I. Digestion as a part of nutrition
   A. Importance of digestion and nutrition - ENERGY & METABOLISM
   B. Nutrition: The total process involved in the absorption and utilization of foods and food accessories
      1. Intake
      2. Digestion
      3. Absorption
      4. Utilization
   C. Four main functions of digestive systems
      1. Motility - mechanical breakdown, mixing of ingested foods, passage, and elimination
      2. Secretion - release of enzymes, hormones, and other substances
      3. Digestion - chemical reduction of ingested materials to units small enough to cross the lining of the gut
      4. Absorption - passage of nutrients from the gut into the blood or lymph

II. Parts of the digestive system - "MESSI LIRA"
   A. Mouth - food (hopefully) enters here and undergoes mechanical reduction
   B. Esophagus - muscular tube leading to the stomach
   C. Stomach - muscular sac
      1. Stores and mixes food
      2. Secretes substances - HCl, pepsinogens, and mucus
      3. Controls rate of entrance into small intestine
   D. Small Intestine - location where most nutrients are absorbed (as monosaccharides)
      1. Duodenum, jejunum, and ileum
   E. Large Intestine - stores and concentrates the feces
   F. Rectum - portion of large intestine extending from the LI to the anal canal
   G. Anus - terminal opening of the gut - - - POOP

III. Enzymes of digestion (where) - function (most break down foods)
   A. Salivary amylase (mouth) - polysaccharides
   B. Pepsin (stomach mucosa) - proteins
   C. Trypsin & chymotrypsin (pancreas) - proteins & polypeptides
   D. Peptidases (pancreas & SI) - peptide fragments
   E. Lipases (pancreas) - fats

IV. Control of digestion - hormones (insulin & glucagon)
   A. Insulin takes blood sugar and "puts it to work" in cells
   B. Glucagon enables release of sugar into the blood stream