



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.

(0:23) 95% of your nasal cavity is used just to filter 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-flight 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.