

Acceleration

What is it?

Any situation where the velocity of an object is changing due to an increase in speed/decrease in speed or change of direction.

Formula: $a = \text{change in speed} / \text{change in time}$

Freefall

- Freefall is a special acceleration that is due to gravity. Objects in freefall fall a rate of 10 m/s^2 .
- Freefall varies – it depends on the body the object is falling towards – it is constant anywhere near the surface of Earth
- Terminal velocity is the point at which air resistance prevents an object from accelerating (falling faster).

Time (s)	Speed (m/s)	Distance (m)
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0	0	0
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0	0	0
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0	0	0
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1	10	5
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1	10	5
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1	10	5
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2	20	20
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2	20	20
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2	20	20
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3	30	45
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3	30	45
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3	30	45
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4	40	80
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4	40	80
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4	40	80
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5	50	125
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5	50	125
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5	50	125
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