**Chapter 15 Study Guide: Taste**

* Key terms:
  + Tastant: any stimulus that can be tasted.
  + taste bud: globular clusters of cells that have the function of creating the neural signals conveyed to the brain by taste nerves. Some of the cells in the taste bud have specialized sites on their apical projections that interact with taste stimuli. Some of the cells form synapses with taste nerve fibers.
  + flavor: the combination of true taste (sweet, salty, sour, bitter) and retronasal olfaction.
  + retronasal olfactory: the sensation of an odor that is perceived when chewing and swallowing force an odorant in the mouth up behind the palate into the nose. Such odor sensations are perceived as originating from the mouth, even though the actual contact of odorant and receptor occurs at the olfactory mucosa.
  + gustatory system: taste.
  + cross-modality matching: the ability to match the intensities of sensations that come from different sensory modalities. This ability enables insight into sensory differences. To the average nontaster of PTC/PROP, for example, the bitterness of black coffee roughly matches the pain of a mild headache; for a super taster, the bitterness of black coffee roughly matches the pain of a severe headache.
* Understand the process of how food is tasted/perceived starting when you chew up the food to where in the brain the neural signal is received:
  + Chewing breaks down food into molecules, dissolved in saliva, saliva-borne food molecules flow into a taste pore that leads to the taste buds embedded in structures called papillae that cover the tongue. Each taste bud contains a number of taste receptor cells which responds to a limited number of molecule types. This will produce action potentials that send information along a cranial nerve to the brain for processing.
    - Processing in insular and orbitofrontal cortex’s. chorda tympani is nerve that carries signals to the brain. Medulla🡪 thalamus🡪 insula cortex🡪orbitofrontal cortex
* Theories related to taste:
  + All taste receptors are in all different parts of the tongue.
  + Taste is the addition of senses not the combination.
* What happens when you anesthetize the chorda tympani?
  + If the left chorda tympani is anesthetized with lidocaine the subjects reported that the taste is only coming from the right side of the mouth.
* Know the taste qualities and what specific thing produces them (i.e. H+)
  + **Salty**: Na+; **Sweet**: Glucose; **Sour**:H+; **Bitter**: Quinine; **Umami**: Glutamate
* Know the purpose of the different types of papillae
  + Filiform: most common, front 2/3rds of the tongue. No taste buds, abrasive texture.
  + Fungiform: front of your tongue. Average 6 taste buds per papillae. Dense on edges of tongue
  + Foliate: folds of tissue containing taste buds. Foliate papillae are located on the rear of the tongue lateral to the circumvallate papillae, where the tongue attaches to the mouth.
  + Circumvallate: inverted V at back of tongue. 3 to 5 on each side. Circumvallate papillae are out like structures surrounded by a trench. Papillae are much larger than fungi form papillae.
* Social influence on flavor
* PROP/PTC, Thiourea, Sodium Benzoate (the experiment we did in class): and genetics and taste slide on PowerPoint.