

# OCR (B) Chemistry A-Level

## OZ2 - Kinetics

### 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/)



What is the activation enthalpy of a reaction?



What is the activation enthalpy of a reaction?

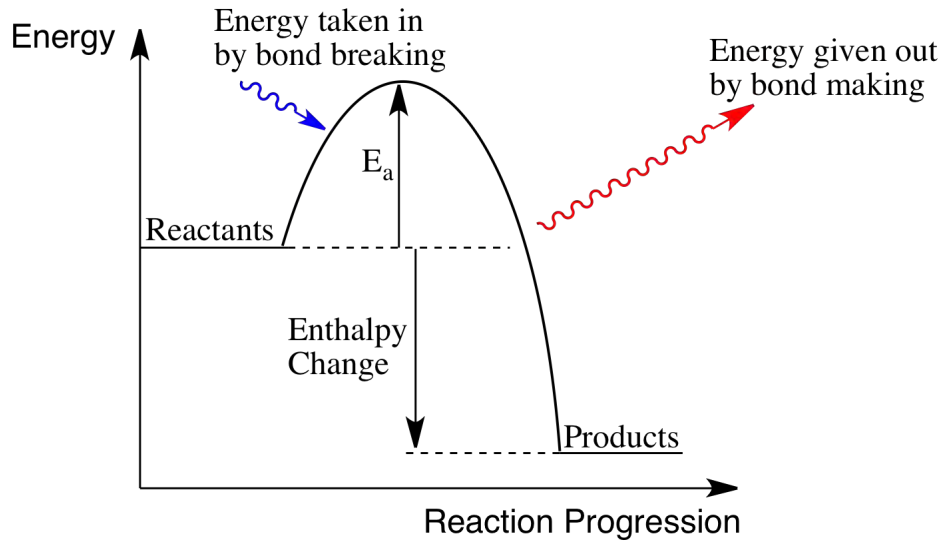
The activation enthalpy is the minimum kinetic energy required by the molecules in a reaction for successful collisions to occur. Molecules with energies below this will not react.



What do the enthalpy profiles for exothermic reactions look like?



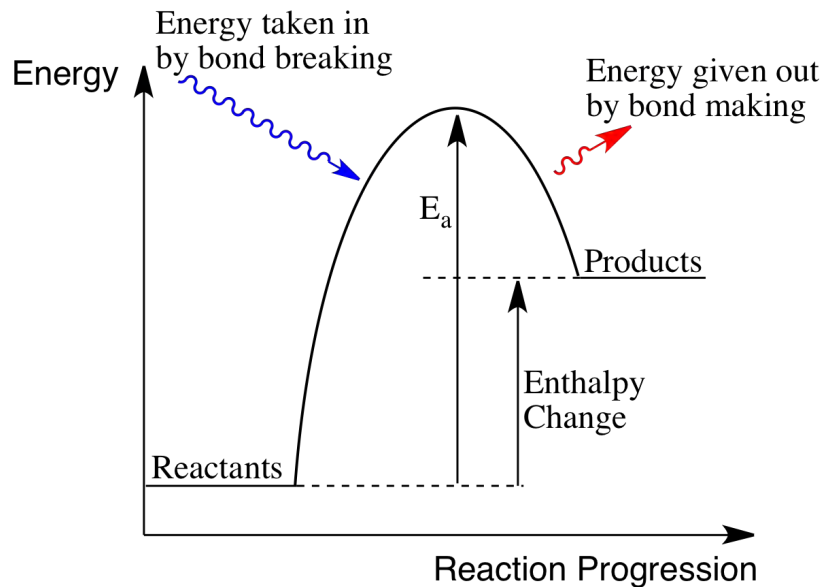
# What do the enthalpy profiles for exothermic reactions look like?



What do the enthalpy profiles for endothermic reactions look like?



# What do the enthalpy profiles for endothermic reactions look like?



What effect does increasing the pressure/concentration have on the rate of reaction?





What effect does increasing the pressure/concentration have on the rate of reaction?

Increasing the concentration/pressure increases the frequency of collisions between molecules as there are more molecules per unit volume. This increases the frequency of successful collisions and therefore the rate of reaction increases.



Why does increasing the temperature increase the rate of reaction?



# Why does increasing the temperature increase the rate of reaction?

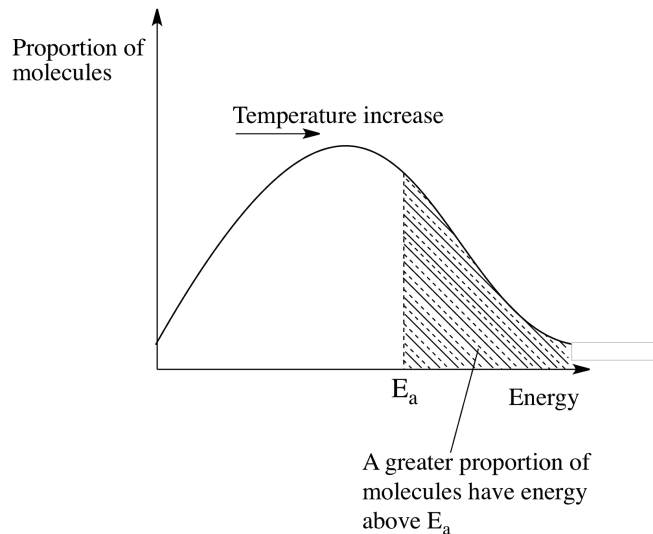
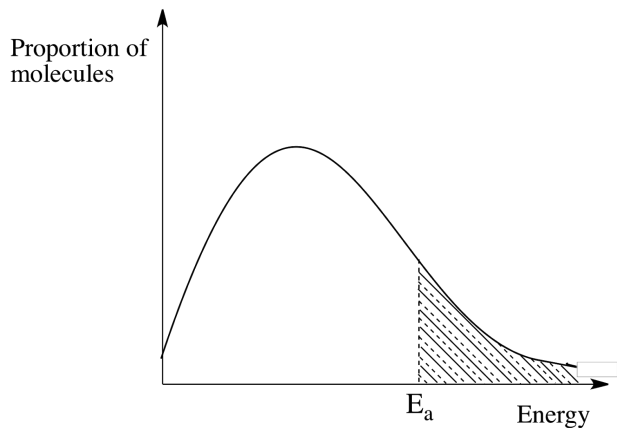
Increasing the temperature increases the average kinetic energy of the molecules involved in the reaction, therefore a greater proportion of molecules have an energy that is greater than the activation energy, leading to more frequent successful collisions.



How does the Boltzmann distribution look for a temperature increase?



# How does the Boltzmann distribution look for a temperature increase?



# How does a catalyst increase the rate of reaction?



How does a catalyst increase the rate of reaction?

A catalyst provides an alternative reaction route with a lower activation energy, so that a greater proportion of molecules have kinetic energies above the activation energy.



# What is a homogeneous catalyst?





# What is a homogeneous catalyst?

A homogeneous catalyst is a catalyst that is of the same phase as the reactants and products.



What are the initiation, propagation and termination steps for the free radical breakdown of ozone?



What are the initiation, propagation and termination steps for the free radical breakdown of ozone?

