WJEC England Physics GCSE
SP2A: Density

Practical Flashcards

Part 1: Calculating the density of a regularly shaped object.

Outline the basic steps of the practical.

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1. Measure the dimensions of the regular object and calculate the volume.
2. Measure the mass of the object.
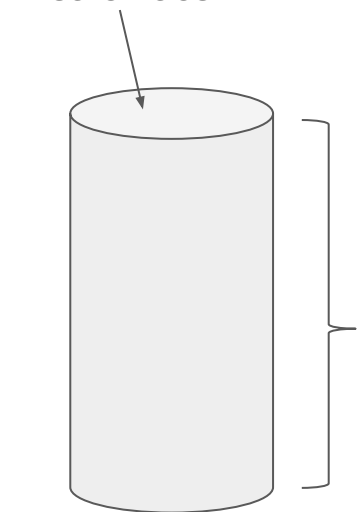3. Calculate the density from the mass and the volume.

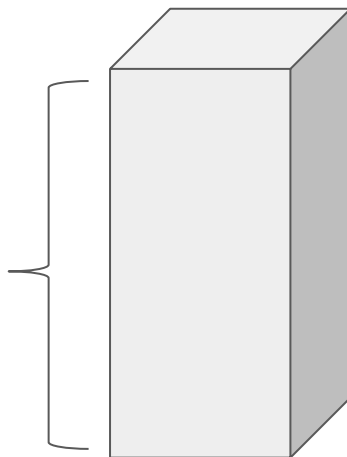# Give the formula for the volume of a prism.

Give the formula for the volume of a prism.

Volume = Area of face x Height
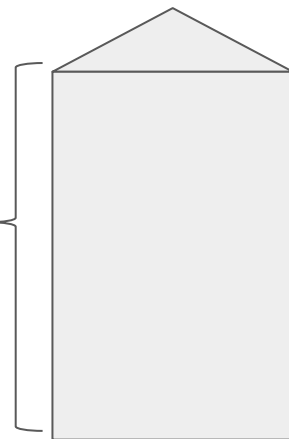

Area of face

Height

Height

What equation is used to calculate density?

What equation is used to calculate density?

Density = Mass / Volume

What unit is used for density?

What unit is used for density?

kg/m³

What piece of equipment is used to measure the mass of the object? What must you do before using it?

What piece of equipment is used to measure the mass of the object? What must you do before using it?

1. A digital balance.
2. It must be zeroed before use (before the object is placed on it) to prevent a zero error.

How do you convert from g/cm³ to kg/m³?

How do you convert from g/cm³ to kg/m³?

Divide the value by 1000.

Part 2: Calculating the density of a irregularly shaped object.

Outline the basic steps of the practical.

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1. Measure the mass of the irregular shape.
2. Fill a measuring beaker with water and submerge the object.
3. Record the volume of water that has been displaced.
4. Calculate the density from the mass and the volume.

How do you calculate the volume that has been displaced?

How do you calculate the volume that has been displaced?

It is equal to the volume of water before the object was submerged minus the volume still in the beaker after it has been submerged.

Part 3: Calculating the density of a liquid.

Outline the basic steps of the practical.

Outline the basic steps of the practical.

1. Measure the mass of the empty measuring cylinder.
2. Pour 20 cm³ of liquid into the cylinder.
3. Measure the mass of the cylinder with liquid in.
4. Calculate density from the mass and the volume (20 cm³).

How does the density of solids and liquids compare?

How does the density of solids and liquids compare?

In general, solids are more dense than liquids. The particles in solids are closer together.