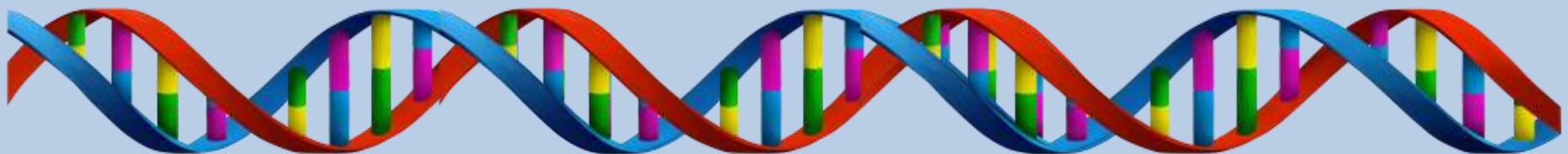
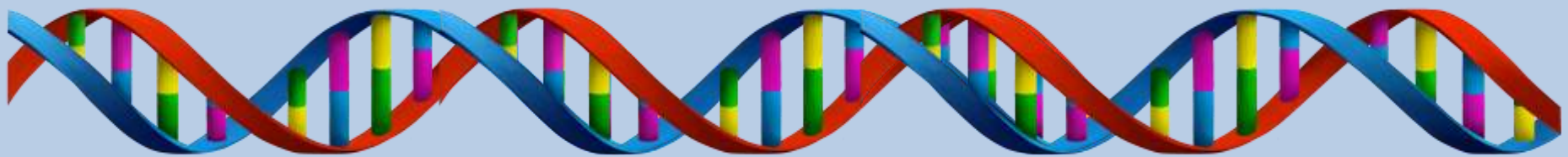
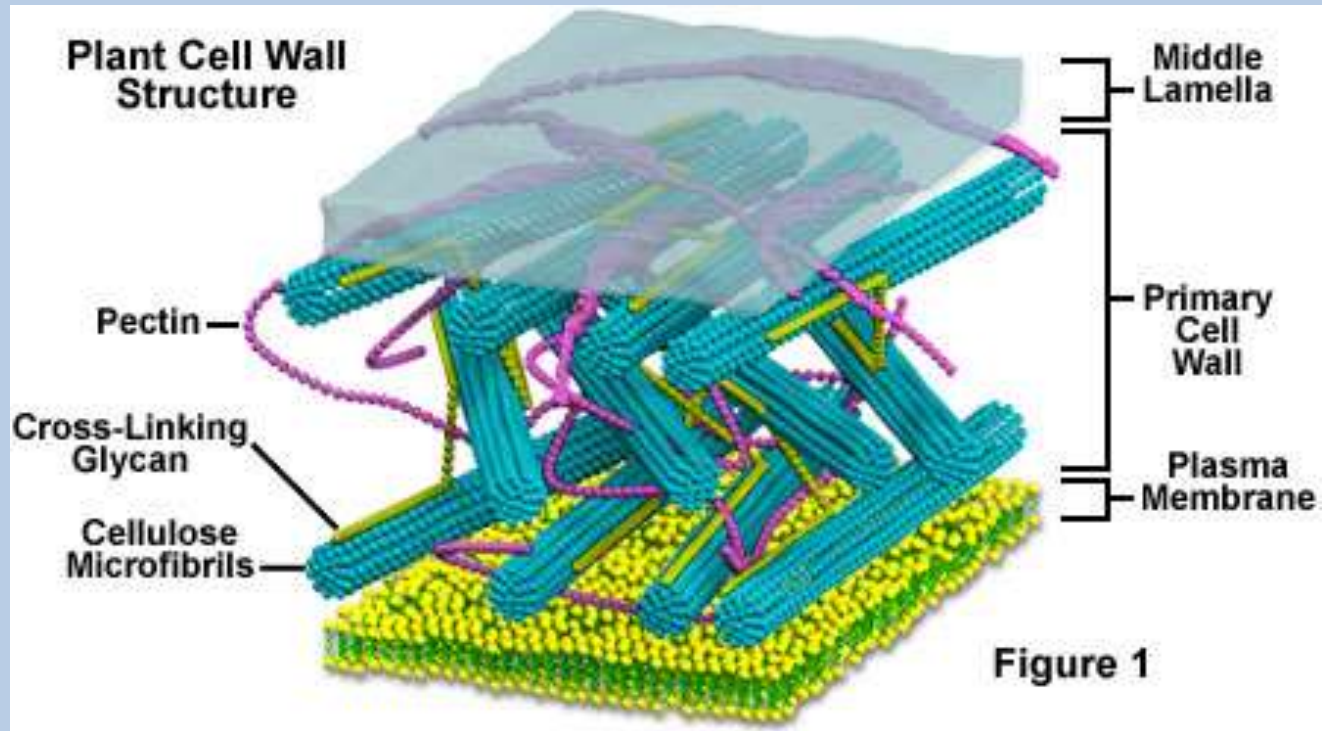


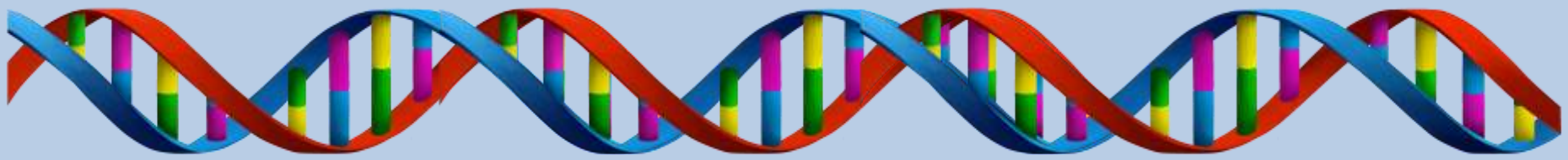
**DO NOT TOUCH OR EAT THE
MATERIALS ON YOUR DESK**

- 1. What effect did the pectinase have on the apple sauce?**
- 2. What was the function of lactase?**

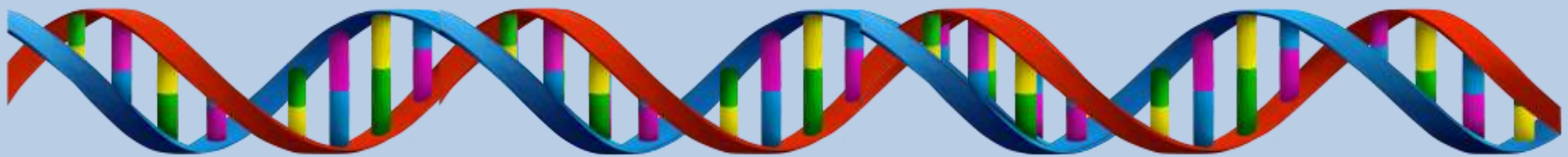
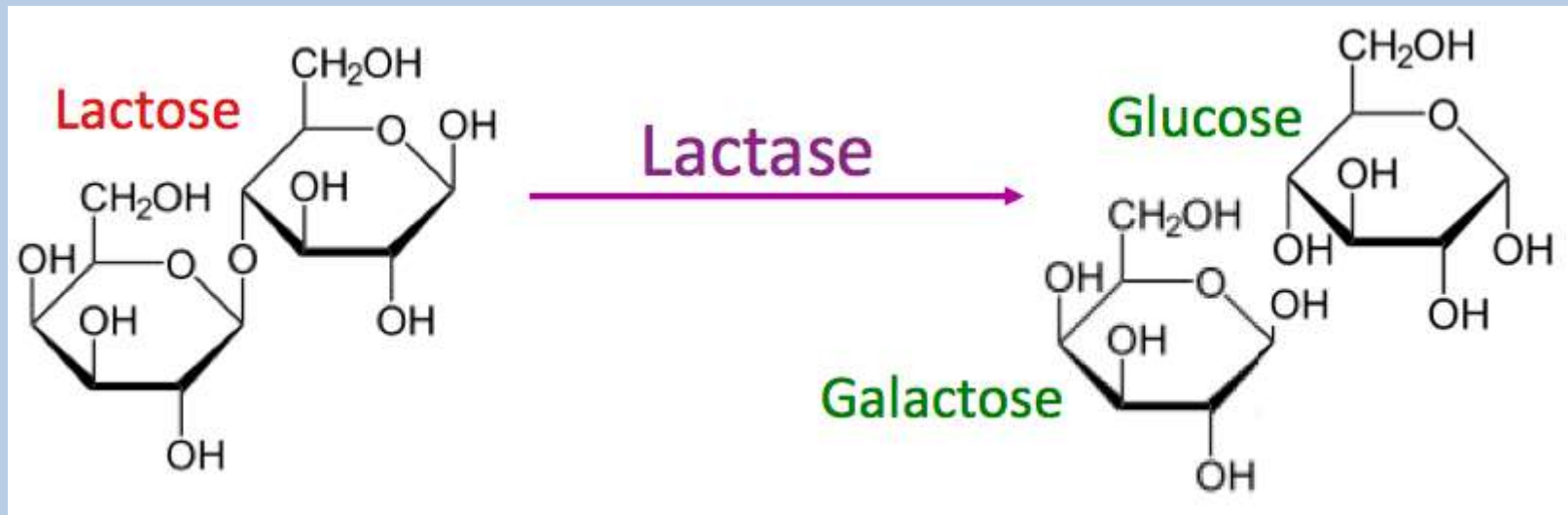
<https://www.youtube.com/watch?v=RmpvHxgiVOc>







What was the function of lactase?

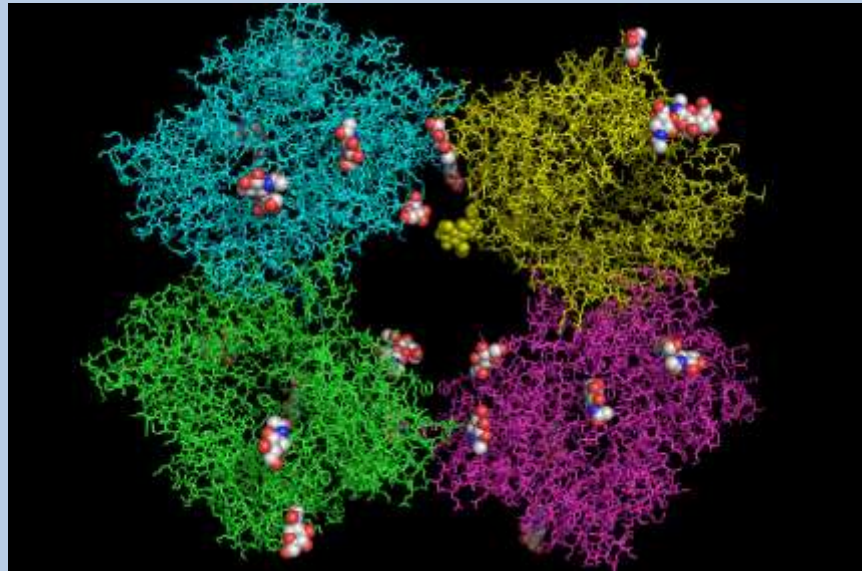


Logistics

- **Unit 1 Assessment is on Thursday, October 3rd**
- **Covers chapters 1-2**

Enzymes

- **Catalysts that make chemical reactions happen more quickly by lowering the activation energy required to start the reaction.**

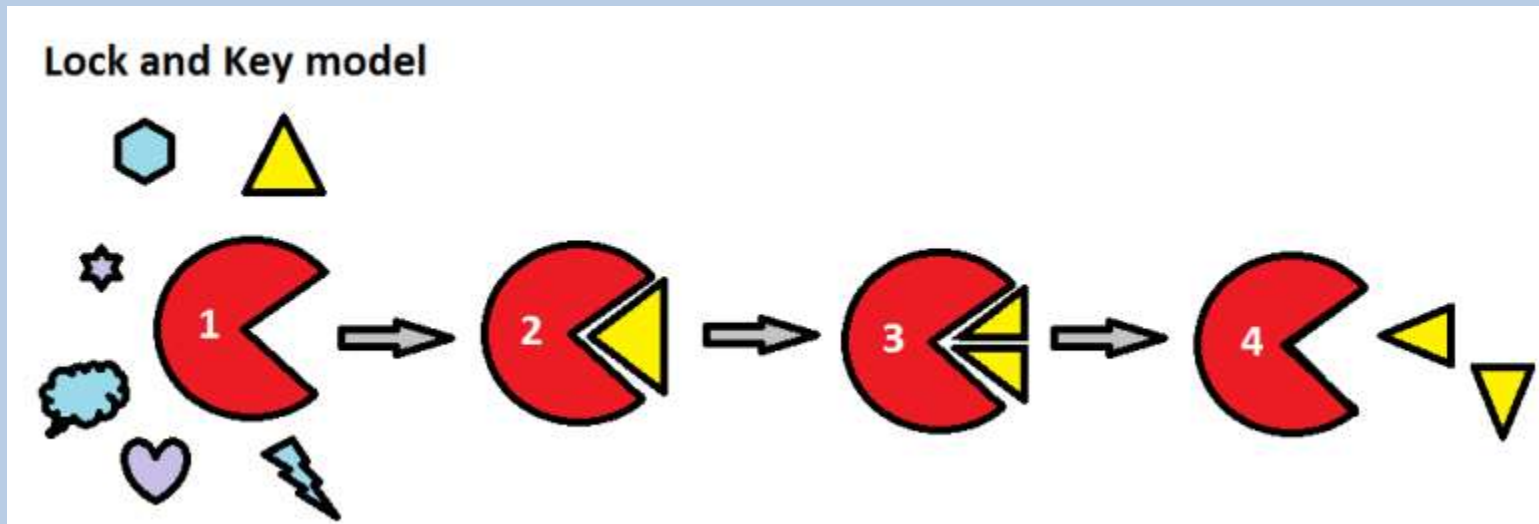


Enzymes

- **What do enzymes do in our body?**

Enzymes

- To digest simply means to “break down food”



Enzymes

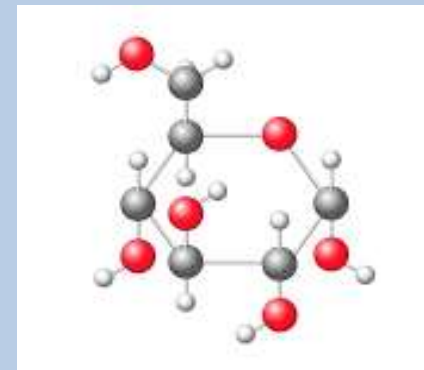
- **In addition to physical digestion there is chemical digestion; the work of acids and ENZYMES**

Enzymes

- **Amylase: breaks down starch**
- **What does starch break down into?**

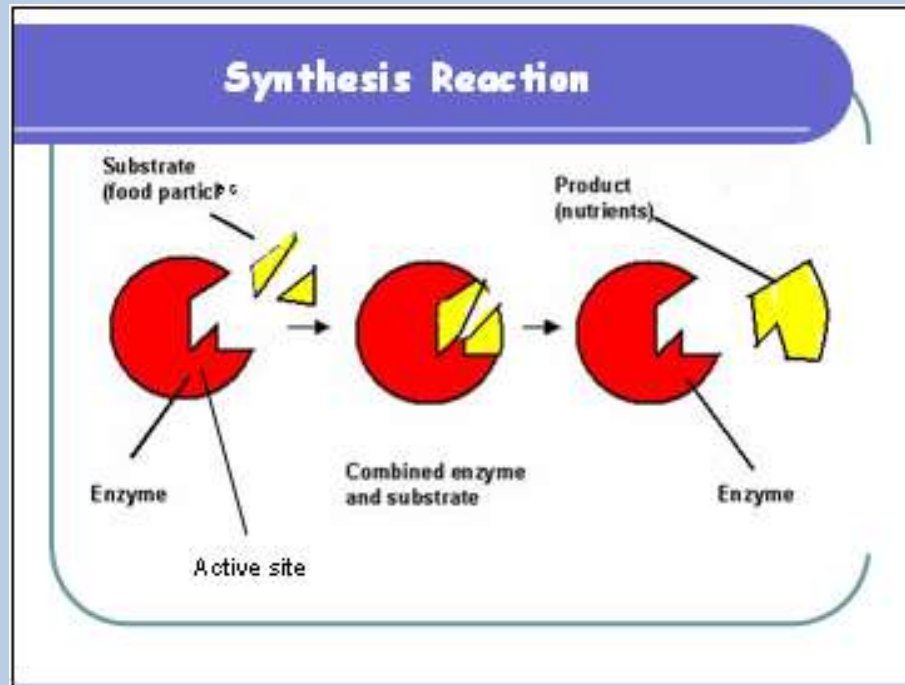
Enzymes

- **Amylase: breaks starch *into* *GLUCOSE* monomers**
- **Let's test it!**
 - **Do not chew or swallow until you are told to do so!**
 - **Focus on the taste**



Enzymes

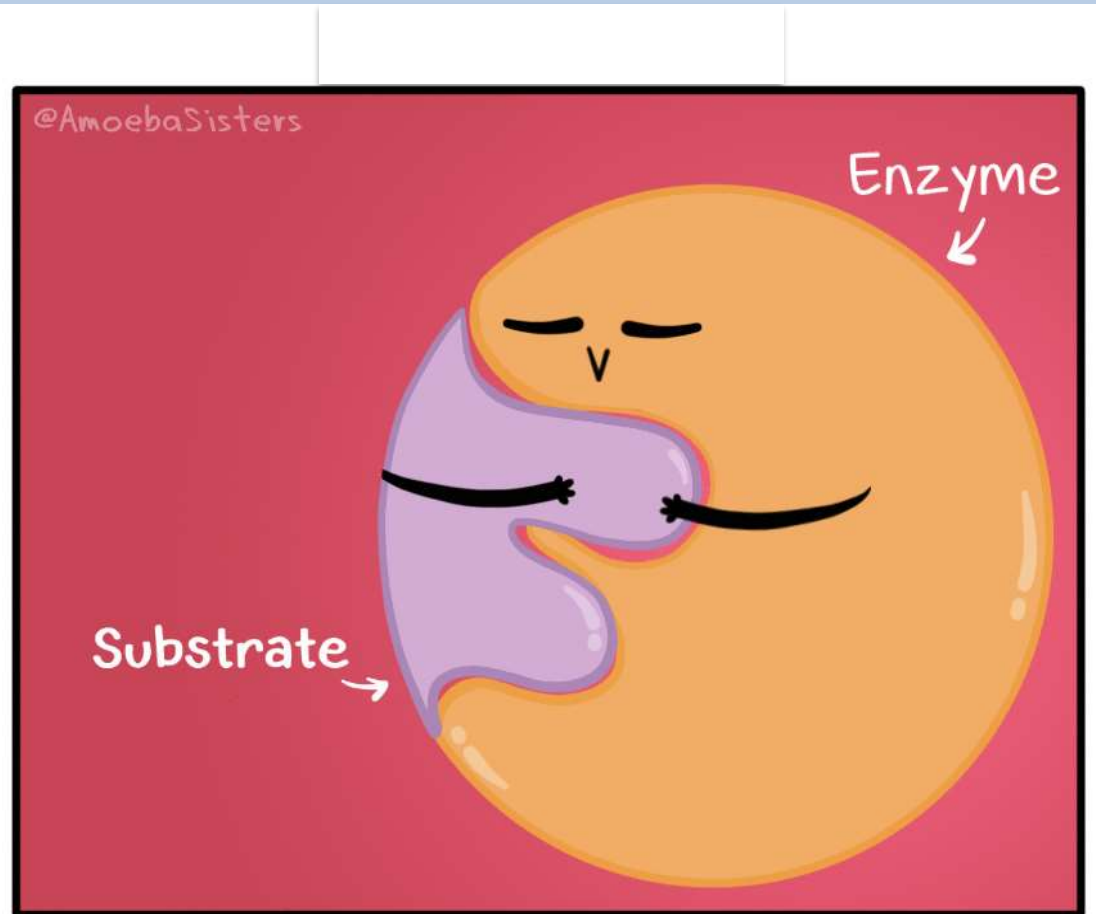
- Synthesis simply means to “make” a product



Enzymes in Action

- **Move around the room to find the matches to your puzzle piece.**

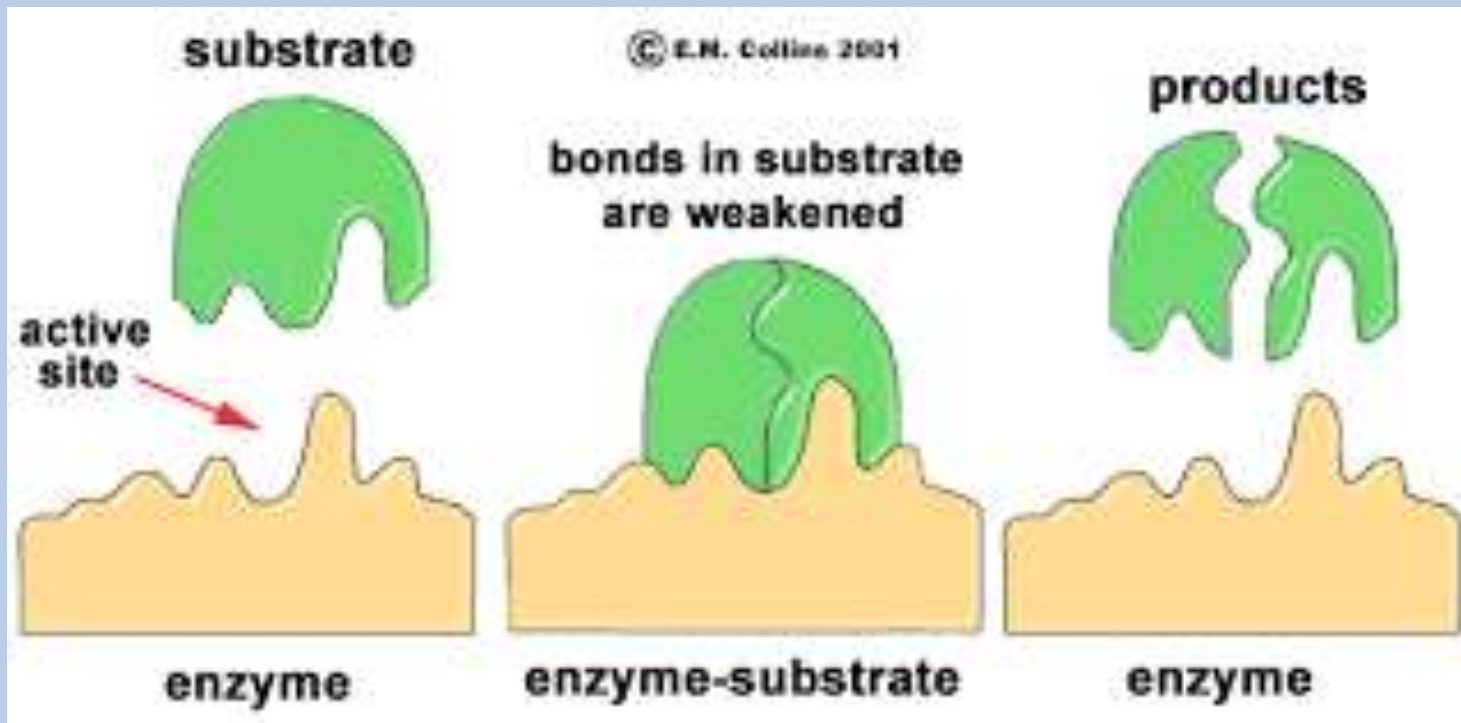
Enzymes in Action



It's the ultimate enzyme-substrate hug.

Enzymes

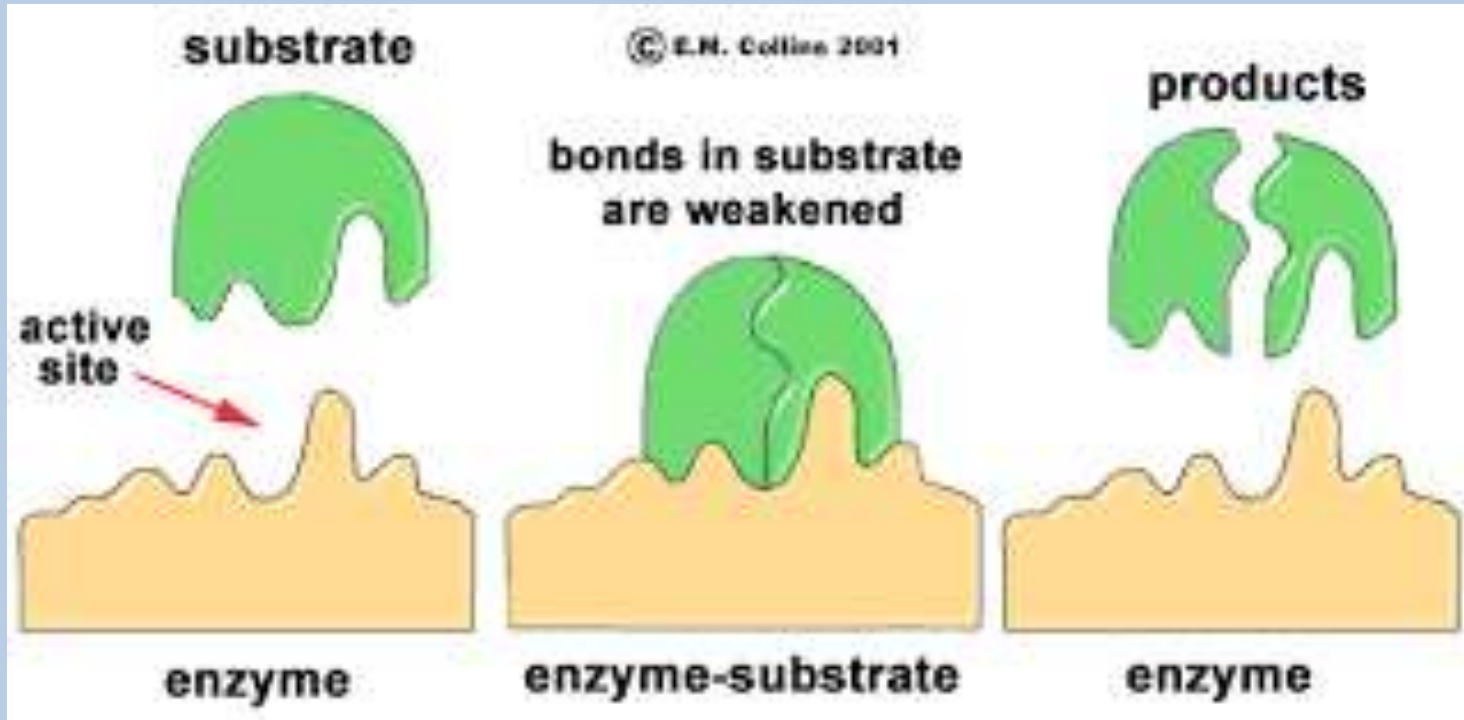
- **Substrate- Molecule that reacts with an enzyme.**



Enzymes – CHECK-IN

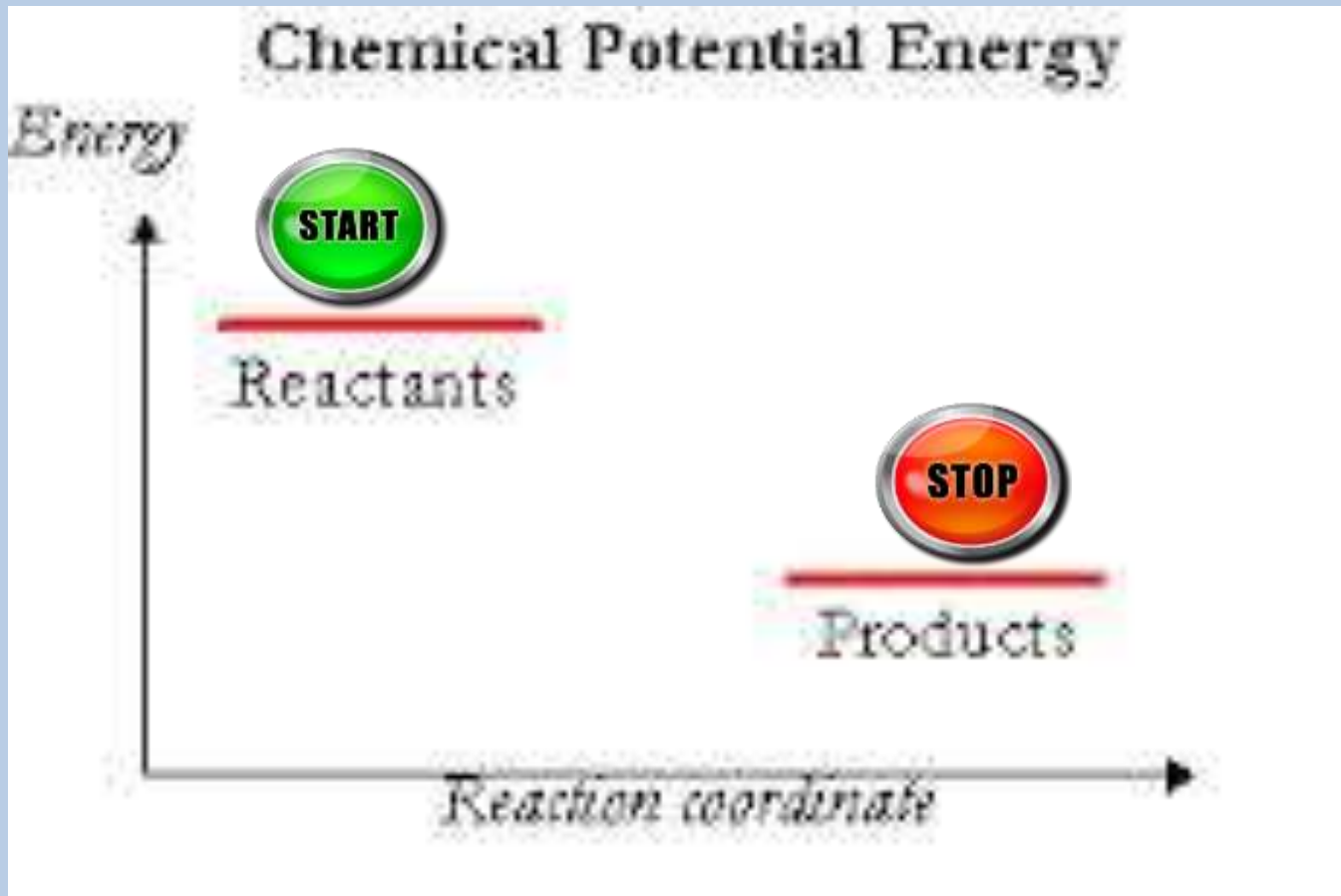
- **What you need to know:**
 - 1. Enzymes are proteins**
 - 2. Structure determines function**

Enzymes



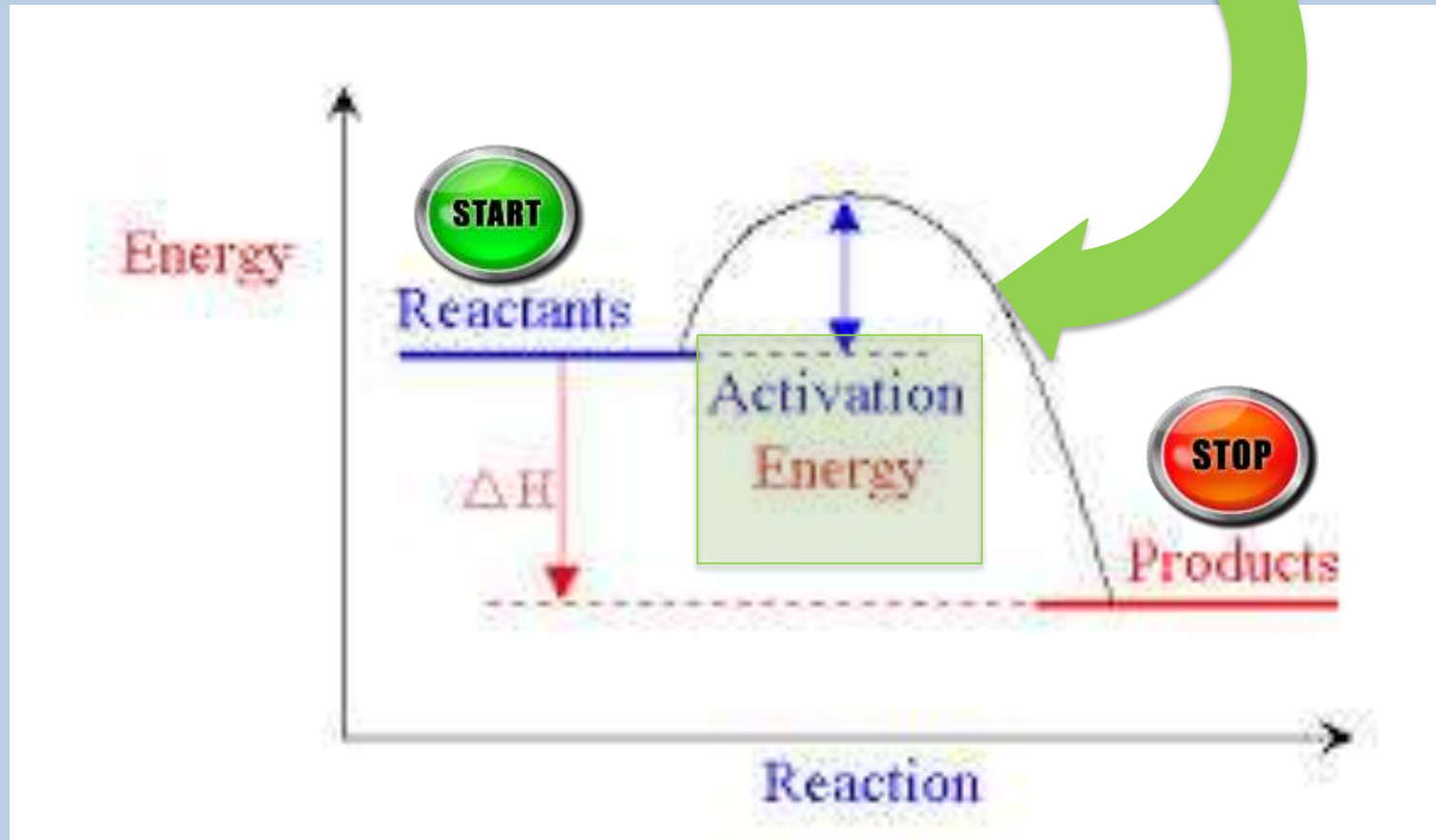
Enzymes

- If we graphed this:



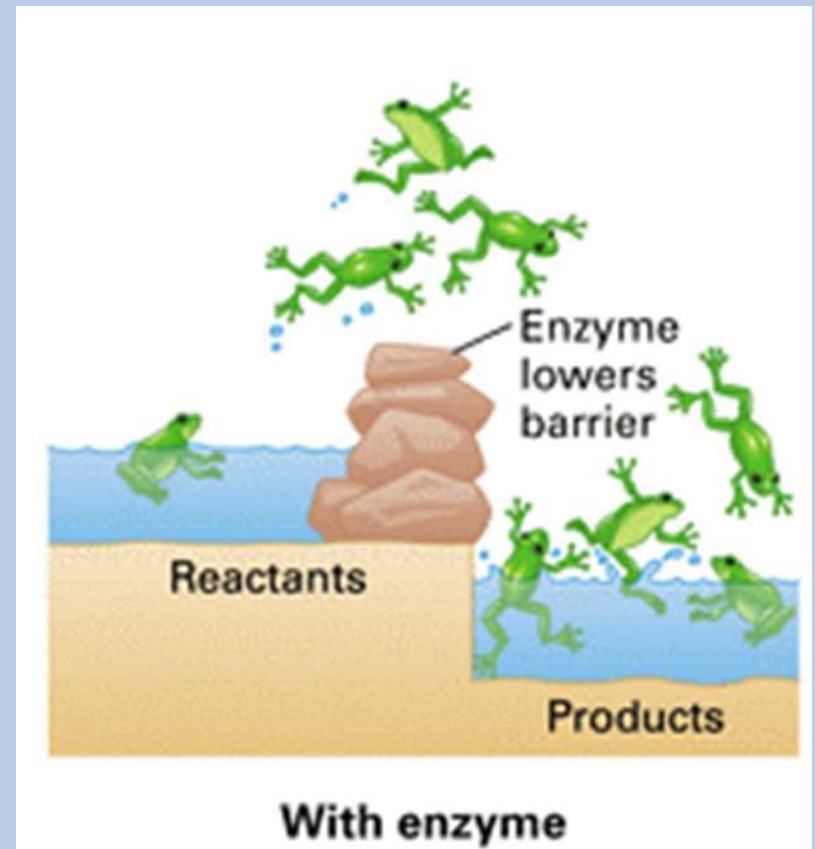
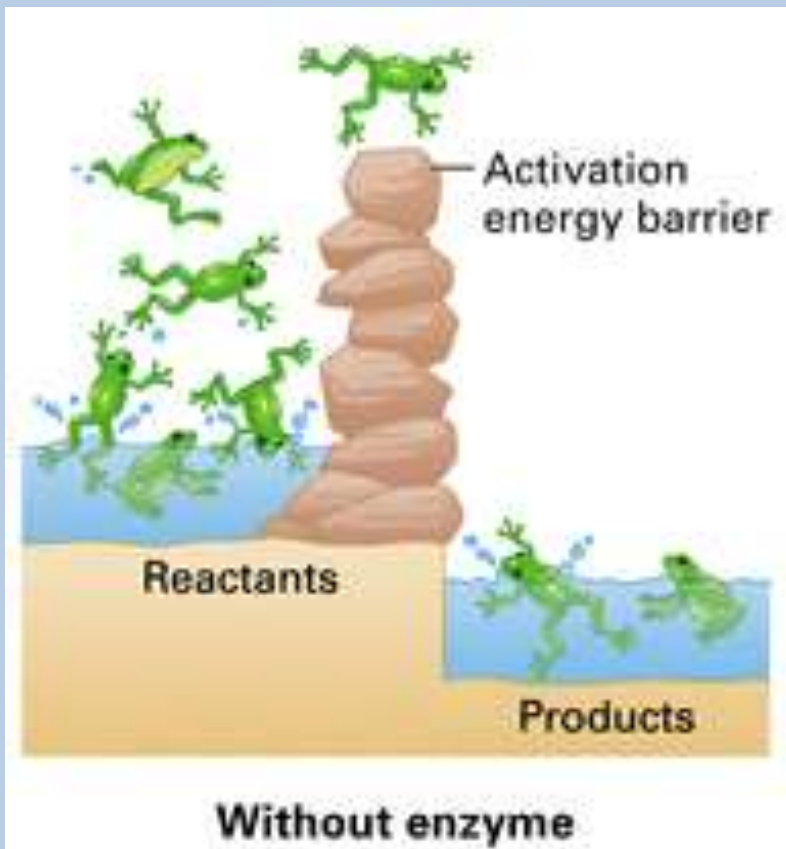
Enzymes

- There will always be a “hill” after reactants



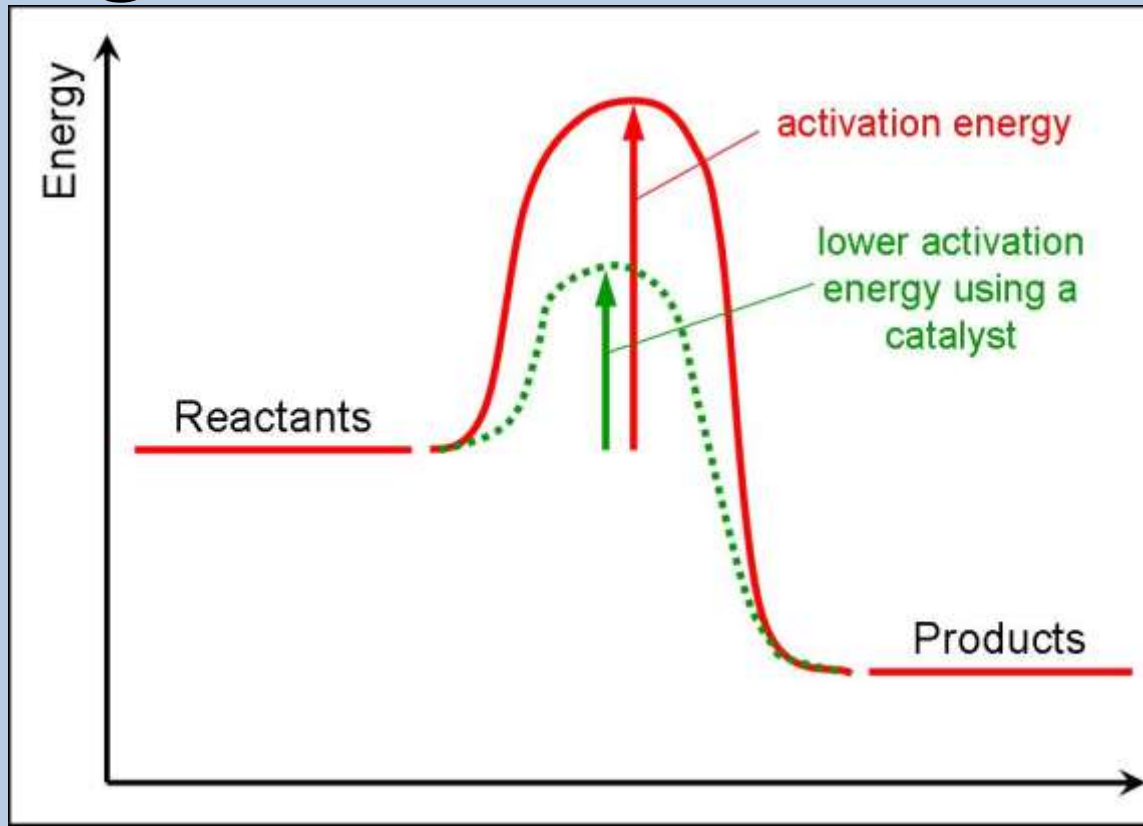
Enzymes

- Enzymes make reactions happen **FASTER** by lowering this hump

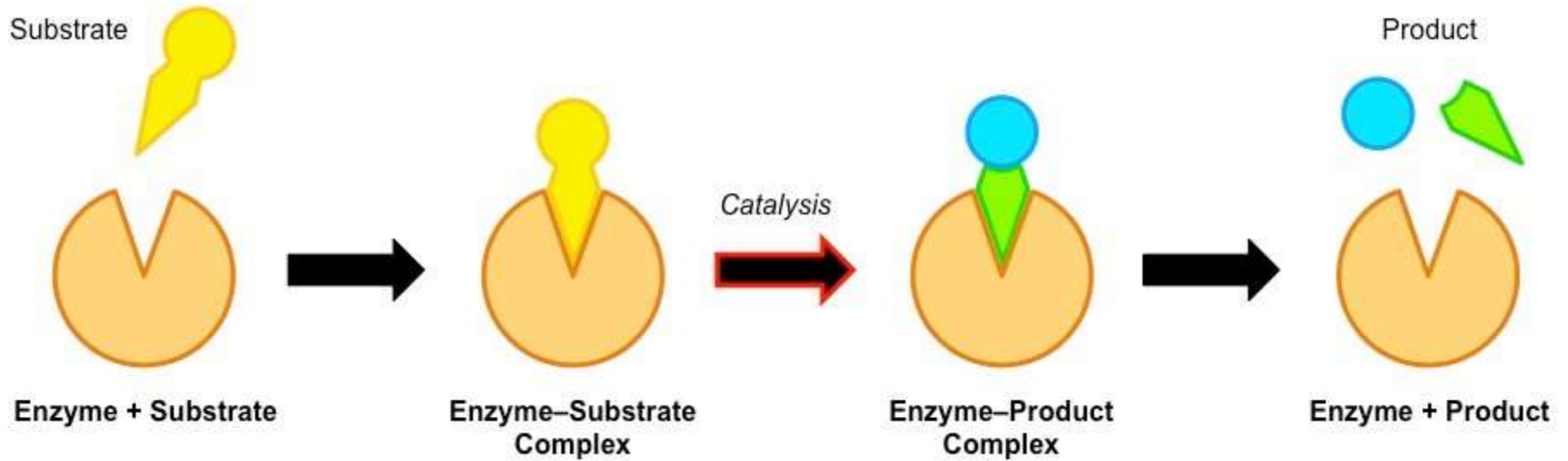


Enzymes

- Enzymes make reactions happen **FASTER** by lowering the activation energy



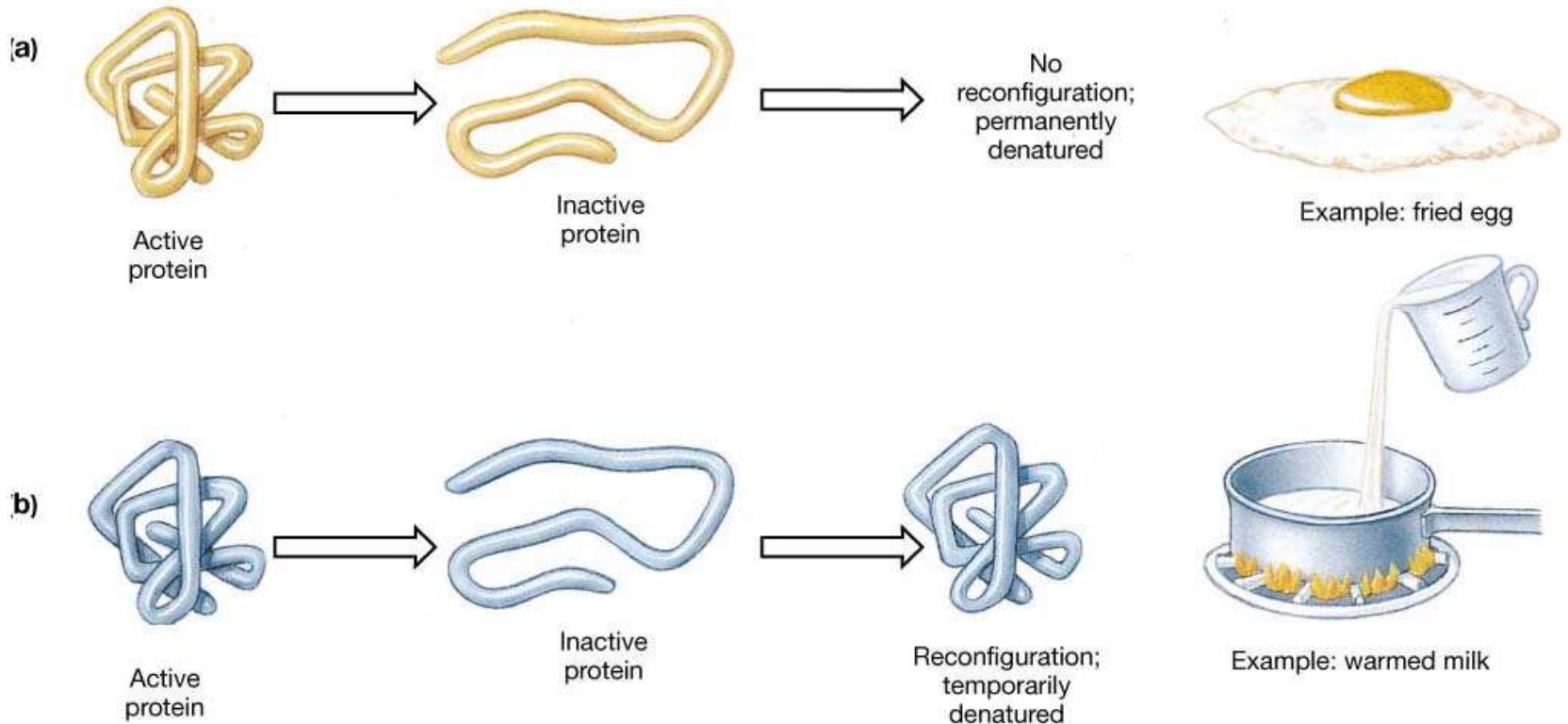
Enzymes



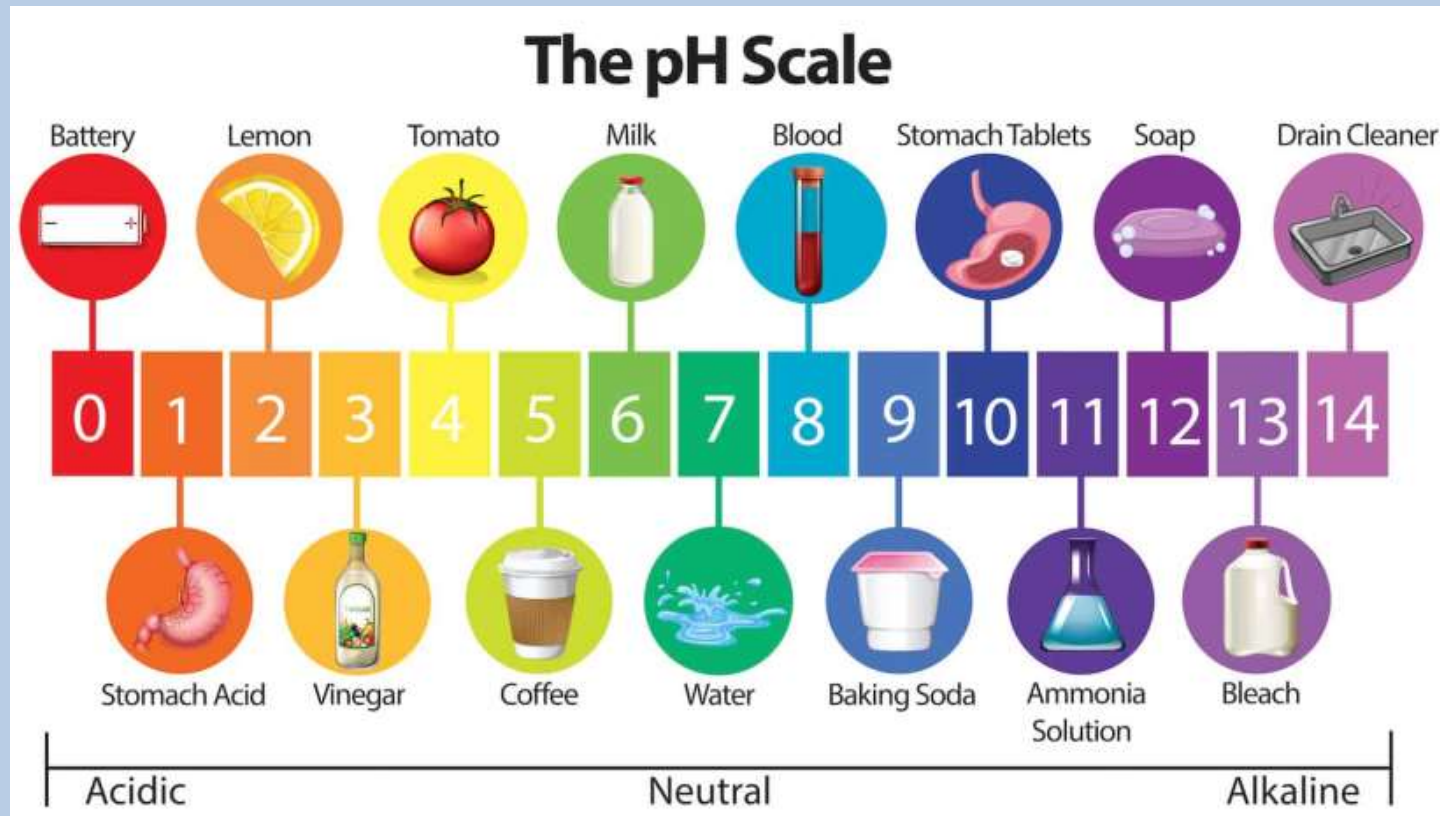
Enzymes – CHECK-IN

- **What you need to know:**
 - **1. Enzymes make reactions happen faster by lowering the activation energy**
 - **2. They only work when they are in the right shape**

Denatured Proteins



Denatured Proteins



Enzymes

- Every person is an enzyme
- “Toothpickase”
- What is your function?

Enzymes

- **Break a toothpick with your non-dominant hand**

Enzymes

- **Ice your non-dominant hand for 30 seconds**
- **Break a toothpick with your non-dominant hand**

Enzymes

- **Tape your non-dominant fingers together (be sparing with the tape)**
- **Break a toothpick with your non-dominant hand**

Enzymes

- **Ice your taped hand for 30 seconds**
- **Break a toothpick with your taped and iced non-dominant hand**

Enzymes

- Why is it dangerous for humans to have a high fever?

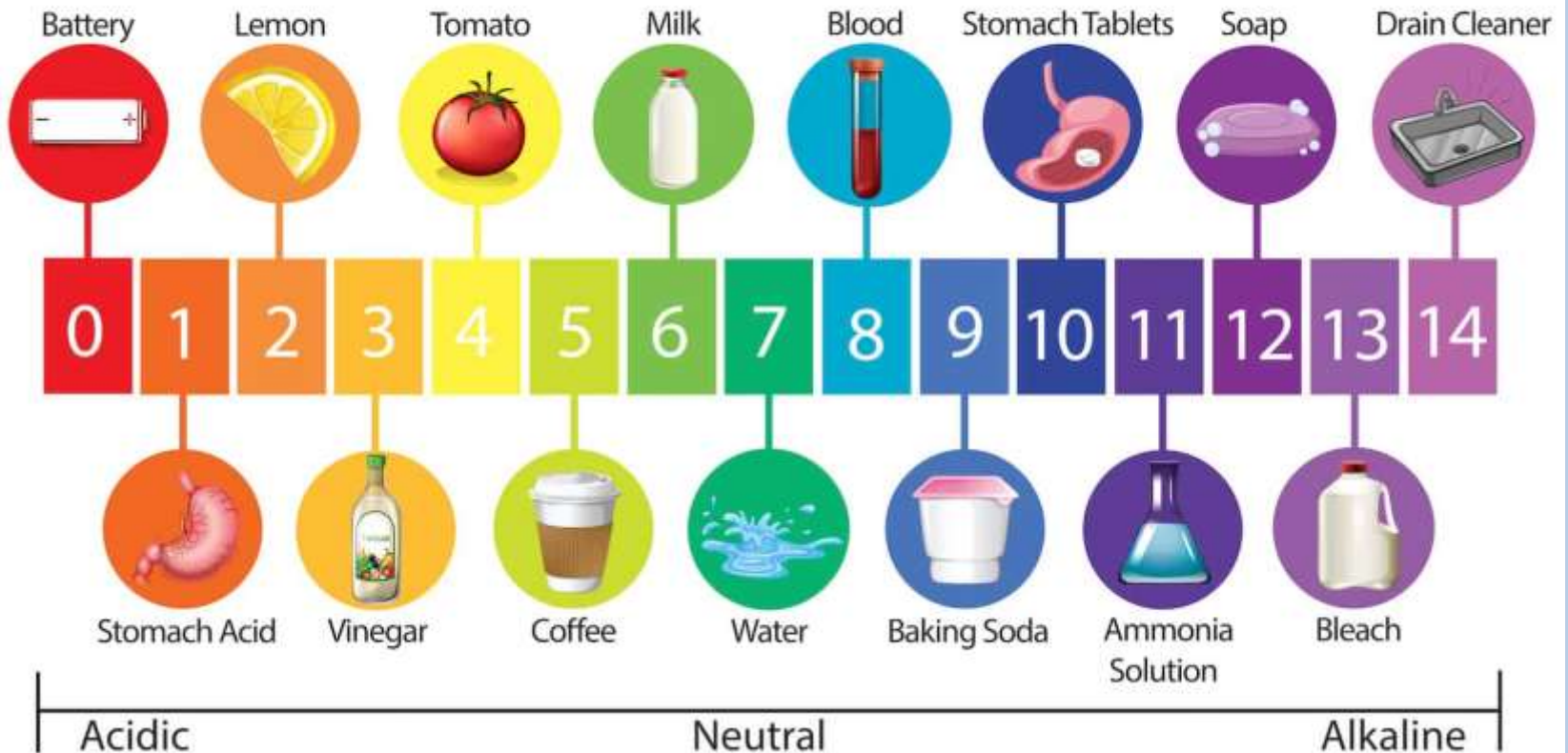


Enzymes

- **If we put amylase into the stomach to help break down food what would happen?**

Enzymes

The pH Scale



Enzymes – CHECK-IN

- **What you need to know:**
 - 1. Enzymes make reactions happen faster by lowering the activation energy
 - 2. They only work when they are in the right shape and at the right temperature

Enzymes – CHECK-IN

- Review objectives 14-15 in your journals.
- *Ask for help!*

Enzymes in Action

