Science Curriculum – Cycle A

Upper Key Stage 2 – Spring 2

Theme – Forces (Physics)

Enquiry Question – What did Isacce Newton discover?

National Curriculum Coverage

Pupils should be taught to:
Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
Identify the effects of air resistance, water resistance and friction, that act between moving surfaces
Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Key Scientists: Isaac Newton	**Comparative Test** Which shoe is the most slippy? **Fair Test** Does the surface area of a parachute affect the time is takes to fall to the ground?	Observation over time How long does a pendulum swing before it stops?	Pattern Seeking Do all objects fall through the water the same way?	Research How do submarines sink if they are full of air?

Objective	Challenge	Working Scientifically	Vocabulary
• To know that unsupported objects fall towards the earth because of the force of gravity acting between the earth and falling objects • To identify the effects of air resistance, water resistance and friction that act between moving surfaces • To recognise that some mechanisms including levers and pulleys and gears, allow smaller forces to have a greater effect	• To describe and explain how motion is affected by forces (including gravitational attractions, magnetic attraction and friction) • To design very effective parachutes • To work out how water can cause resistance to floating objects • To explore how scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation. *or own challenges	See separate objectives sheet.	Gravity, air resistance, water resistance, friction, surface, force, effect, move, accelerate, decelerate, stop, change direction, brake, mechanism, pulley, gear, spring, theory of gravitation, Galileo Galilei, Isaac Newton