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| ***Words to know and spell (Tier 2 Vocabulary)*** | | |
| Force | Push | Pull |
| Surface | Magnet | Magnetic |
| Poles | North | South |
| Button | Horseshoe | Ring |
| Bar | Elastic | Friction |
| Air resistance | Streamlined | Newton |

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| ***Words to understand and spell (Tier 3 Vocabulary)*** | |
| **Force meter** | Scientific equipment that is used to measure forces. |
| **Attract** | A force by which things are pulled towards each other. |
| **Repel** | The force in physics that pushes two objects apart. |
| **Electromagnetism** | The interaction of electric currents or fields and magnetic fields. |
| **Aerodynamic** | Having a shape that reduces the drag from the air moving past. |
| **Magnetic field** | The magnetic field is the area around a magnet in which there is magnetic force. |

** Lions – Science KCV – Forces and Magnets**

• Know that a force can be thought of as a push or a pull

• Know that there are different types of contact force: impact forces (when two surfaces collide), frictional forces (when two surfaces are already in contact) and strain forces (when an elastic material is stretched or squashed)

• Know that objects move differently on rough and smooth surfaces; objects resist movement more on rough surfaces because there is higher friction as the object moves

• Know that there are also non-contact forces that can act between objects without them touching and that magnetism is an example of a non-contact force

• Know that magnets have two poles called north and south

• Know that like poles (south-south and north-north) of two magnets repel each other and that opposite poles of two magnets (north-south) attract each other

• Know that there is a magnetic field around a magnet which is strongest at each pole

• Know that some materials are magnetic, meaning that they are attracted to a magnet, while other materials are non-magnetic

• Know about the life of The Wright Brothers and how they used their knowledge of forces to help with their inventions.

***Key facts to learn:***

***Concept check questions. Test yourself:***

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| What is a force?  How do magnets work?  Why are some materials magnetic?  Where are magnets used in the world of work?  How can magnets be used to help people?  Where are magnets in use in our community? |
| **Opportunities for Investigation:**  **Pattern Seeking:** Does the size and shape of a magnet affect how strong it is? |
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• Set up simple practical enquiries, comparative and fair tests

• Make systematic and careful observations and, where appropriate, take accurate measurements using standard units

• Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

* • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

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***Key skills to do:***

**Year 3 – Science – Autumn 1 – Heyford Park School**

**Year 5 – Science – Autumn 1 – Heyford Park School**