Quick Review:

Reactants → Products

Reactants get used up in a reaction
Products are what gets made in a reaction

Reaction Rates

- Rate means how fast the reaction is happening

How to speed up a reaction

- Increase reactant concentration (amount in a certain volume)
- Increase temperature
- Add a catalyst
- Increase surface area of the reactants
- Mix / stir more

Collision Theory of Reactions

Reactant molecules must collide for a reaction to happen.

They also need to collide with a certain amount of energy.

Higher reactant concentration: more collisions

Higher temperature: faster molecules → more collisions

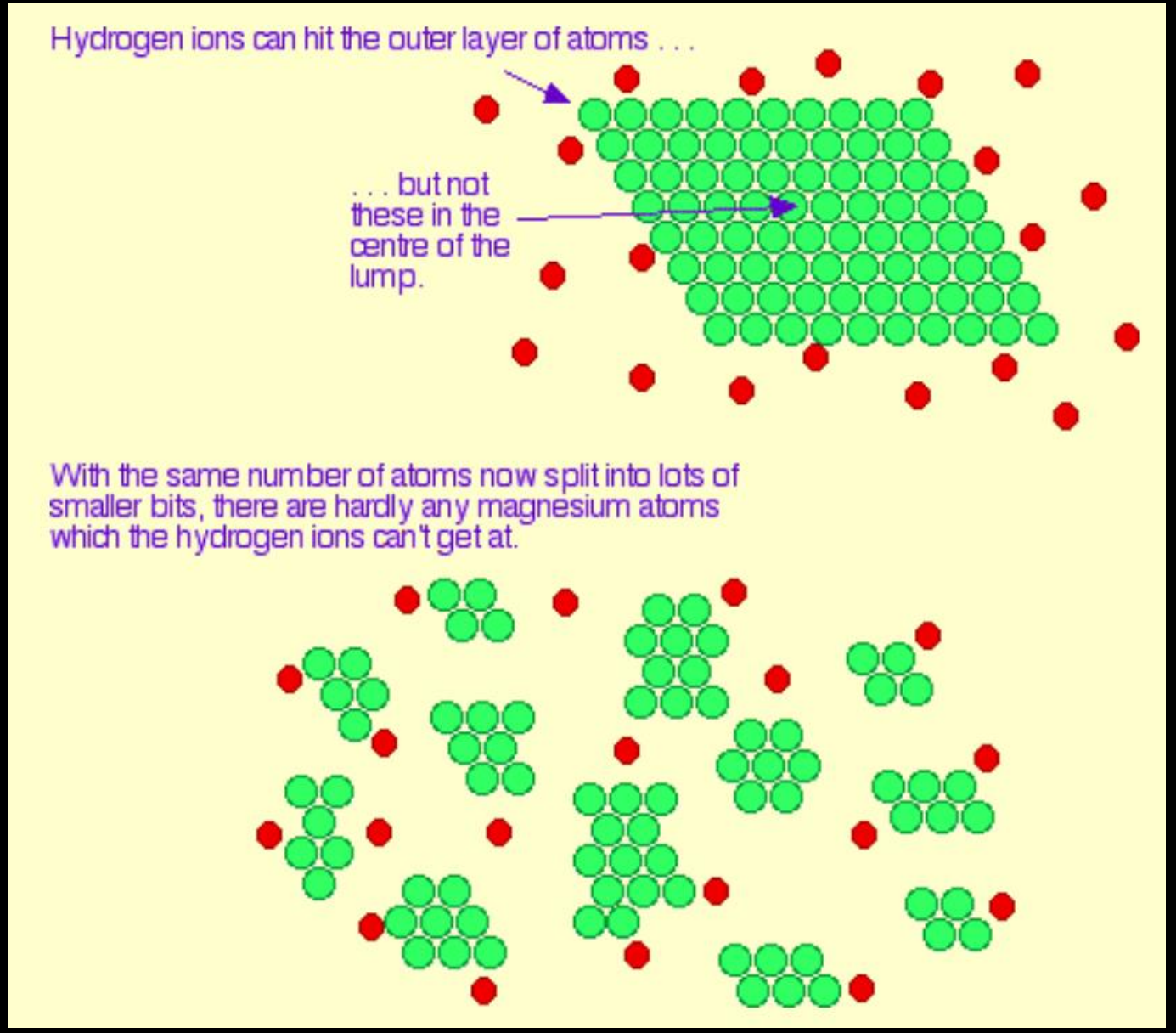
higher energy molecules → higher energy collisions

More Surface Area → more collisions

Add Catalyst → collisions require less energy

Mixing → more collisions

Surface Area



Catalyst

- Creates a new reaction pathway
- Lower activation energy
- Now a higher percentage of collisions are successful reactions