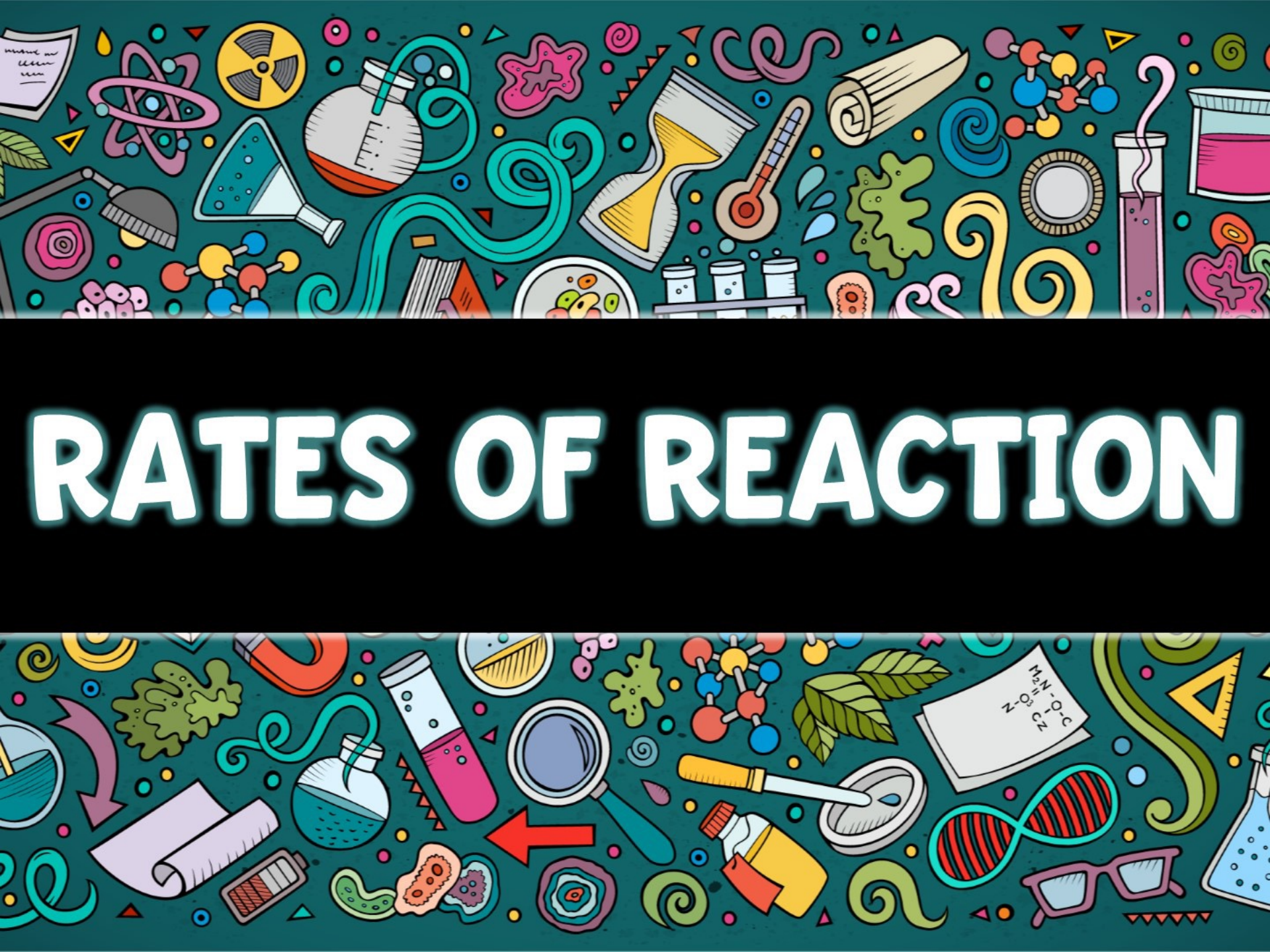
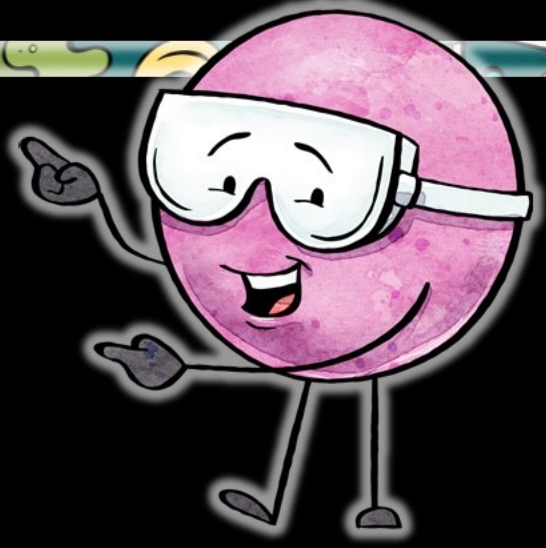

RATES OF REACTION

RATES OF REACTION

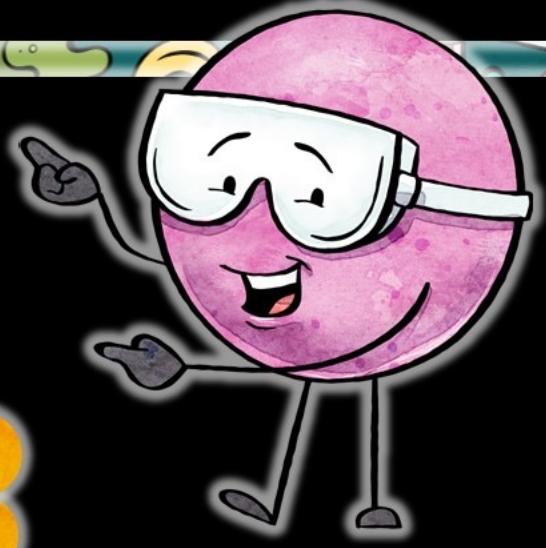
COLLISION THEORY:

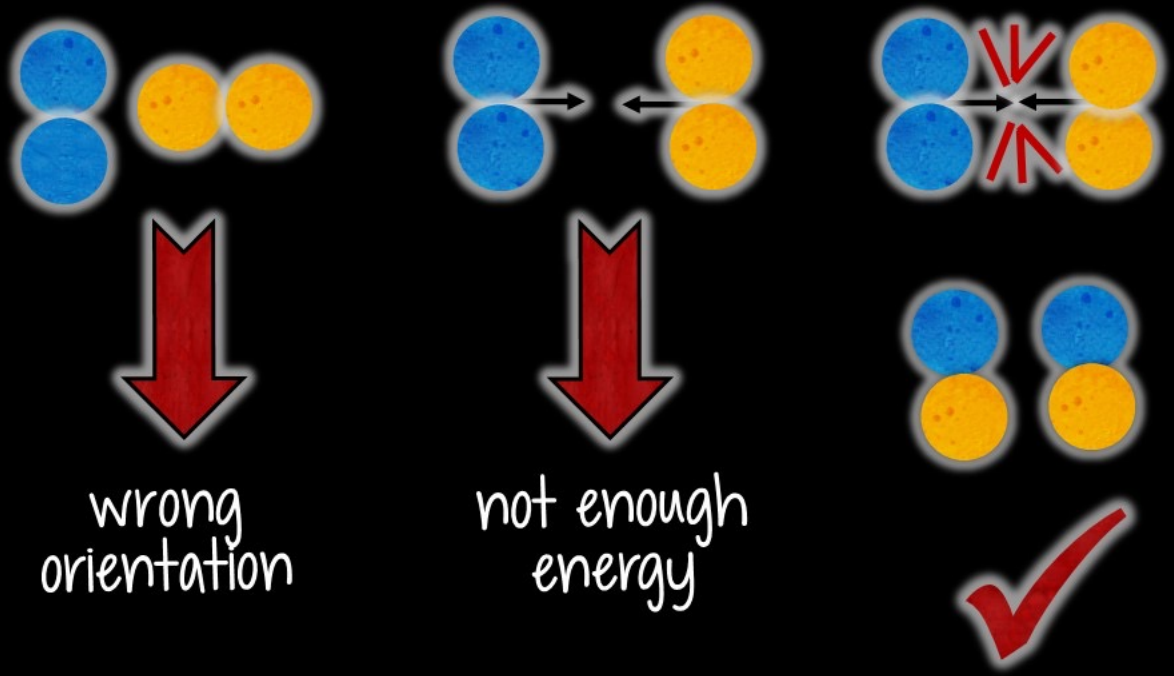


Collision theory states that, for a reaction to occur, particles must collide with the correct orientation and with sufficient energy.

RATES OF REACTION

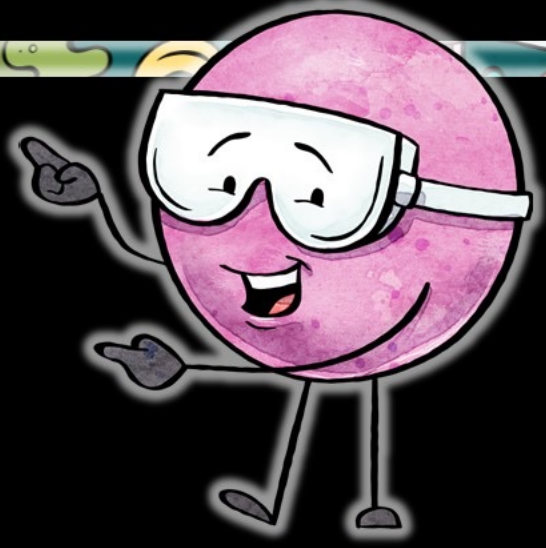
COLLISION THEORY:





RATES OF REACTION

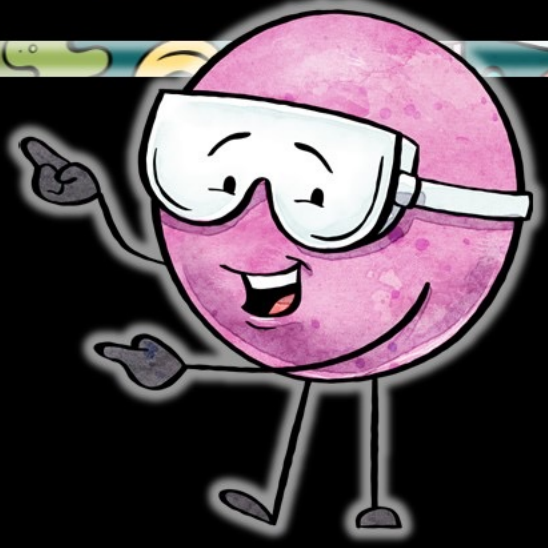
CONCENTRATION:

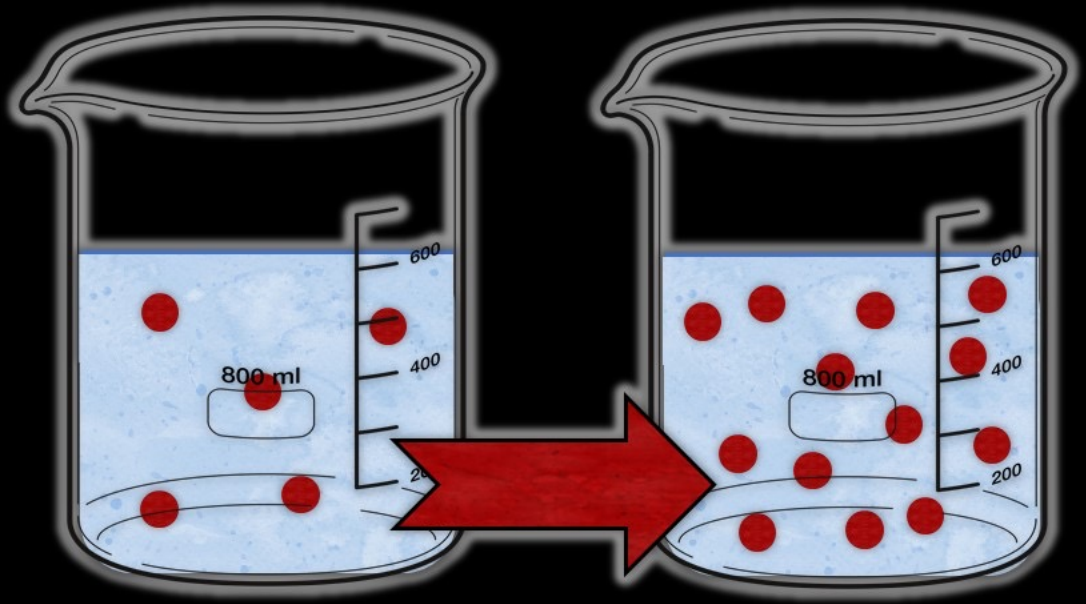


Increasing concentration provides a greater number of particles available to react. This increases the frequency of collisions.

RATES OF REACTION

CONCENTRATION:

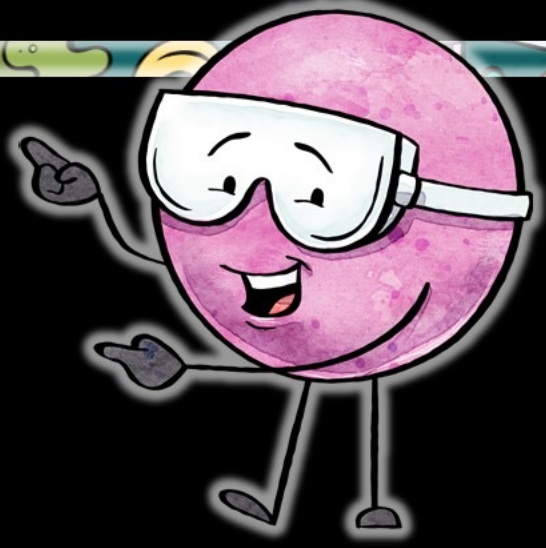




More particles in the same space!

RATES OF REACTION

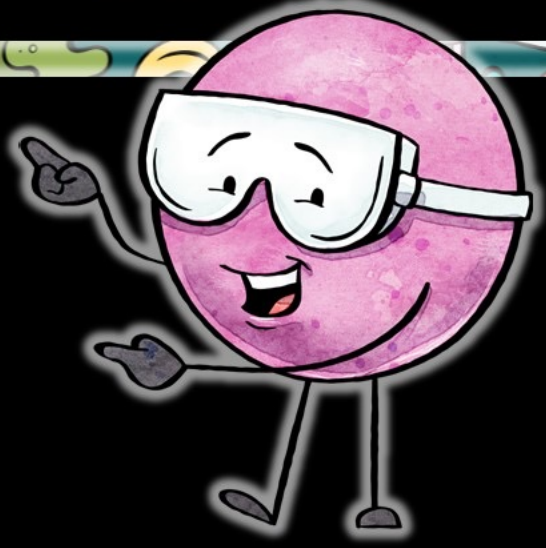
PRESSURE:

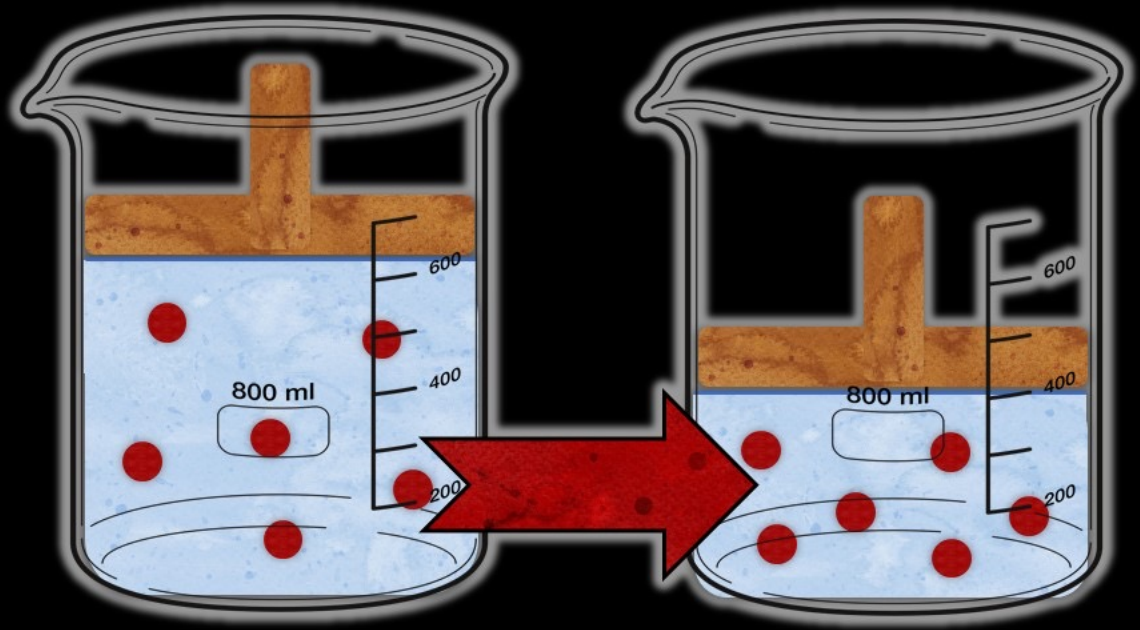


Increasing pressure of a reaction involving gases forces the gases closer together. This increases the frequency of collisions.

RATES OF REACTION

PRESSURE:

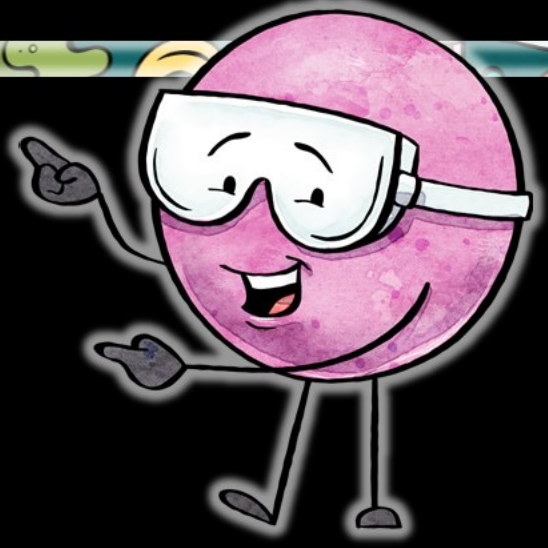




Higher chance of hitting each other!

RATES OF REACTION

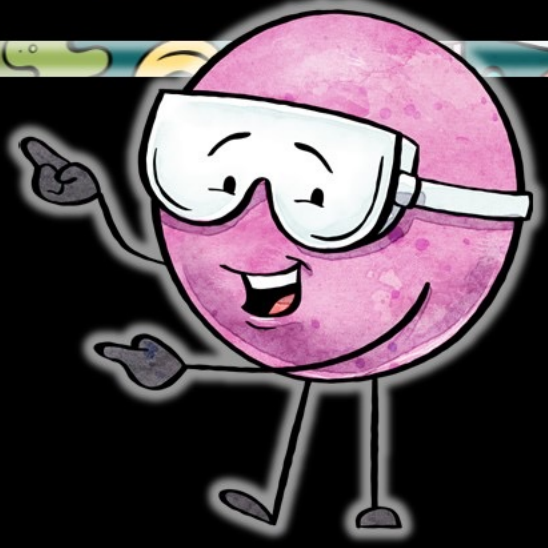
TEMPERATURE:



Increasing temperature increases the kinetic energy of particles.

RATES OF REACTION

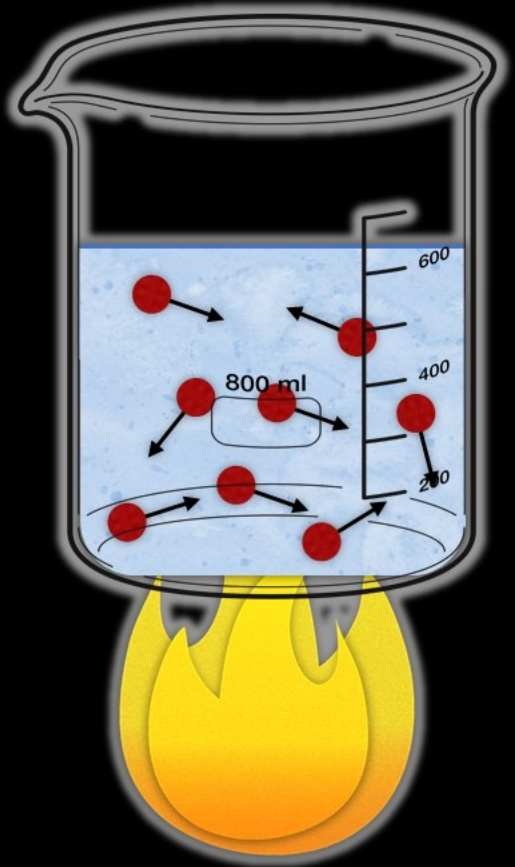
TEMPERATURE:

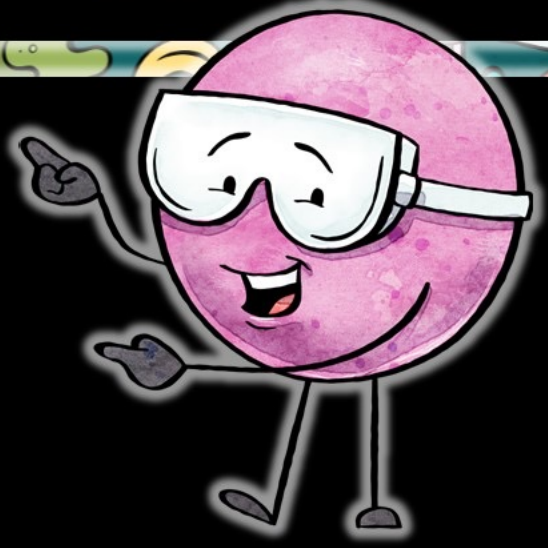


This increases the frequency of collisions and a greater proportion of those collisions have the energy required to react.

RATES OF REACTION

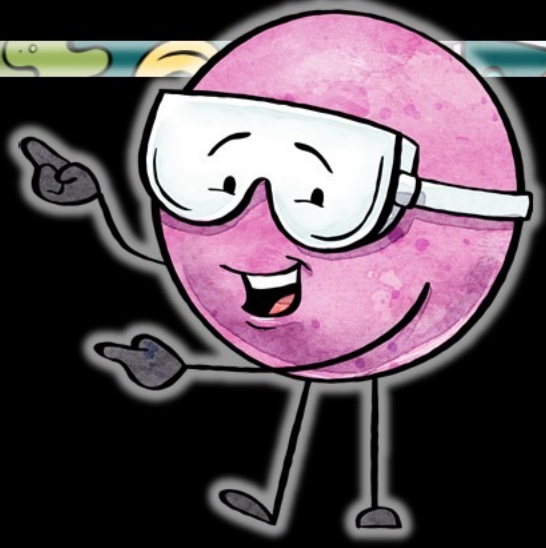
TEMPERATURE:





RATES OF REACTION

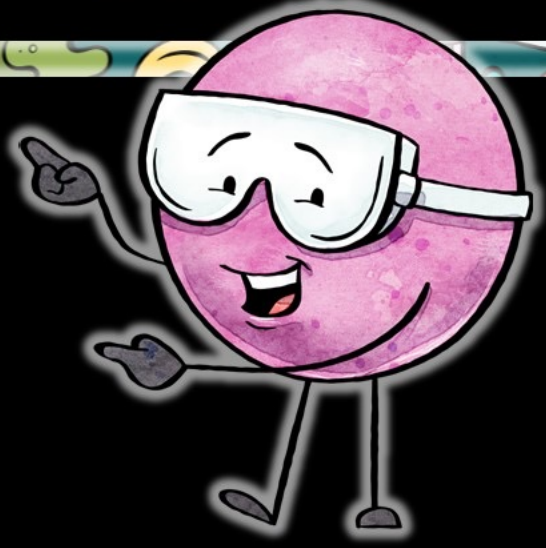
CATALYSTS:



A catalyst speeds up reactions by lowering the activation energy required for reaction collisions.

RATES OF REACTION

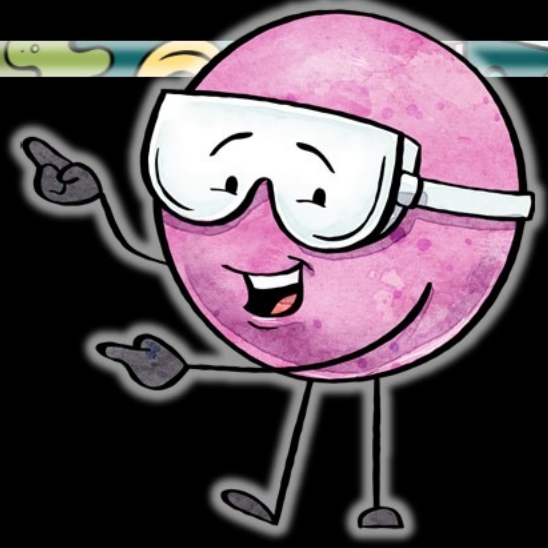
CATALYSTS:

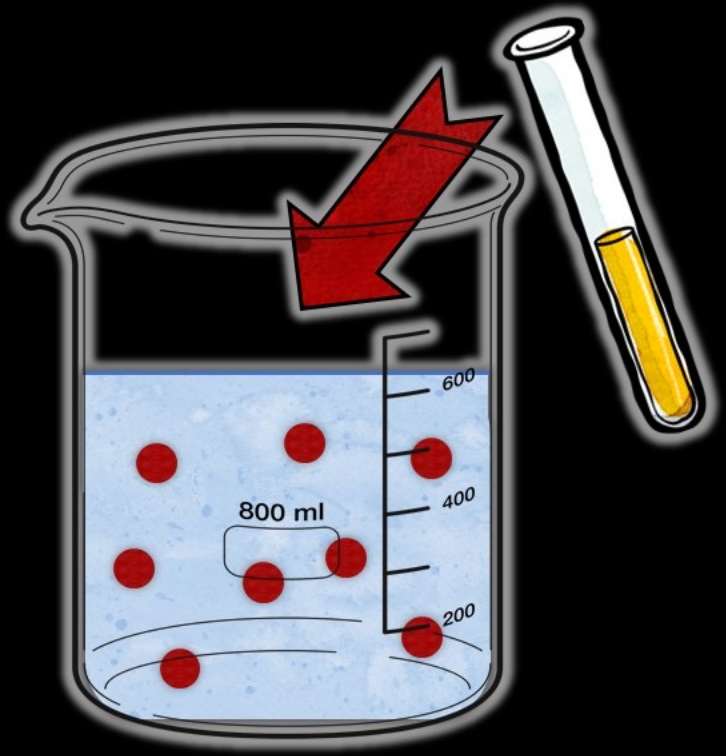


Enzymes are protein molecules that act as catalysts in reactions in living organisms.

RATES OF REACTION

CATALYSTS:

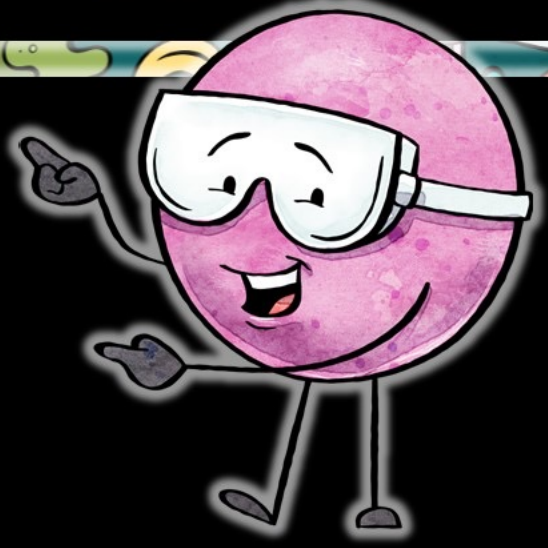




Greek - "to untie"

RATES OF REACTION

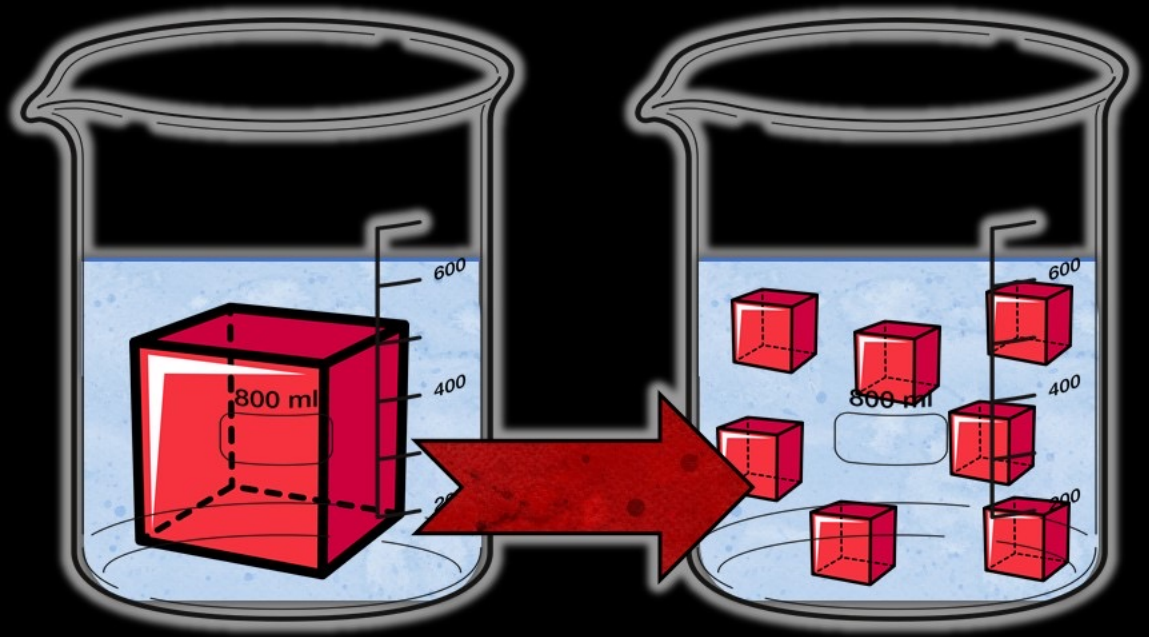
SURFACE AREA:

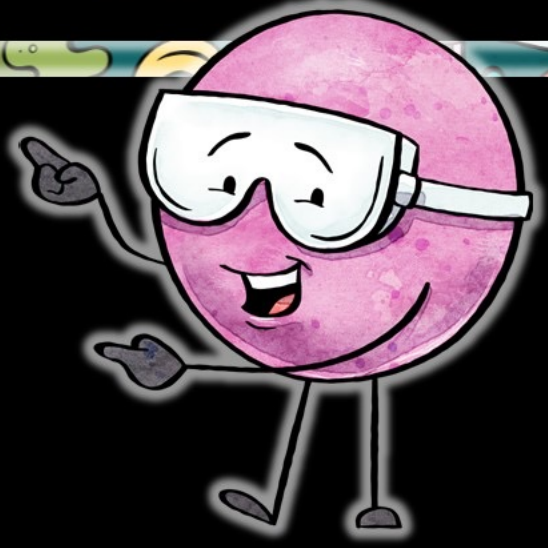


Increasing surface area of a solid increases the number of particles that are exposed. This increases the frequency of collisions.

RATES OF REACTION

SURFACE AREA:





Powdered drink mix dissolves faster, same principle!