Foxford Learning Plan

Year 7

Spring 1

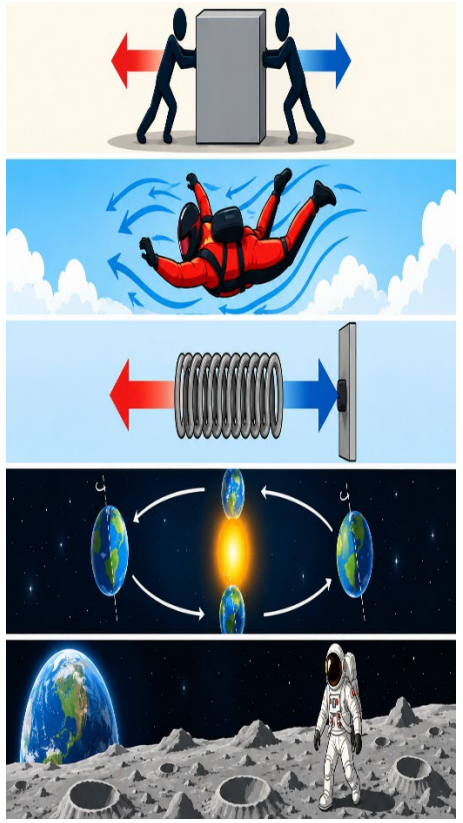
Forces on Earth and Beyond

Key Vocabulary	
Resultant force	The overall force acting on an object.
Balanced forces	Forces that cancel out, leaving no resultant force.
Unbalanced forces	Forces that cause a change in motion.
Drag	A resistive force acting through air or water.
Friction	A force that opposes movement between surfaces.
Compression	A force that squashes or shortens an object.
Deformation	A change in the shape of an object.
Extension	The increase in length when an object is stretched.
Hooke's Law	Extension is proportional to force within the elastic limit.
Work done	Energy transferred when a force moves an object.
Gravity	The force of attraction between objects with mass.
Orbit	The curved path of an object around another object.

Over this course I will be able to

Key Skills

- Calculate resultant forces and explain the effects of balanced and unbalanced forces.
- Plan investigations into friction, drag and how different materials deform.
- Collect, plot and interpret force and extension data to investigate Hooke's Law.
- Use scientific equations to calculate work done and compare weight in different places.
- Explain astronomical patterns and evaluate evidence about space exploration.



I will understand

- How to calculate resultant forces and identify balanced and unbalanced forces.
- Why drag and friction affect motion, and how to investigate and reduce them.
- How forces deform materials, including compression, extension and Hooke's Law.
- How to calculate work done and explain differences in weight on Earth and the Moon.
- How the Solar System, day and night, seasons and the wider universe relate to space exploration.