Answers to Structured Worksheet

Okay, take a deep breath through your nose. It's your **sense of smell** *and it's breathtakingly powerful*

(0:20). As an adult, you can distinguish about **10,000** different smells.

(023) **95%** *of your nasal cavity is used just to filer that air before it hits your lungs.*

(0:31). *But at the very back of your nose is a region called the* **olfactory epithelium.**

(0:36). A little patch of skin that's key to everything you smell. The olfactory epithelium has a layer of olfactory **receptor cells**,

(0:43) *special neurons that sense smells, like the taste buds of your nose. When order molecules hit the back of your nose, they get stuck in a layer of mucus covering the* **olfactory epithelium.**

(0:50). As they dissolve, they bind to the olfactory receptor cells, which fire and send signals through the olfactory tract up to your brain.

It turns out that your brain has **40** million different olfactory receptor **neurons**, (1:22)

But smell, because it evolved before most of your other senses, takes a direct route to these different regions of the brain, where it can trigger your fight-or-fight response, help you recall **memories** or make your mouth water (2:14).

The inability to smell a scent is called **Anosmia**, (2:56) and there are about **100** known examples.

(3:35) *It turns out that how something* **tastes** *is closely related to how it smells.*

Reflection Questions:
Please answer the following questions:

1. How many times bigger is a dog's olfactory epithelium than a human one? Look at: 1:07 in the video. **20 times.**

2. How many different olfactory receptor neurons does the human brain have? Look at 1:22 in the video. **40 million**

3. What is the only neuron in the body that gets replaced regularly, every four to eight weeks) (1:46) **Olfactory Neurons.**

4. What is one example of Anosmia? Look at 3:00 in the video.

Someone that can't taste garlic or cloves.

5. How does smell influence how you taste food? Look at 3:35

As you chew your food, air is pushed up your nasal passage, carrying with it the smell of your food.