

# OCR (B) Chemistry A-Level

## O3 - Energy and Matter

### Flashcards

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# What is the 'greenhouse effect'?



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- The sun produces mainly UV, visible and IR radiation which is partially reflected back into space when it reaches Earth.
- Yet, some is absorbed by the Earth's surface, causing it to heat up.
- The Earth emits this energy back out as IR.
- This IR radiation emitted by the earth can be absorbed by gases in the troposphere and become trapped.
- IR radiation is then re-emitted in all directions, some back towards the earth. This causes a heating effect.



Why does the absorption of IR by greenhouse gas molecules increase the atmosphere's temperature?



# Why does the absorption of IR by greenhouse gas molecules increase the atmosphere's temperature?

- Absorbing IR causes the bond to vibrate more as it has more energy.
- This energy is transferred to other surrounding molecules via collisions.
- This increases the kinetic energy and therefore temperature of the molecules.

