



Hands-on Neuroscience Activity 5

Topic and Learning Objective:

I will be going over the importance of taste and touch in their everyday lives. I will connect this by allowing them to map out their tasting abilities. We will discuss what a supertaster, a non-taster and a taster are to see where their brain plays into this. The touch board will go over the different types of textures that you feel every day and we will connect receptors that are responsible for transmitting this information to your brain.

Alignment with NGSS Grades 3-5

Disciplinary Core Ideas

LS1.A: Structure and Function

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)

Crosscutting Concepts

Cause and Effect

- Cause and effect relationships are routinely identified. (4-PS4-2)

Systems and System Models

- A system can be described in terms of its components and their interactions. (4-LS1-1),(4-LS1-2)

Materials:

Good Construction paper, string, feathers, sand paper, pearl stickers, rice (Touch Board), lemon juice, salt, sugar, tonic water, 4 different cups, a lot of toothpicks, a coloring picture of a tongue to color their tongue map in

Detailed Description

I will have a quiz to start to get them associated with the terminology. We will be doing two

v.12.2015



Elementary Institute of Science

activities to demonstrate the importance of our taste and touch. The first we will be creating a touch board with the grainy feel, the smooth feel, the rough feel, and the soft feel. I will have them construct this on heavy duty construction paper. Connecting the feelings they have on their paper to the sensory receptors they have on their fingertips to their brain, I will inform them of how this transition happens.

After we do the touch board I will go over taste with them. I will start by giving them each a PTC strip which will test whether they are super tasters, non-tasters or just tasters. This will get them thinking about their taste maps on their tongues. Next we will continue on with taste by sampling lemon water, salt water, sugar water, and tonic water to map our own tongues taste sensitivity. I will draw into the connections in your brain that alert reactions on your tongue. We will color our taste maps on a tongue!

How will you conclude the lesson to enforce the learning objective?

I will go over each touch map and make sure they have the name of the receptors next to each type of feeling. I will also go over the tongue maps for their tasting abilities to reinforce what type of tasters they all are.

What science process skills will this lesson exercise?

Trial and error as well as critical thinking.

Safety precautions:

Using lemon, salt, sugar and tonic water.