

WJEC Wales Physics GCSE

1.3 - Making Use of Energy

Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



State **three** methods of reducing heat loss in a building.



State **three** methods of reducing heat loss in a building.

1. Double glazing
2. Loft and wall insulation
3. Thicker walls



What is the definition of density? State the relevant equation with units.



What is the definition of density? State the relevant equation with units.

- The mass per unit volume of a material
- $\rho = m/v$
- Density (kg/m^3), Mass (kg), Volume (m^3)



Give the 3 states of matter from lowest to highest density of atoms.



Give the 3 states of matter in order of lowest to highest density of atoms.

- Lowest: Gas
- Liquid
- Highest: Solid



What is always conserved when a substance undergoes a change of state?



What is always conserved when a substance undergoes a change of state?

Mass



State the three different types of energy transfer.



State the three different types of energy transfer.

1. Conduction
2. Convection
3. Radiation



Explain using a particle model, the process of convection. (Higher)



Explain using a particle model, the process of convection. (Higher)

- When heated, fluids expand, making the particles spread out, and making the fluid less dense
- Less dense fluids rise above cooler more dense fluids
- These cooler fluids then heat up and rise upwards, creating a cyclic motion of particles (called a **convection current**)



Explain using a particle model, the
process of conduction in a metal.
(Higher)



Explain using a particle model, the process of conduction in a metal. (Higher)

- A metal consists of positive ions and free electrons.
- As temperature increases, the ions gain kinetic energy and vibrate.
- This energy is then passed on via collisions to free electrons which can move throughout the whole metal.
- These electrons transfer kinetic energy (again via collisions) to ions further through the metal, increasing their temperature.

