

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

Learning Challenge Question: Why do we see things go up and down. WOW – Investigating forces in our local park
Week 1: <u>What makes an object move?</u> WOW - trip to the park thinking about forces. Take photos to label the direction of different forces. SCIENCE LI: I can label forces on different objects which make it move. Group different forces acting on a moving body – friction/ gravity/ air resistance/ water resistance / upthrust. Identifying and Classifying
Week 2: <u>Why do objects fall to the ground?</u> SCIENCE LI: I can identify the different forces acting on objects SCIENCE LI: I can understand and explain the findings of other Scientists. Identify gravity as a force acting on a body; identify the direction gravity moves in. Research
Week 3: <u>How much force is needed?</u> SCIENCE LI: I can measure a force. SCIENCE LI: I know what makes a fair test. 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? Fair test
Week 4: <u>How much force is needed?</u> SCIENCE LI: I understand how friction acts as a force. SCIENCE LI: I can interpret results following a fair test. 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. Fair test. Pattern Seeking
Week 5: <u>Can you make a robot pull?</u> COMPUTING LI: I can create a code for a robot. COMPUTING LI: I can debug my algorithm. 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?
Week 6: <u>What can keep an object in the air?</u> SCIENCE LI: I understand what air resistance is and it acts on objects. SCIENCE LI: I can design my own fair test investigation. 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.
Week 7: <u>What is a cam mechanism and how does it make toys move?</u> DT LI: I can design, make and evaluate a product. Design and make a cam of a Christmas scene, evaluate using forces vocabulary.
Week 8: Reflection week

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

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

Driver: Science Identifying and Classifying, Research, Fair Testing and Pattern Seeking Forces <ul style="list-style-type: none">explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling objectidentify the effects of air resistance, water resistance and friction, that act between moving surfacesrecognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Skills <ul style="list-style-type: none">I can use scientific knowledge and experience to raise new questions.I can select and plan most appropriate type of scientific enquiry to answer scientific questions.I can talk about how scientific ideas have developed over time.I can plan a fair test and explain which variables need to be controlled.I can look for causal relationships in the collected data.I can choose appropriate equipment to make measurements.I can present data in tables and bar line graphs.I can use the collected data to draw conclusions.
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Computing Knowledge and Skills Children will: <ul style="list-style-type: none">design, write and debug programs that accomplish specific goalsuse sequence, selection, and repetition in programsuse logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Design Technology Knowledge and Skills Children will: <ul style="list-style-type: none">generate, develop and communicate their ideas through annotated sketches.understand and use mechanical systems in their products [ie levers]. evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
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English Text: Mission to Marathon by Geoffrey Trease
Aesop's Fables by Aesop

Homework: