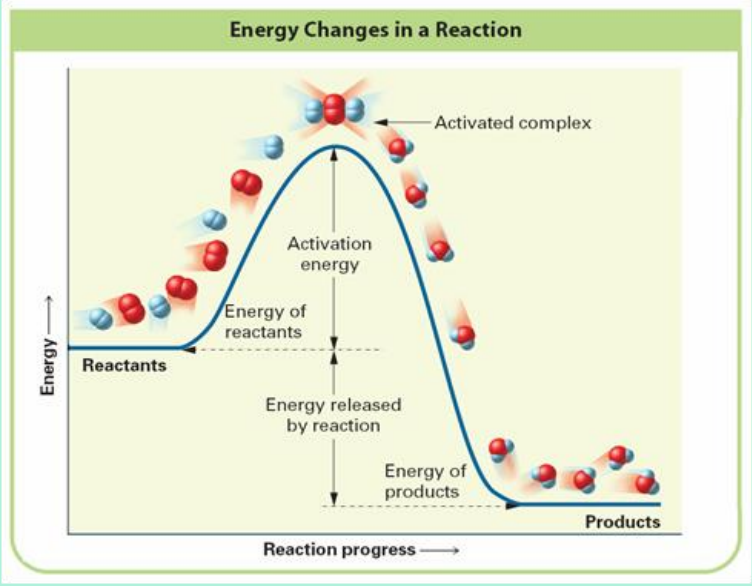
Collision Theory (1:17 min)



E_a: activation energy:

Energy needed to start reactant collisions thus starting the rxn

Activated Complex:

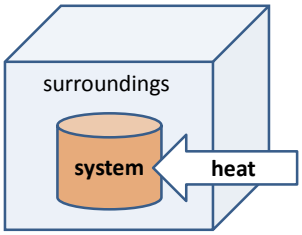
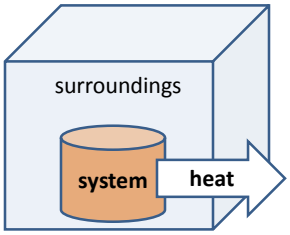
"top of the hill" reactants' atoms rearrange due to collisions.

Enthalpy (H):

heat involved in a change

ΔH:

change in heat: products – reactants

	Endothermic	Exothermic
Sign	+	—
Descriptive Words	"**In**to", absorb, heat added; heat needed	Given off; heat produced; **ex**it
Drawing		

Reaction placement

Endothermic

$A + B + \text{heat} \rightarrow C$

or

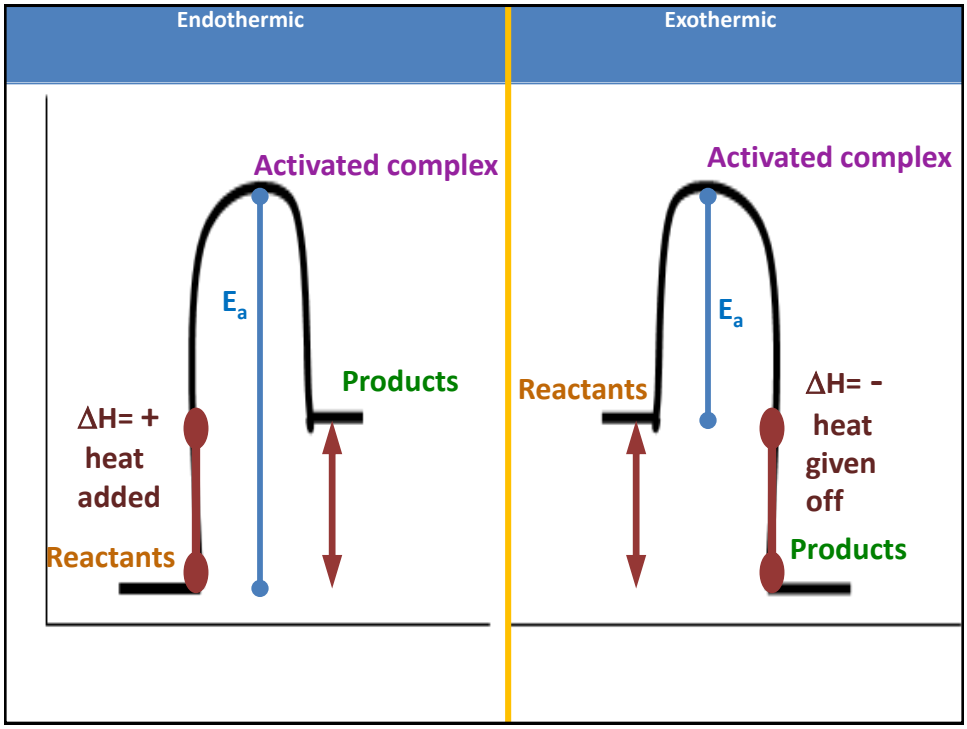
$A + B \rightarrow C \quad \Delta H = +\text{kJ}$

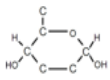
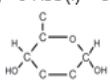
Exothermic

$A + B \rightarrow C + \text{heat}$

or

$A + B \rightarrow C \quad \Delta H = -\text{kJ}$



Process	System	Exo or Endo	Explanation
An ice cube melts after being left out on the table.	Ice cube	Endo	
Burning a match.	match	Exo	
(cell respiration)  $+O_2$ (g) ➔ 6 CO_2(g) +6H_2O (l) + energy	cell	Exo	
Making ice cubes.	water	Exo	
A puddle of water evaporates.	water	Endo	
(photosynthesis) 6 CO_2(g) +6 H_2O(l) + sun➔  + O_2(g)	plant	Endo	