

## Definitions and Concepts for CAIE Physics A-level

### Topic 13: Gravitational Fields

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**Field Lines:** A line representing the path that a mass would take when placed within the field.

**Geostationary Satellite:** A satellite that orbits above the equator with a 24 hour period, so it will always remain above the same position on the Earth. They orbit approximately 36,000km above the surface of the Earth.

**Gravitational Field:** A region of space where objects with mass experience an attractive force due to gravity.

**Gravitational Field Strength:** The gravitational force on an object divided by its mass, it is the acceleration due to the gravitational field.

**Gravitational Potential:** Defined at a point. The amount of work done in moving a unit mass from an infinite distance to that point.

**Gravitational Potential Energy:** The component of an object's energy due to its position in a gravitational field.

**Newton's Law of Gravitation:** The force between two masses is proportional to the product of the masses involved and inversely proportional to the square of the separation of the masses.

**Synchronous Orbits:** An orbit with a time period of one day, which means the orbiting body will return to the same point in the sky each day.

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