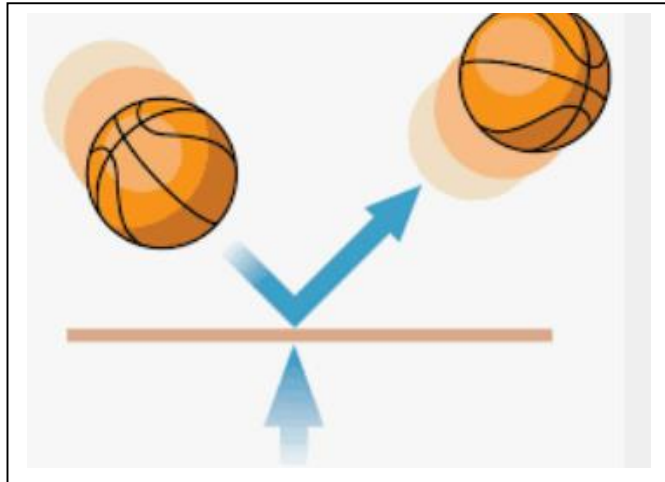


Key Enquiry Focus: Explain the use of forces.

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



Key Vocabulary	Meaning
forces	Pushes or pulls.
gravity	A pulling force exerted by the Earth (or anything else which has mass).
Earth's gravitational pull	The pull that Earth exerts on an object, pulling it towards Earth's centre. It is the Earth's gravitational pull which keeps us on the ground.
weight	The measure of the force of gravity on an object.
mass	A measure of how much matter (or 'stuff') is inside an object.
friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
air resistance	A type of friction caused by air pushing against any moving object.
water resistance	A type of friction caused by water pushing against any moving object.
buoyancy	An object is buoyant if it floats. This is because the weight of the object is equal to the upthrust.
streamlined	When an object is shaped to minimise the effects of air or water resistance.
mechanism	Mechanisms are simple machines with moving parts that change input forces and movement into a set of useful output forces. Examples of mechanisms are pulleys, gears and levers.
upthrust	A force that pushes objects up, usually in water.

Sticky Knowledge

- The Moon has a smaller mass than Earth so the gravitational pull on the Moon is smaller than it is on Earth.
- Jupiter has a greater mass than Earth so the gravitational pull on Jupiter is stronger than on Earth.
- Mass is how much matter is inside an object.
- Weight is how strongly gravity is pulling an object down.
- Water resistance and air resistance are forms of friction.