

## Definitions and Concepts for CAIE Physics A-level

### Topic 12: Motion In A Circle

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**Angular Displacement:** In circular motion, the angle turned through. Measured in radians or degrees.

**Angular Velocity:** The angular displacement per unit time, measured in radians or degrees per second. It is different from angular speed as it is defined in either a clockwise or anticlockwise direction.

**Centripetal Acceleration:** The acceleration of an object moving in circular motion. Any object in circular motion must have an acceleration since the direction of the object, and therefore the velocity of the object, is constantly changing.

**Centripetal Force:** The resultant force responsible for an object moving in circular motion. Centripetal forces always act towards the centre of the object's rotation.

**Frequency:** The inverse of time period. The number of rotations per unit time.

**Period:** The time taken for one whole rotation.

**Radian:** A unit of angle, where  $2\pi$  equal to one complete angular rotation.

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