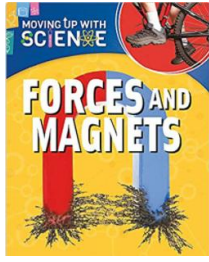
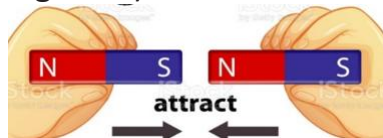
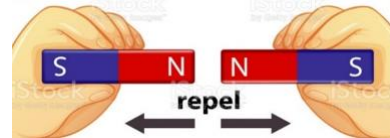


# YEAR 3 SCIENCE – FORCES AND MAGNETS Autumn 1

| Tier 3 Vocabulary                                                                                                                                                       | Knowledge Facts                                                                                                                                                                                                                                                                                                                                                                                        | Book Curriculum & Recommended Reads                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Force</b> – a push or a pull.                                                                                                                                        | A force can be a push or pull. When force moves an object away from something, that is a push. When force brings an object closer, that is a pull. Pushes and pulls can change an object’s speed, direction and shape.                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Friction</b> - a force between two surfaces that are moving against each other. Friction can slow moving objects.                                                    | Smooth surfaces allow objects to slide easily across them. Rougher surfaces do not allow objects to slide so easily. Smooth surfaces have less friction than rough surfaces. Friction can slow moving objects.                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Contact force</b> – a push or pull that can happen when two objects are touching.                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Non-contact force</b> – a push or pull that can move or affect an object without touching it.                                                                        | For most forces to work, contact with the object is needed. However, magnets can move objects without touching them.                                                                                                                                                                                                                                                                                   | <b>National Curriculum End Points</b><br>Compare how things move on different surfaces.<br>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.<br>Observe how magnets attract or repel each other and attract some materials and not others.<br>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.<br>Describe magnets as having two poles.<br>Predict whether two magnets will attract or repel each other, depending on which poles are facing. |
| <b>Magnet</b> – A metal that attracts certain other metals.                                                                                                             | Magnets have two poles, North and South. When two of the same poles are placed close together they <b>repel</b> (push apart) each other. When two different poles are close, they <b>attract</b> (pull together) each other.<br>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Magnetism</b> – a force that acts between magnets or magnetic materials.                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Magnetic material</b> – a material that can be attracted to a magnet.                                                                                                | Magnets attract some metals – these metals are iron and steel. Most other metals, for example aluminium, copper and gold, are NOT magnetic.                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Repel</b> - to push apart.                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Attract</b> - To pull together.                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|   | Magnets are not all the same strength; some can be much stronger than others. Some ultra-strong magnets are used in industry, such as on cranes to sort different metals or to lift heavy objects.                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |