

# ENZYMES

# CATALYST

**Catalyst:** A substance that lowers the activation energy needed to start a chemical reaction.

It makes it possible for a chemical reaction to happen faster.

# Catalyst

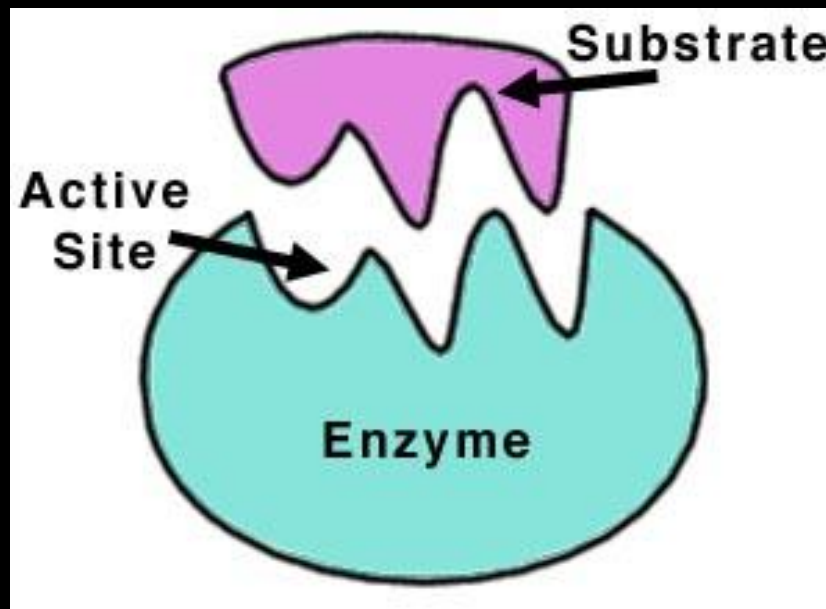
- Do NOT increase how much product is made
- Do NOT get used up in the reaction.

# ENZYMES

- Are catalysts
- Can be used again.
- Only used in one type of reaction.
- In living things
- Are proteins
- Names end in ase or zyme

# PARTS OF AN ENZYME REACTION

Substrates: reactant that binds to an enzyme.



Active Site: The specific location where a substrate binds on an enzyme.

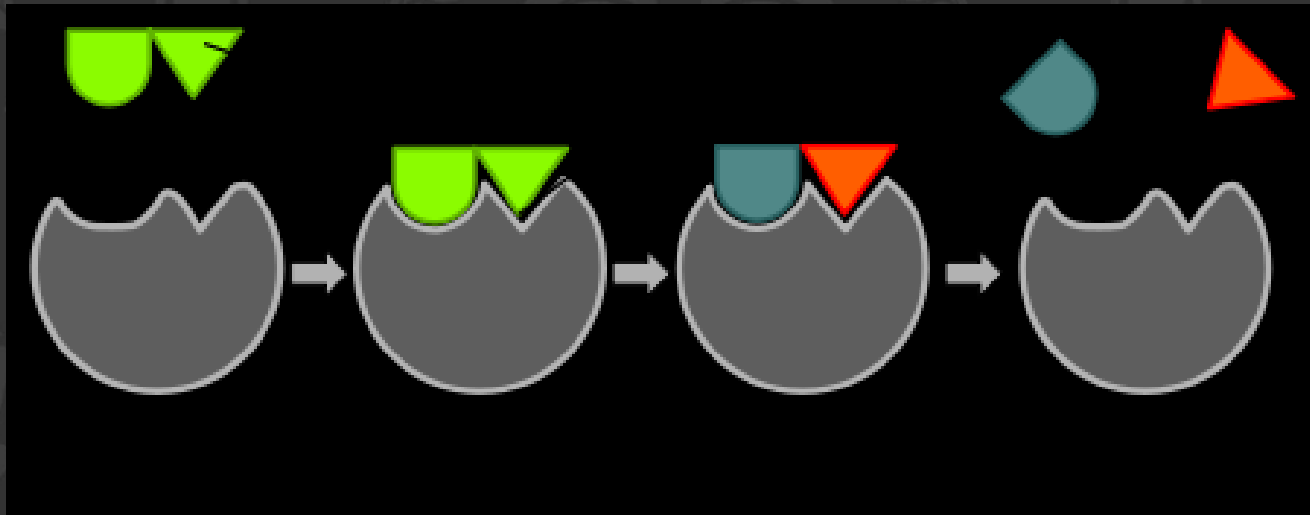
The substrate and the active site are shaped to fit together exactly.

Only substrates shaped to fit the active site will bind to the enzyme.

Enzymes can form new bonds (put things together)

and/or

break bonds (take things apart).



The enzyme then releases the new product.



# Factors that can affect enzyme activities:

- pH (how acidic some thing is)
- Temperature

