



P3.1 Glossary

Acceleration	The rate of change of velocity. Acceleration is how quickly an object changes speed or direction.
Action	A description of a change in a physical system. Newton's Third Law describes how every action has an equal and opposite reaction.
Area	A two-dimensional quantity representing the amount of surface. Area is measured in cm^2 or m^2 .
Balanced	Equal in size and opposite in direction. When the forces acting on an object are balanced , the motion of the object does not change (if it was stationary, it will remain stationary and if it was moving it will continue to move at a steady speed in the same direction).
Component	The horizontal or vertical part that makes up a diagonal vector. An object being pulled along the ground has a horizontal and vertical component to the force.
Constant Velocity	When an object travels at the same speed in the same direction. The person walked with a constant velocity of 2 m/s East.
Contact Force	Is a force that acts when objects are physically touching each other. Friction and air resistance are contact forces .
Curve	A continuous and smooth flowing line without any sharp turns. A curve on a velocity-time graph shows that an object has a changing acceleration.





Deceleration Slowing down, also known as negative acceleration.
Deceleration involves a decrease in velocity.

Distance The length of a path or length between two points.
The **distance** a person walks is 2 m.

Displacement The change in position of an object.
The person's **displacement** was 3 m North of their original position.

Final velocity A vector quantity that describes the speed and direction of an object after an acceleration.
*If you drop a ball from a height, the velocity just before it hits the ground is the **final velocity**.*

Force A force is a push, pull or twist that can change the shape, speed or direction of an object.
Weight and tension are examples of **forces**.

Friction A contact force acting between two surfaces that are moving across or trying to move across each other.
Friction acts in the opposite direction to motion.

Gradient The slope of a graph.
The steeper the **gradient** of velocity-time graph, the greater the acceleration.

Gravity The force of attraction that exists between any two objects with mass.
Gravity is the force that attracts objects to the Earth.

Initial Velocity A vector quantity that describes the velocity of an object before an acceleration.
*If an object starts from rest then the **initial velocity** of the object is 0 m/s.*





Mass

Mass is a measurement of how much matter is in an object.
Mass is measured in kilograms (kg).

Non-contact Force

A force which acts on an object over a distance.
*Gravity is an example of a **non-contact force**.*

Resultant

The sum of two or more vectors: the result of adding two or more vectors together.
*The **resultant** displacement is calculated from vectors.*

Scalar

Quantities that have magnitude (size) only.
*Speed is an example of a **scalar**.*

Slope

A measure of the steepness of a line.
Slopes can be seen in velocity-time graphs.

Speed

The distance covered per unit time.
*An object that covers 10 metres in 10 seconds has a **speed** of 1 m/s.*

Stationary

Not moving.
*A **stationary** object has a speed of 0 m/s.*

Tangent

A straight line touching a curve at a single point without crossing the line.
*The acceleration can be found by calculating the gradient of a **tangent** to a curve.*

Unbalanced

Forces that are not equal and opposite, a non-zero resultant force.
*An **unbalanced** force can change the shape, speed or direction of an object.*





Vector

Quantities that have both magnitude (size) and direction.
*Force is an example of a **vector** quantity, e.g. 5 N left.*

Velocity

The speed of an object in a given direction.
*An object has a **velocity** of 10 m/s to the left.*

Vertical

Perpendicular to an x -axis (an up or down line).
*Height is a **vertical** measurement.*

Weight

The force that acts on a mass due to gravity.
***Weight** is measured in Newtons.*

