Science Knowledge Organiser

Glossopdale School

Y7 Forces: Speed

Key words

Acceleration	How quickly speed increases or decreases.
Average speed	The overall distance travelled divided by overall time for a journey
Force	An interaction that, when unbalanced, causes a change e.g acceleration
Speed	How much distance is covered in how much time.

Key Equation

Speed (km/s) = $\dfrac{\text{distance (km)}}{\text{time (s)}}$

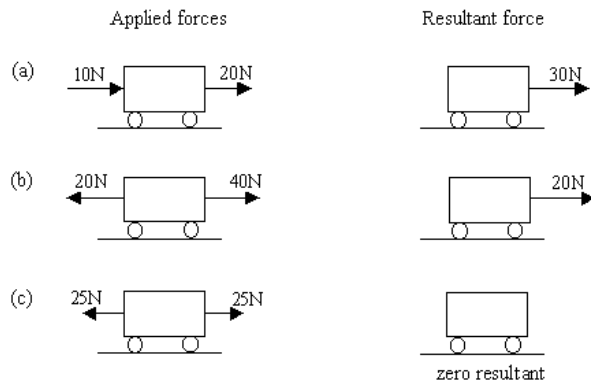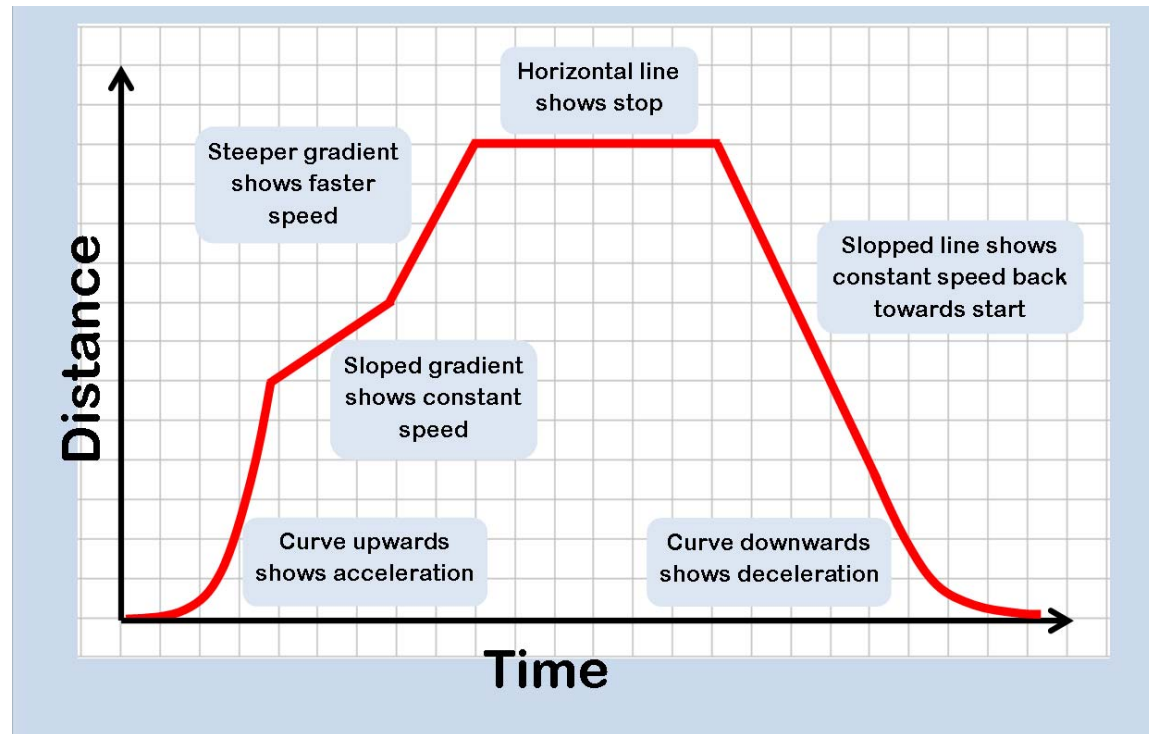Speed (m/s) = $\dfrac{\text{distance (m)}}{\text{time (s)}}$

The higher the speed of an object, the shorter the time taken for a journey.

If the overall, resultant force on an object is non-zero, its motion changes and it slows down, speeds up or changes direction.
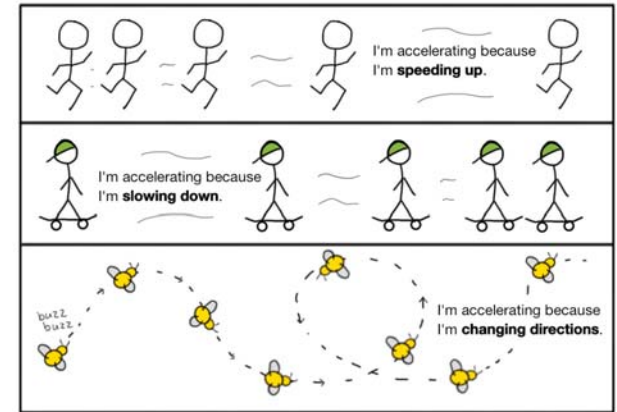
If there is a resultant force it's motion is changing:
• Speed
• Direction
No resultant force means no change of current speed or direction.

Distance-time graphs

Horizontal line shows stop

Steeper gradient shows faster speed

Slopped line shows constant speed back towards start

Sloped gradient shows constant speed

Curve upwards shows acceleration

Curve downwards shows deceleration

Distance

Time