

**Term: Autumn Term 2 2023/2024      Year Group: 6**

<p>Learning Challenge Question: Why do we see things go up and down.  <b>WOW – Investigating forces in our local park</b></p>
<p><b>Week 1: <u>What makes an object move?</u></b>  <b>WOW</b> - trip to the park thinking about forces. Take photos to label the direction of different forces.  <b>SCIENCE LI: I can label forces on different objects which make it move.</b>                  Group different forces acting on a moving body – friction/ gravity/ air resistance/ water resistance / upthrust. <b>Identifying and Classifying</b></p>
<p><b>Week 2: <u>Why do objects fall to the ground?</u></b>  <b>SCIENCE LI: I can identify the different forces acting on objects</b>  <b>SCIENCE LI: I can understand and explain the findings of other Scientists.</b>                  Identify gravity as a force acting on a body; identify the direction gravity moves in. <b>Research</b></p>
<p><b>Week 3: <u>How much force is needed?</u></b>  <b>SCIENCE LI: I can measure a force.</b>  <b>SCIENCE LI: I know what makes a fair test.</b>                  Identify magnetism as a force acting on a body; classify objects into magnetic and non-magnetic groups; design a fair test, focusing on variables to find out whether the bigger the magnet, the greater the magnetic force – what is needed for a fair test? <b>Fair test</b></p>
<p><b>Week 4: <u>How much force is needed?</u></b>  <b>SCIENCE LI: I understand how friction acts as a force.</b>  <b>SCIENCE LI: I can interpret results following a fair test.</b>                  Identify friction as a force acting on a body; classify surfaces according to friction properties; design an experiment to find out whether the rougher the surface, the greater the force– how can we measure the force? what is needed for a fair test? Introduce vocabulary, eg variable. Draw graph of results. <b>Fair test. Pattern Seeking</b></p>
<p><b>Week 5: <u>Can you make a robot pull?</u></b>  <b>COMPUTING LI: I can create a code for a robot.</b>  <b>COMPUTING LI: I can debug my algorithm.</b>                  Lego WeDo. Create a robot to pull different objects. What is the heaviest object your robot can pull? Is there a way you can test how well it pulls different objects? Can we use our knowledge of fair testing to help investigate?</p>
<p><b>Week 6: <u>What can keep an object in the air?</u></b>  <b>SCIENCE LI: I understand what air resistance is and it acts on objects.</b>  <b>SCIENCE LI: I can design my own fair test investigation.</b>                  Identify air resistance as a force acting on a body; predict what might increase air resistance; design an experiment to find out how a paper helicopter can be kept in the air longer– write own question; decide own means of recording results.</p>
<p><b>Week 7: <u>What is a cam mechanism and how does it make toys move?</u></b>  <b>DT LI: I can design, make and evaluate a product.</b>                  Design and make a cam of a Christmas scene, evaluate using forces vocabulary.</p>
<p><b>Week 8: Reflection week</b></p>

**RE** – What do religions say to us when life gets hard?

**MFL** – Where do I live? (Houses, holidays and hobbies)

<p><b>Driver: Science</b>                  Identifying and Classifying, Research, Fair Testing and Pattern Seeking                  Forces</p> <ul style="list-style-type: none"> <li>explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</li> <li>identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> <li>recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</li> </ul> <p>Skills</p> <ul style="list-style-type: none"> <li>I can use scientific knowledge and experience to raise new questions.</li> <li>I can select and plan most appropriate type of scientific enquiry to answer scientific questions.</li> <li>I can talk about how scientific ideas have developed over time.</li> <li>I can plan a fair test and explain which variables need to be controlled.</li> <li>I can look for causal relationships in the collected data.</li> <li>I can choose appropriate equipment to make measurements.</li> <li>I can present data in tables and bar line graphs.</li> <li>I can use the collected data to draw conclusions.</li> </ul>
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<p><b>Computing Knowledge and Skills</b>                  Children will:</p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals</li> <li>use sequence, selection, and repetition in programs</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>
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<p><b>Design Technology Knowledge and Skills</b>                  Children will:</p> <ul style="list-style-type: none"> <li>generate, develop and communicate their ideas through annotated sketches.</li> <li>understand and use mechanical systems in their products [ie levers].</li> </ul> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p>
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**English Text:** Mission to Marathon by Geoffrey Trease  
 Aesop's Fables by Aesop

**Homework:**