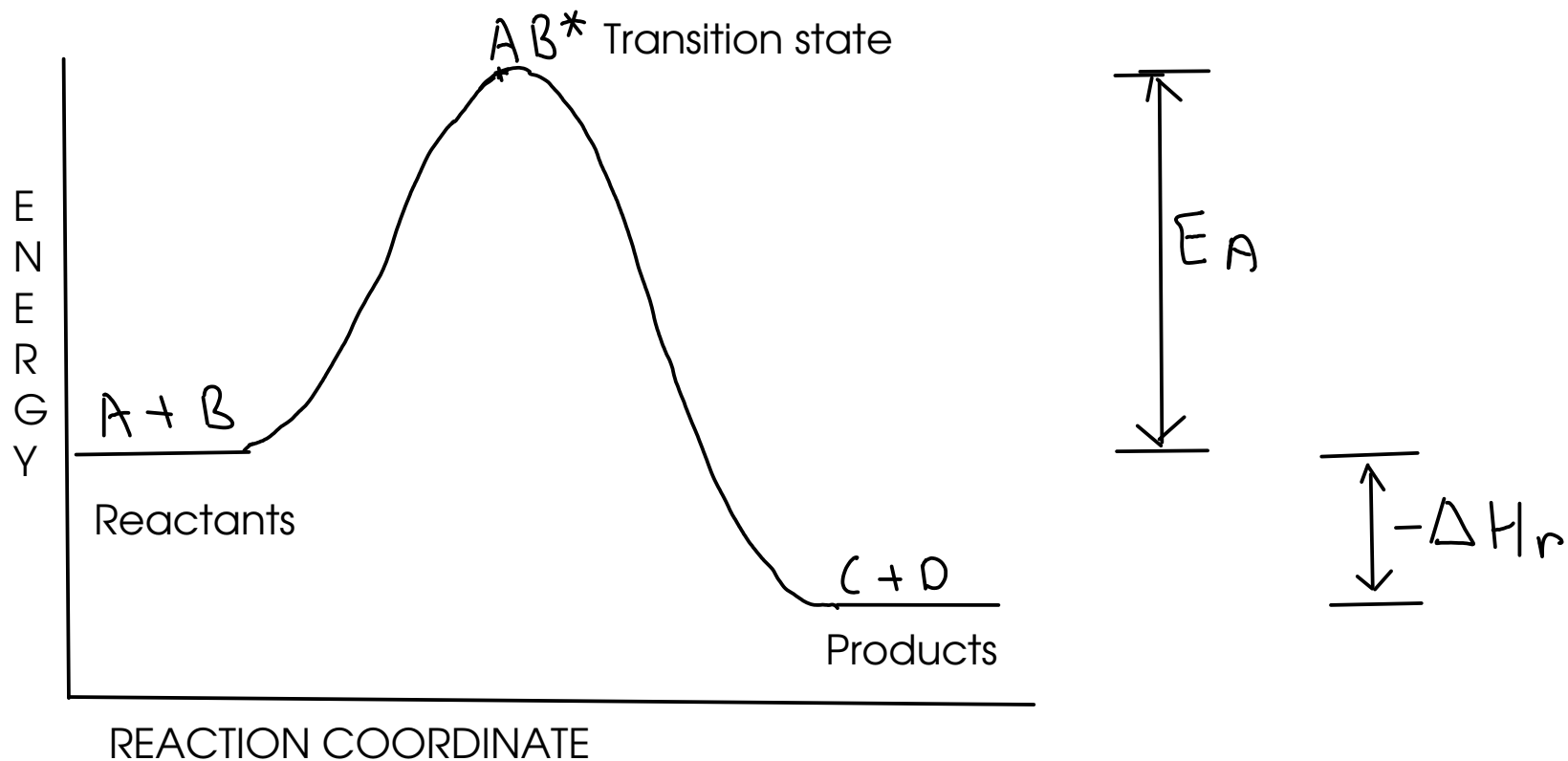
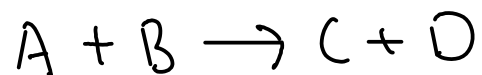


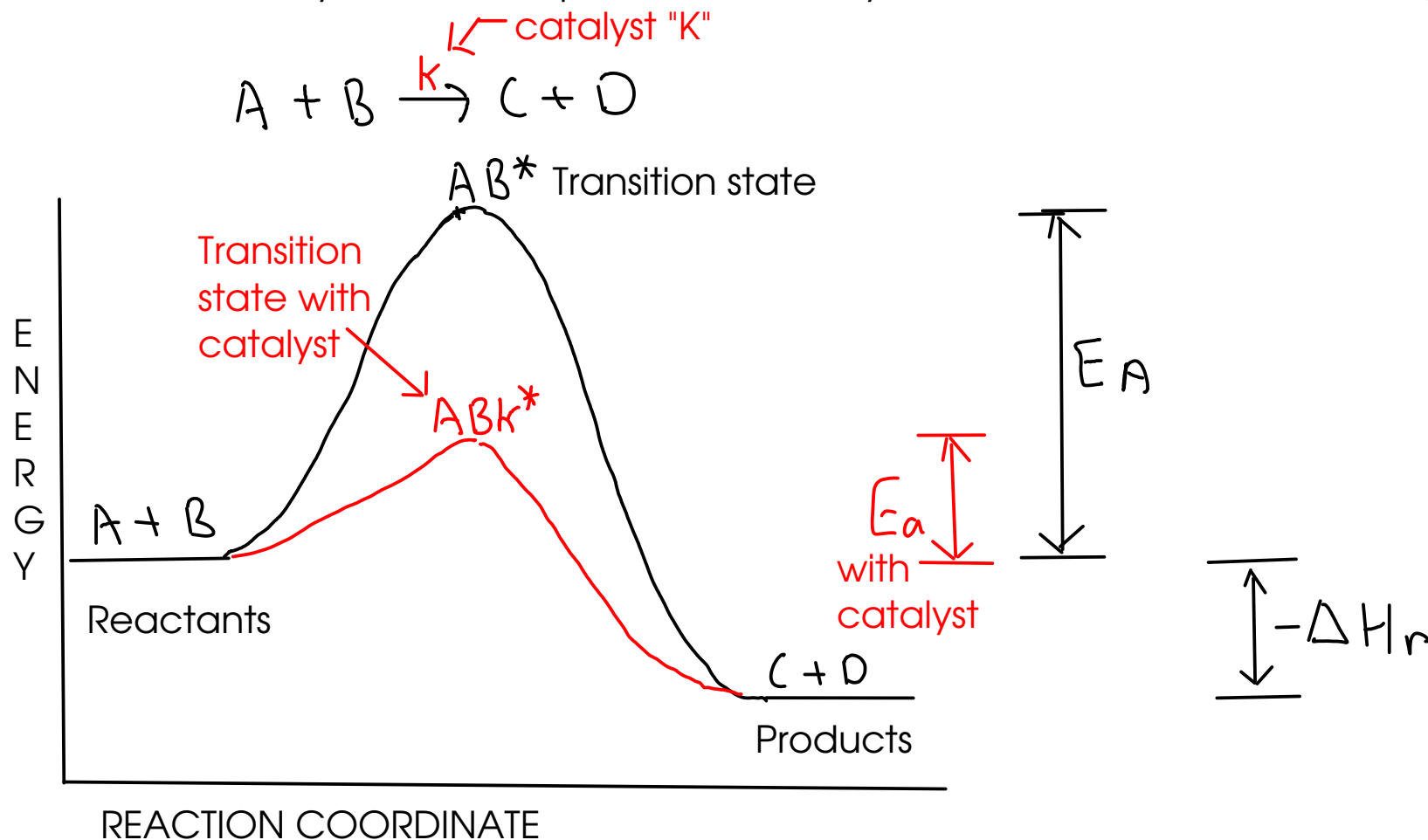
For an EXOTHERMIC REACTION, the products have a lower energy than the reactants



- Whether a reaction is endothermic OR exothermic, there is still an activation energy barrier that must be crossed in order to react.
- This explains why a pile of wood that's exposed to air doesn't just burst into flames. Even though the combustion of wood is EXOTHERMIC, there's still an activation energy barrier preventing the reaction from occurring without an initial input of energy - a "spark"!

## CATALYSTS?

- So how does a catalyst fit into this picture? A catalyst LOWERS the activation energy for a reaction.



- The exact mechanism by which a catalyst lowers the energy of the transition state may be simple ... or complex. As we mentioned before, some catalysts hold molecules so that it's easier for reactants to come together, some react with reactant molecules to produce an intermediate that reacts more easily with other reactants to make the final product, etc.