the same poles are brought together, they will push away from each other. |

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| **Key Knowledge** |
| Forces   * A **force** can cause something   - to speed up  - slow down  - change shape  - change direction.   * For some **forces** to act there must be contact e.g. a hand opening a door, the wind pushing the trees. * It is easier to push or pull something along a smooth surface than a bumpy surface. Smooth surfaces have less **friction** than bumpy surfaces.   Magnets   * **Magnets** have two **poles** – a north pole and a south pole. If two like **poles** e.g. two **north poles**, are brought together they will push away from each other – **repel**. If two unlike **poles** e.g. a **north** and **south**, are brought together they will pull together – **attract.** * The strongest parts of a **magnet** are the **poles**. * **Iron**, **nickel** and other materials containing these are **magnetic** e.g. stainless steels. * Some **forces** can act at a distance e.g. magnetism. The **magnet** does not need to touch the object that it **attracts.** |

