**Chemical & Mechanical Digestion**

(Outcome 24)

Name: Date:

**Mechanical Digestion**

* - the physical breakdown of large pieces of food into smaller ones
* Begins with chewing 🡪 in the

🡪 muscles contract

🡪 churn and mix stomach fluids and food

🡪 produces

* 1-2 hours later 🡪 pyloric valve (between stomach and small intestine) opens and flows into small intestine

**Chemical Digestion**

* – the secretion of enzymes throughout the digestive system aiding in the breakdown of food
* Begins as you chew your food in

***Question:*** *do you remember what this enzyme is called?*

* 🡪 contains  **–** break down starches and release sugars
* Lining 🡪 contains many glands that release several substances:
  + Mucus – coats and protects the walls
  + Hydrochloric Acid – makes the contents of the stomach very
  + Pepsin – activated by , beginning the digestion of protein
  + The combo or pepsin and hydrochloric acid begins the process of digestion

**Knowing Your Enzymes**

|  |  |  |
| --- | --- | --- |
| **Active site** | **Enzyme** | **Effect on food** |
| Mouth |  | Breaks down starches |
| Stomach |  | Breaks down proteins |
| Small intestine (from pancreas) |  | Continues the breakdown of starches |
|  | Continues the breakdown of proteins |
|  | Breaks down fats |
| Small intestine | Maltase, sucrase, lactase | Breaks down remaining molecules into smaller molecules |
| Peptidase | Breaks down peptides (proteins) into amino acids |

**What Organ Does What?**

* Mouth
* Esophagus
* Stomach
* Pancreas
* Liver
* Gallbladder
* Small Intestine
* Large Intestine (colon)

**Connection to Homeostasis**

*What would happen if your digestive system did not function properly?*



*How would homeostasis be affected?*



**It’s Time to Eat Your Cracker**

What happened…

…at the beginning

…in the middle

…at the end