AQA Physics GCSE

4.5.1 - Forces and their Interactions

Flashcards

What is a scalar quantity?

What is a scalar quantity?

- A quantity that only has a magnitude
- A quantity that isn't direction dependent

What is a vector quantity?

What is a vector quantity?

A quantity that has both a magnitude and an associated direction.

How can a vector quantity be drawn and what does it show?

How can a vector quantity be drawn and what does it show?

- As an arrow
- The length of the arrow represents the magnitude
- The arrow points in the associated direction

What is a force?

What is a force?

A push or pull acting on an object due to an interaction with another object.

What are the two categories that all forces can be split into?

What are the two categories that all forces can be split into?

1. Contact forces (objects touching)
2. Non-contact forces (objects separated)

Give three examples of contact forces.

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1. Friction
2. Air resistance
3. Tension

Give three examples of non-contact forces.

Give three examples of non-contact forces.

1. Gravitational forces
2. Electrostatic forces
3. Magnetic forces

Is force a vector or a scalar quantity?

Is force a vector or a scalar quantity?

- Vector
- It has both a magnitude and an associated direction

Give three examples of vector quantities.

Give three examples of vector quantities.

1. Velocity
2. Displacement
3. Force

Give three examples of scalar quantities.

Give three examples of scalar quantities.

- Temperature
- Time
- Mass
- Speed
- Distance
- Energy

What is weight?

What is weight?

The force that acts on an object due to gravity and the object's mass.

What quantities does weight depend on?

What quantities does weight depend on?

Weight = mass x gravitational field strength

- The object's mass
- The gravitational field strength at the given position in the field

What is the unit used for weight?

What is the unit used for weight?

The Newton (N).

What is the unit used for gravitational field strength?

What is the unit used for gravitational field strength?

N/kg

What is meant by an object's centre of mass?

What is meant by an object's centre of mass?

The single point where an object's weight can be considered to act through.

What piece of equipment can be used to measure an object's weight?

What piece of equipment can be used to measure an object's weight?

A calibrated spring-balance or newton-meter.

What is the name given to the single force that is equivalent to all the other forces acting on a given object?

What is the name given to the single force that is equivalent to all the other forces acting on a given object?

The resultant force.