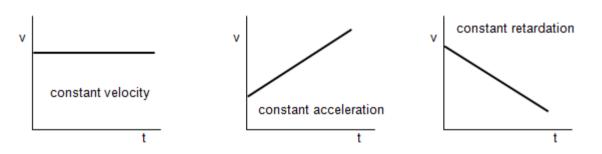
AQA P5b Forces and motion Combined Foundation

Required Practical for this topic: None

| Speed and acceleration | Speed unit | Metres per second (m/s) | |
|--|-------------------------------|---|--|
| | Velocity | The vector form of speed. Speed in a given direction | |
| | Acceleration | The rate of change of velocity | |
| | Deceleration | A negative acceleration. Slowing down. | |
| | Acceleration unit | Metres per second per second or metres per second squared (m/s/s or m/s²) | |
| | For questions with two speeds | Use u for initial speed and v for final speed | |
| Distance = speed \times time (s = v \times t) | | | |
| Acceleration = change in velocity \div time $(a = \Delta v \div t \text{ or } a = (v - u) \div t)$ | | | |

| Terminal velocity | Terminal velocity | The maximum speed of a falling object |
|-------------------|------------------------------------|---|
| | When an object accelerates | The force of air resistance increases |
| | Terminal velocity is achieved when | The forces of weight and air resistance balance |



| Motion graphs | Distance time graph for a stationary object | Horizontal line |
|---------------|---|---------------------------------|
| | Distance-time graph for an object at a steady speed | Straight line sloping upwards |
| | Distance-time graph gradient | Equals the speed |
| | Velocity-time graph for an object at a steady speed | Horizontal line |
| | Velocity-time graph for an accelerating object | Straight line sloping upwards |
| | Velocity-time graph for a decelerating object | Straight line sloping downwards |
| | Velocity-time graph gradient | Equals the acceleration |

