**St Mary’s C of E Primary School, Writhlington**

‘Inspiring Learning Together’

**Scheme of Work + Knowlegde Organiser**

**Picture or illustration:**



**National Curriculum:**

* 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

**Wider Curriculum** (Cooking, trips, outdoor):

Forest school session

**Key Vocabulary:**

Air resistance: a force that is caused by air with the force acting in the opposite direction to an object moving through the air.

Force: a push or pull upon an object resulting from its interaction with another object

Friction: the resistance that one surface or object encounters when moving over another

Gears: a toothed wheel that works with others to alter the relation between the speed of a driving mechanism (e.g engine) and the speed of the driven parts (e.g. the wheels)

Gravity: the force that attracts a body towards the center of the earth.

Levers: a rigid bar resting on a pivot that is used to move a heavy or firmly fixed load.

Mass: the weight measured by an objects acceleration under a given force or by the forced exerted on it by gravity

Pull force: to draw or heal towards oneself or itself, in a particular direction.

Pulleys: a wheel with a grooved rim around that changes the direction of a force applied to the cord.

Push force: to move something in a specific way by exerting force

Water resistance: a force that is caused by water with the force acting in the opposite direction to an object moving through the water

**The Learning Journey:**

LQ: Can I identify forces acting on an object?

* Children will explore some simple push and pull forces and the effects it has on different objects

LQ: can I explore the effect gravity has on objects and how gravity was discovered?

* Learn about Isaac Newton and the effects of gravity

LQ: Can I investigate the effects of air resistance?

* Children will explore how changes to a parachute demonstrate the power of air resistance

LQ: Can I explore the effects of water resistance?

* Children have to create an object that will float using their understanding of water resistance

LQ: Can I investigate the effects of friction?

* Children will investigate how to reduce friction

LQ: can I explore and design mechanisms?

* Children will create rube Goldberg machines using their knowledge of levers, pulleys and mechanisms.

Forces