

Keywords: Spring 2

Science

Topic Title:

Introduction to the topic: This topic teaches us how about the motion of objects and their interactions

What lessons will you cover during the topic?

Types of forces; scalars and vectors; graphs of motion; Newton's laws of motion

Keyword	Definition
Magnitude	The size of a physical quantity
Resultant Force	The single force that could replace all the forces acting on an object, found by adding these together. If all the forces are balanced, the resultant force is zero.
Air resistance	A force of friction produced when an object moves through the air.
Contact forces	Force exerted between two objects when they are touching.
Electrostatic forces	A force of attraction between particles with opposite charges.
Friction	A force that opposes or prevents movement and converts kinetic energy into heat.
Mass	The amount of matter an object contains. Mass is measured in kilograms (kg) or grams (g).
Non-contact forces	The push or pull acting between objects that are not physically touching when they interact.
Reaction force	Force exerted in the opposite direction to an action force.

Tension	Pulling force exerted by each end of an object such as a string or rope.
Centre of mass	The point representing the mean position of the matter in a body.
Weight	The force acting on an object due to the pull of gravity from a massive object like a planet. The force acts towards the centre of the planet and is measured in newtons (N).
Elastic	Elastic materials return to their original shape and size after being stretched or squashed.
Limit of proportionality	The point beyond which Hooke's law is no longer true when stretching a material.
Acceleration	The rate of change in speed (or velocity) is measured in metres per second squared. Acceleration = change of velocity ÷ time taken.
Displacement	Quantity describing the distance from the start of the journey to the end in a straight line with a described direction, eg 50 km due north of the original position.
Distance	Numerical description of how far apart two things are. For example, the distance from Edinburgh to Glasgow is approximately 50 miles.
Scalar	A quantity that requires only a size, for example, distance travelled is 20 m.
Vector	A physical quantity that has both magnitude (size) and direction. Eg force, velocity, displacement, acceleration.
Speed	The distance travelled in a fixed time period, usually one second.
Vector	The speed of an object in a particular direction.