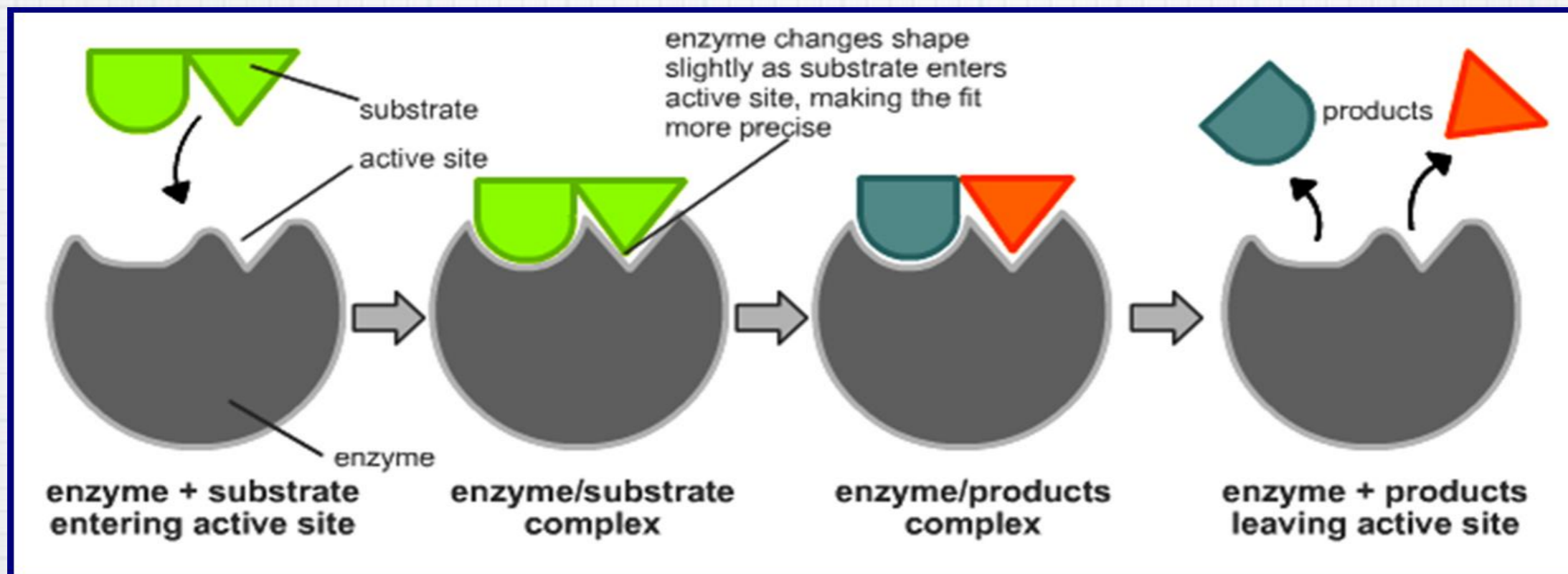


Enzymes

- * enzymes are **biological catalysts**
(speed up chemical reactions)
- * reusable

Lock & Key Model

- * each enzyme is uniquely designed to fit with its **substrate** (reactant in a chemical reaction) at the **active site**
- * they fit perfectly like ‘a lock & key’



Denaturation of Proteins

- * when proteins lose their specific 3D shape **denature:**
- * denatured enzymes lose their functionality
- * substrate no longer fits the enzyme's active site
- * chemical reaction won't be catalyzed

Denaturation of Proteins

- * denaturation can be caused by:
 - * very hot temperatures
 - * strong acids (low pH)
 - * strong bases (high pH)

Industrial Uses for Enzymes

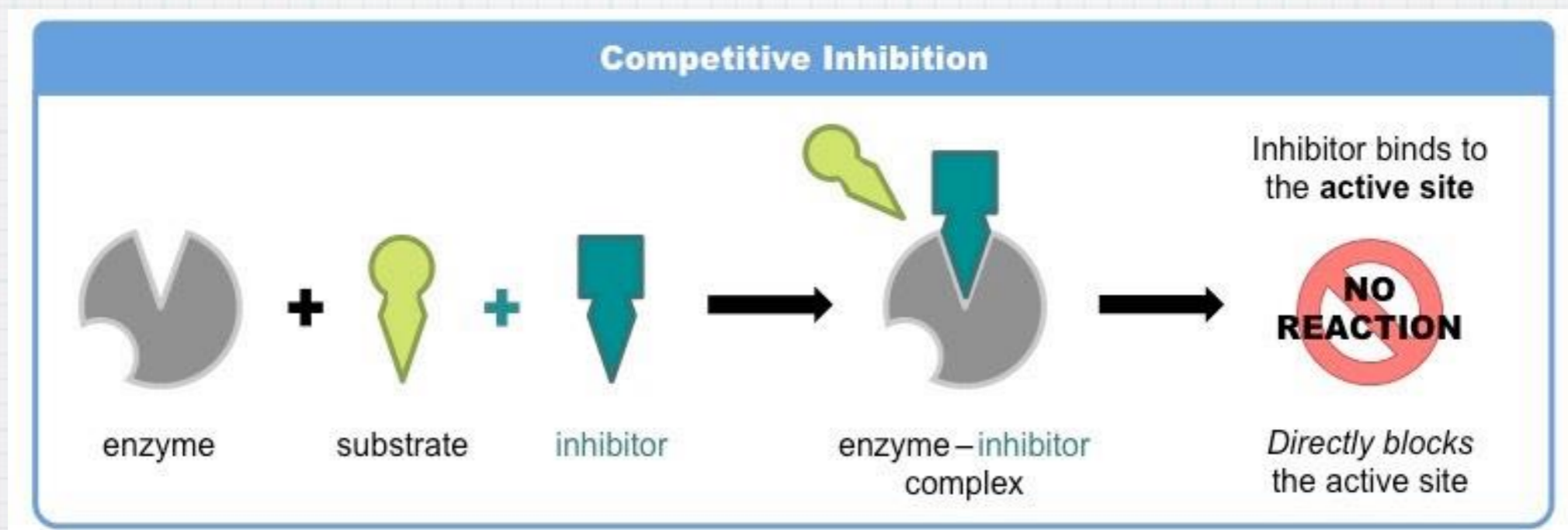
- * Enzymes not only play a critical role in the human body, but it is also has many practical uses in other industries.
- * Brewing, Baking and Wine making
- * Creation of Starch

Enzyme Inhibition

- * There are two types of enzyme inhibition
 - * Competitive
 - * Non-competitive

Competitive Inhibition

- * Something blocks the active site of the enzyme preventing the substrate from binding.



Non-competitive Inhibition

- * Something bind to the enzyme changing the shape of the active site.

