No Limits
To Learning!

Topic Title: Swords and Sandals Magnets & Forces **Year Group**: 3 **Academic Year**:2019-20

Science Intent: To explore pushes and pulls, friction and magnets with respect to the forces involved and their use in everyday life.

<table>
<tr><td>Prior Scientific Learning/Linked Topics:</td><td colspan="2">Literacy Links (including texts/media used):
Romulus and Remus
Boudicca
Romans on the Rampage</td><td colspan="3">Maths Links: Measurement and Statistics, Graphs, Venn diagrams, Carroll diagrams, Roman Numerals</td></tr>
<tr><td rowspan="2">Scientific Knowledge</td><td colspan="4">Working Scientifically</td></tr>
<tr><td>Observing and Measuring over time</td><td>Identifying, classifying and grouping</td><td>Comparative and fair testing (controlled investigations)</td><td>Research</td></tr>
<tr><td>• 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</td><td>Questioning and enquiry planning.
Ask some relevant questions and use different types of scientific enquiries to answer them.
Observing + measuring
Pattern seeking
Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment.
Learn to use some new equipment appropriately
Begin to see a pattern in my results.
Begin to choose from a selection of equipment.
Begin to observe and measure accurately</td><td>Identifying, grouping and classifying
Begin to identify differences, similarities or changes related to simple scientific ideas and processes.
Begin to talk about criteria for grouping, sorting and classifying and use simple keys. Begin to compare and group according to behaviour or properties, based on testing.</td><td>Investigating
Set up some simple practical enquiries, comparative and fair tests.
Begin to recognise when a simple fair test is necessary and help to decide how to set it up.
Begin to think of more than one variable factor</td><td>Begin to recognise when and how secondary sources might help to answer questions that cannot be answered through practical investigations.</td></tr>
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• Describe magnets as having two poles • Predict whether two magnets will attract or repel each other, depending on which poles are facing.	using standard units including time in minutes and seconds. **Recording and reporting findings** Gather, record, and begin to classify and present data in a variety of ways to help in answering questions. Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Begin to use notes, simple tables and standard units and help to decide how to record and analyse their data. Begin to record results in tables and bar charts. **Conclusions** Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings With support, begin to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions. With support, begin to identify new questions arising from the data, make			

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	new predictions and find ways of improving what they have already done. To see a pattern in the results.			

Content:

- **To explore what forces are and notice that some forces need contact between two objects**
- **To compare how things move on different surfaces.**
- **To explore how magnetic forces work.**
- **To be able to identify magnetic materials.**
- **To investigate uses for magnets.**

Key Vocabulary:

Force, Friction, Smooth, Rough, Bumpy, Push, Pull, Gravity, Newton Meter, Force Meter, Scale, Magnetic, Non-Magnetic, Attract, Repel, Poles, North, South

Stunning Start/Marvellous Middle/Fabulous Finish:	OAA/Trips/Visits/Visitors:
All to be revealed.	All to be revealed.