

Combustion

Topic

Combustion.

Timing

30 min.

Description

A candle is burnt inside a gas jar. The students then test for the presence of carbon dioxide and water.

Apparatus and equipment (per group)

- Gas jar and lid
- Candle on a tray
- Heat-proof mat.

Chemicals (per group)

- Limewater 0.02 mol dm^{-3}
- Blue cobalt chloride paper.

Teaching tips

As an extension, the students could suggest other experiments to do to find out if other fuels form carbon dioxide and water when they burn.

Data logging sensors and software can be used to demonstrate what may be happening in the jar as the candle burns. Use a bell jar and place sensors inside to monitor humidity, temperature, light or oxygen levels as the candle burns. The software will show the changes as a graph against time. When the candle extinguishes, readmit air to the jar and continue to record for a few moments.

Safety

Eye protection not needed for burning a candle.

For other fuels, Wear eye protection. Some fuels might be quite hazardous. Check with CLEAPSS or (in Scotland) SSERC for more information. A thorough risk assessment should be done.

Answers

1. Oxygen.
2. Carbon dioxide and water.
3. Methane or similar hydrocarbon or fuel.



Credits

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