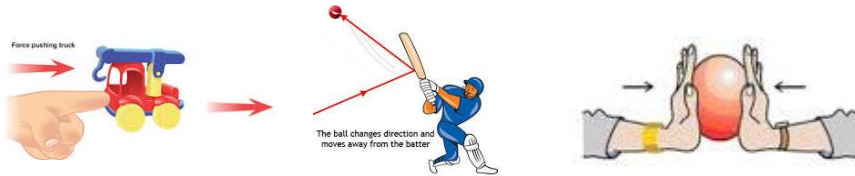


1. Key Words –forces

Mass	The amount of matter within an object. Measured in kilograms
Weight	The force of gravity acting on a mass. Measured in Newton's
Contact force	Contact force acts when two objects are physically touching, such as friction, drag, up-thrust
Non-contact force	Non-contact force acts when two objects are not touching, such as gravity and magnetic force
Balanced force	When forces are acting opposite each other and are equal sizes they are balanced
Unbalanced force	When forces acting opposite each other and are not equal sizes, they are unbalanced

2. Types of force

A force will change the speed, direction or shape of an object



Contact Forces	Non-contact forces
Elastic force	Gravity
Friction	Static electricity
Air resistance	Magnetic force
Upthrust	

3. Mass and weight

The weight of an object is affected by its mass and the gravitational field it is experiencing

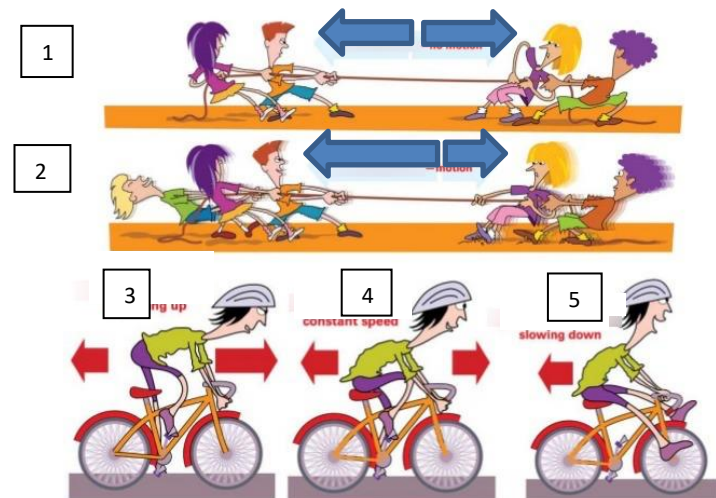
Weight can be calculated using this equation

$$W = mg$$

Weight of object = mass of object x acceleration of gravity

4. Balanced and unbalanced force

1	Forces are balanced, there is no movement in either direction
2	Forces are unbalanced, everyone will move in the direction of the larger force
3	There is more forward force so the bike speeds up
4	Forces are balanced, speed is constant
5	There is more force acting backwards so the bike slows down



5. Speed

Speed is a measure of how fast or slow an object is travelling. The units for measuring speed is m/s

Speed can be calculated using this equation:

$$\text{Speed (m/s)} = \text{Distance (m)} \div \text{time (s)}$$

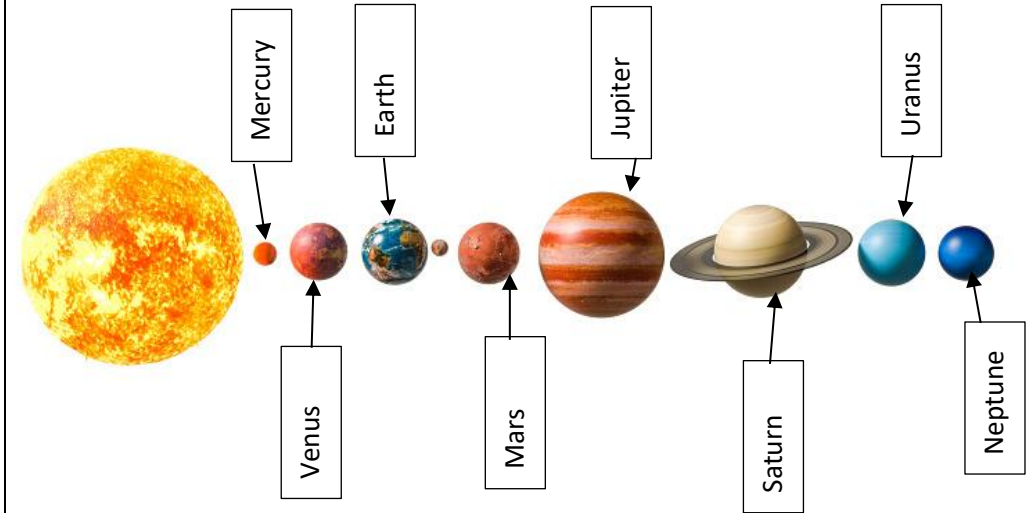
6. Key Words – Space

Orbit	To move in a regular, repeating curved path around another object, kept in place by a gravitational field
Rotate	To spin. E.g. Earth rotates on its own axis
Year	The length of time it takes for a planet to orbit the Sun.
Satellite	Any object or body in space that orbits something else. They can be natural or artificial (man-made).
Moon	A natural satellite which orbits a planet


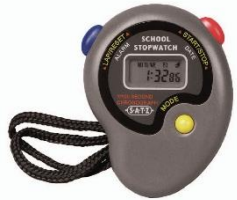
7. Rotation and Orbit

Day and night	The Earth spins on its axis once every 24 hours. Light from the sun travels in straight lines to the Earth. Where the side of the Earth is facing the sun, it will be daytime. Light cannot bend around corners, so a shadow is cast on the side of the Earth facing away from the sun. This is called night-time.
Seasons	The Earth is tilted at its axis. This means that, as the Earth orbits the sun, the hemispheres will lean towards or away from the sun. For example, when the northern hemisphere leans towards the sun, then this is summer in the UK. When the northern hemisphere leans away from the sun, this is winter in the UK

8. The Solar System



9. Equipment

Newton meter	Stopwatch
	
Balance	Tape measure
