

## **GCSE-13-1 Molecules or giant structures**

### Equipment (per group)

- Bunsen burner, heatproof mat, tripod and gauze
- Tin lid
- Tongs

### Chemicals

- Wax pellets
- Sand
- Sodium chloride
- Iron nails
- Graphite (small pieces)
- Copper foil (small squares)

### Waste disposal

- Receptacles for solid (non-liquid) waste

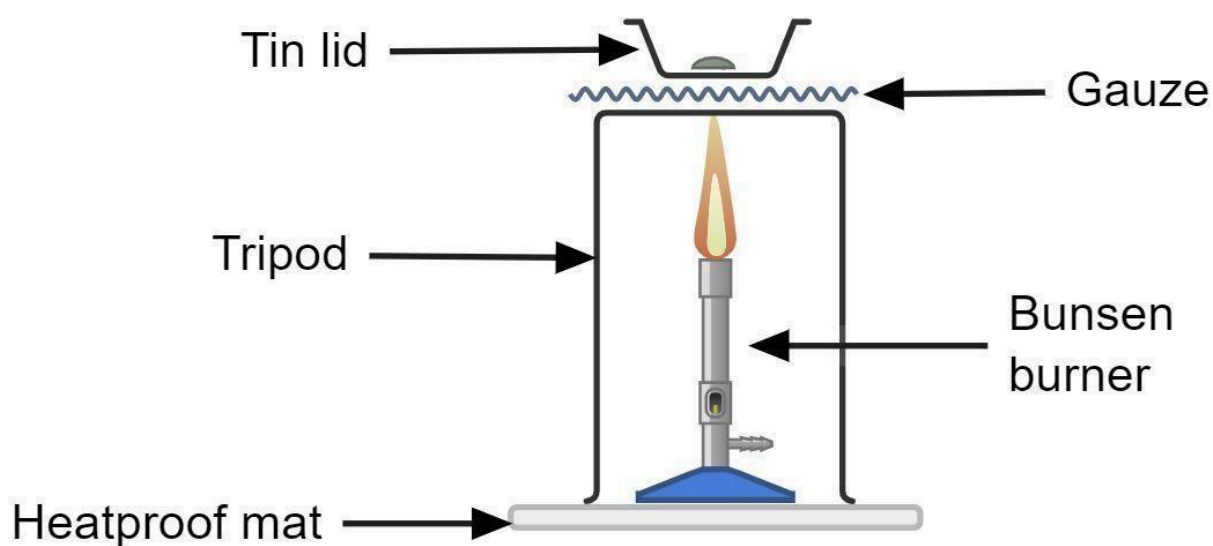
### Notes for teachers and technicians

- This practical is frequently done at the same time as GCSE-13-2. Set up the room as a circus, keeping the Bunsens well away from flammable liquids.
- Heated wax pellets may catch fire. Consider doing this part as a demonstration.

## Molecules or giant structures

You are provided with samples of different substances. By heating them you will assess whether they are made up of molecules or are giant structures.

1. Place a sample of the substance on a tin lid.
2. Heat the lid (as shown in the diagram).
3. Make a note of your observations.
4. Remove the lid from the heat and place it on the heatproof mat to cool.
5. Place the contents of the lid in the waste bucket.
6. Repeat the process with a different substance.



# Experiment Hazard Assessment

**Experiment: Molecules or giant structures**

**Reference: GCSE-13-1**

## Chemical hazards

Wax pellets	Not usually classified as hazardous. Vapour may catch fire when heated.	CLEAPSS Hazcard 45B
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Sand	Currently not classified as hazardous	CLEAPSS Hazcard 86A
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Sodium chloride	Currently not classified as hazardous	CLEAPSS Hazcard 47B
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Iron nail	Currently not classified as hazardous	CLEAPSS Hazcard 55A
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Graphite pieces	Currently not classified as hazardous	CLEAPSS Hazcard 21
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Copper foil	Currently not classified as hazardous	CLEAPSS Hazcard 26
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## Other hazards / precautions for teachers and technicians

- Hot apparatus. Teachers should emphasise that pupils must take precautions, eg. allowing equipment to cool and the use of tongs.
- Teachers may wish to demonstrate heating wax rather than letting pupils do it.