Hanzalah Revision
Chemistry

Rates of reaction and energy changes

How can reactions be observed

Reactions can be observed by measuring gas produced or seeing a colour change

What practical methods can be used to find the rate of reaction

- You can measure the gas made
- you can measure the loss of mass
- you can measure time how long a colour change takes
- you can measure how quickly a solid disappears

What is collision theory

Particles must collide to react
They must collide with enough energy

How does temperature affect the rate of reaction

- higher temperature makes particle move faster
- they collide more often with more energy
- the reaction becomes faster

How does the concentration affect the rate of reaction

- Higher concentration has more particles in the same space
- they collide more often
- the reaction becomes faster

How does the surface area affect the rate of reaction

A largest surface area gives more space for collision

this makes the reaction faster

How does pressure affects the rate of reaction

- Higher pressure pushes Particles closer together
- they collide more often
- the reaction becomes faster

How do you read graphs of mass volume or concentration against the time

- A steep line means a fast reaction
- a flat line means the reaction has stopped

What is a catalyst

A catalyst speeds up the reaction

it is not used up

How does a catalyst increase the rate of reaction

a catalyst lowers activation energy particles need less energy to react

What are enzymes

enzymes are biological catalyst

they are used to make alcoholic drinks

What happens to heat energy during chemical changes

chemical changes either take in or give out heat

what is an exothermic reaction

It gives out the energy

What is an endothermic reaction

it takes in the energy

Which reactions breaks the bonds

Endothermic reactions breaks the bond

Which reactions makes the bond

Exothermic reactions makes the bond

why is the reaction exothermic or endothermic over all

reaction is exothermic if more energy is released when Bond form

a reaction is endothermic if more energy is needed to break bonds

What is activation energy

activation energy is the minimum energy needed to start the reaction

How do you draw an exothermic reaction profile

the products are lower in energy than the reactants

the peak shows activation energy

How do you draw an endothermic reaction profile

- **the products are higher in energy then the reactants**
- **the peak shows activation energy**

How do you calculate energy change using bond energy

Energy change= energy needed to break bonds - energy released when you bonds form