

DIGESTIVE SYSTEM: MOUTH TO STOMACH

Describe the role each part plays in the digestive system, and then label the location on the diagram on the back of this worksheet. Include details (ex: **enzymes, pH, macromolecules being digested**) where appropriate.

| Part | Structural Features | Function(s) |
|---------------------|---|---|
| MOUTH | Oral cavity containing teeth, tongue, palate, and salivary glands. Bound externally by lips and cheeks. | Receives food and starts digestion (of starch), holds the tongue, teeth and salivary glands |
| Tongue | Large muscle inside lower jaw that is coated with sensory receptors (tastebuds) | Pushes food around so that it can be chewed (mechanical) and mixed with saliva (chemical) |
| Teeth | 32 adult teeth (incisors, canine, premolars & molars) with outer coating of hard enamel that protects bone-like dentine and pulp. | Grinds, breaks down food (mechanical digestion) |
| Salivary Glands | 3 glands (cheeks, lower jaw, and under tongue) responsible for secreting saliva. | Releases saliva (mucus, bicarbonate & salivary amylase) to start chemical digestion of carbohydrates |
| Pharynx | Area at back of mouth where nasal cavity and mouth connect | Pathway for food and air – joins mouth to esophagus |
| Epiglottis | Small flap of tissue that sits above the windpipe & esophagus | Blocks the entrance to the trachea when you swallow |
| Esophagus | Muscular tube that connects pharynx to stomach. Ends in cardiac “sphincter” | Moves bolus from the mouth to the stomach by peristalsis (muscle contractions). |
| Cardiac “Sphincter” | Sphincter-like muscular opening that connects esophagus to stomach | A muscle that allows food to enter the stomach and prevent stomach acid from going up into the esophagus |
| Stomach | Large muscular sac (3 layers of muscle) with deep folds (rugae) that can expand to hold up to 4L of volume. | Mixes food with gastric juices (contains mucus, pepsinogen and acid) to produce chyme, has a pH of 2 – both chemical and mechanical digestion |
| Pyloric Sphincter | Sphincter muscle that regulates the passage of chyme into the small intestine. | A muscle that opens and closes to let small amounts of chyme into the duodenum (the start of the small intestine) |

Describe the Process of Swallowing:

1. Bolus touches pharynx, stimulates autonomic nervous response (reflex)
2. Uvula moves back & up to cover opening to nasopharynx
3. Breathing stops as the epiglottis covers the glottis
4. Food enters the esophagus

Label the following diagram using the words listed below:

~~ANUS~~
~~CARDIAC "SPHINCTER"~~
~~EPIGLOTTIS~~
~~ESOPHAGUS~~
~~GALL BLADDER~~

~~LARGE INTESTINE~~
~~LIVER~~
~~MOUTH~~
~~PANCREAS~~
~~PHARYNX~~

~~PYLORIC SPHINCTER~~
~~RECTUM~~
~~SALIVARY GLANDS~~
~~SMALL INTESTINE~~
~~STOMACH~~

~~TEETH~~
~~TONGUE~~

