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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**