

9P3 Week 1 Keywords		Drawing a Free Body Diagram
Contact force	A force that acts when an object is in contact with a surface, air or water.	
Non-contact force	A magnetic, electrostatic or gravitational force that acts between objects not in contact.	
Balanced	Forces acting on an object that are the same size but act in opposite directions.	
Unbalanced	Opposing forces acting on an object that are unequal.	
Equilibrium	When opposing forces acting on an object cancel each other out.	
Air resistance	The force on an object, moving through the air, that causes it to slow down (also called drag).	1) There is the force of the Earth on the book and the force of the book on the Earth (Diagram A)
Drag force	The force acting on an object moving through air or water that slows it down.	
Friction	The force that resists movement because of contact between surfaces	2) There is the force of the table on the book and the force of the book on the table. (Diagram B)
Gravity	A non-contact force that acts between masses.	
Interaction pair	The equal and opposite forces acting between 2 objects.	3) Draw a diagram of <i>just</i> the forces in the book. (Diagram C)
Newton (N)	The unit we measure force in, using a newtonmeter.	
Reaction	The support force provided by a solid surface like a floor.	Remember, the arrows are drawn to scale, that means the size of the arrow represents how large the force is.
Resistive force	Any forces that act to slow down a moving object.	
Streamlined	Shaped to reduce resistance to motion from air or water.	Also, the direction of the force is indicated by the arrow.
Tension	A stretching force measured in newtons (N).	
Water resistance	The force on an object moving through the water that causes it to slow down (also called drag).	The acceleration due to gravity on Earth is $9.81\text{m/s}^2$ (often rounded to $10\text{m/s}^2$ )
Magnetic force	The forces between 2 magnets or a magnet & a magnetic material.	
Electrostatic force	The force acting between electrically charged objects.	
Field	A region where an object feels force.	
Weight	The force of the Earth on an object due to its mass.	
Mass (kg)	The amount of matter an object is made up of.	

Acceleration	The change in velocity / change in time measured in metres per second per second (m/s <sup>2</sup> )
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## 9P3 Week 2 Keywords

Velocity is speed in a particular direction. It is measured in metres per second (m/s)

$$\text{Velocity} = \text{distance} / \text{time taken}$$

**Newton's First Law** - The motion (speed and direction) of an object does not change if the resultant force is zero.

**Newton's Second Law** - If the resultant force is not zero the motion of an object (speed and direction) changes.

$$\text{Resultant force} = \text{mass} \times \text{acceleration}$$

Resultant force is measured in Newtons (N)

Mass is measured in kilograms (kg)

Acceleration is measured in metres per second per second (m/s<sup>2</sup>)



