Rates of reaction and equilibrium

Answers

GCSE science knowledge recall

This topic online

Q	Answer	Remember
1	time	You can use the quantity of reactant used up instead of product.
2	cm^3/s	Volume unit over time unit.
3	g/s	Mass is lost on the balance when a gas escapes from the flask.
4	mol/s	Same pattern as before: amount over time.
5	tangent	The tangent just touches the curve at that time - its gradient is the rate there.
6	start	The curve is steepest at the start, when there are most reactant particles.
7	collision theory	Rate depends on how often particles collide and how energetic the collisions are.
8	activation energy	Collisions with less energy than this just bounce off.
9	increases	Hotter particles move faster and more collisions have enough energy.
10	increases	More particles in the same volume bump into each other more often.
11	pressure	Higher pressure squeezes the same gas particles into a smaller space.
12	powder	Crushing the solid exposes many more particles to the acid.
13	surface area	Bigger surface area to volume ratio means more frequent collisions.
14	Particles move faster, so they collide more often and a greater proportion of collisions have at least the activation energy.	Two reasons: more frequent collisions and more energetic collisions.
15	catalyst	You get it all back at the end, so it can be used again.
16	lower	On a reaction profile the hump is smaller with a catalyst.
17	enzymes	Enzymes speed up reactions in living cells, such as digestion.
18	no	It is not used up, so it is sometimes written above the arrow instead.
19	gas syringe	Read the volume at regular time intervals.
20	sulfur	Time how long it takes for a cross under the flask to disappear.
21	reversible reaction	Products can react to form the reactants again.

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Q	Answer	Remember
22	white	Adding water turns it blue again, which is used as a test for water.
23	exothermic	The same amount of energy is transferred each way.
24	closed system	Nothing can get in or out, so no product can escape.
25	equal	Both reactions are still going, so the amounts stay constant.
26	Le Chatelier	The system shifts to counteract whatever change you make.
27	products	More product forms to use up some of the extra reactant.
28	endothermic	The endothermic direction takes in the extra energy.
29	fewer molecules	Fewer molecules take up less space, which lowers the pressure again.
30	There are 4 molecules of gas on the left and only 2 on the right, so higher pressure shifts the equilibrium to the right, the side with fewer molecules.	Count the big numbers of gas molecules on each side.

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