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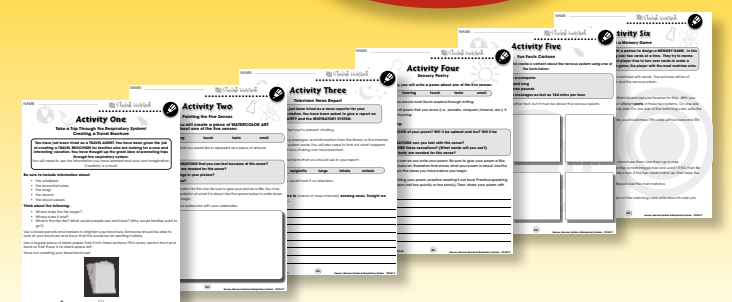
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The Senses of Taste and Smell

1. Use a dictionary to find the meaning of each of these words. Then write each word in a **sentence** that shows its meaning.

- bitter** _____
- bud** _____
- cavity** _____
- float** _____
- chemical** _____

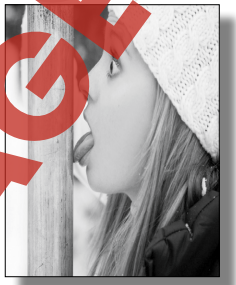
2. **Scents (smells)** and **tastes** can be lots of fun. List your all-time favorites below.

My Top Ten Favorite Smells of All Time!	My Top Ten Favorite Tastes of All Time!
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.



The Senses of Taste and Smell

Taste and smell are very important senses. Bad or unpleasant tastes can warn us that food is rotten. The smell of smoke tells us to look for fire. Taste and smell are not the same thing, but they are connected to each other. Did you know that if a person has no sense of smell they cannot taste many foods either? You can try this for yourself. Eat a piece of raw apple and then a piece of raw potato. Hold your nose shut when eating both. Believe it or not, the apple and the potato will taste the same without the help of the sense of smell!



How Are Taste and Smell Linked?

Scientists know we taste things through small lumps of sensing tissue called **taste buds**. Taste buds are located on the **tongue** and at the back of the mouth. These buds can taste one of four different tastes - **sweet, sour, bitter** and **salty**. The average adult has over 10,000 taste buds!



What are the four different tastes our taste buds can sense?

Scientists don't understand everything about how our sense of smell works. But they do know that we smell with **receptors** in our **nasal cavity**. The nasal cavity is the space in our head behind our nose. These receptors are connected directly to our brain and send messages there.

Smell and taste can work together because our mouth and nasal cavity are **connected** inside our head. When we eat, very small **particles** of food, or the **chemicals** in food, mix with the air inside our mouth. They float up into our nasal cavity and over our **scent** receptors. Our brain puts together the messages from our nose and our mouth to tell us what something tastes like.



The Senses of Taste and Smell

1. **Circle T** if the statement is **TRUE** or **F** if it is **FALSE**.

- T F** a) We have 1,000 taste buds in our mouth.
- T F** b) We can taste salty, sweet, bitter and juicy.
- T F** c) The sense of smell is not well understood by scientists.
- T F** d) Bad tastes and smells can tell us if we are in danger.
- T F** e) The taste buds in our brain work with the ones in our mouth.
- T F** f) Smell and taste are very different and do not work together at all.
- T F** g) The receptors in the nasal cavity link to the brain.
- T F** h) Our taste buds notice six different tastes.
- T F** i) People who have no sense of smell cannot taste very well.

2. Fill in each blank with a term from the list. Two terms will be left over.

- | | | | | |
|------------|--------|--------------|-------|--------|
| bottom | four | nasal cavity | mouth | bitter |
| taste buds | salty | back | brain | sweet |
| connected | tongue | particles | sour | |

We taste things through small lumps of sensing tissue called _____. These are located on the _____ and at the _____ of the mouth. They can sense _____ different tastes. These include _____, _____, _____ and _____. Smell and taste are different but _____. This is because our _____ connects both our nose and mouth. When we chew, _____ from our food float up to our scent receptors. The message then goes to our _____.



The Senses of Taste and Smell

- 3. Why would it be important for a fire fighter to have a good sense of smell?

- 4. Why do you think medicines for children sometimes taste good?

- 5. What happens to your sense of taste when you have a very stuffy nose?

Extension & Application

- 6. **Imagine you have traveled to another planet.** On this planet you meet friendly aliens who love to eat. They love to eat so much that there are different kinds of restaurants everywhere you look! You choose one restaurant to try out. Write a **short story** about your experience at this restaurant. Be sure to describe the food that is served. What does it **taste** like? How does it **smell**? Use as many describing words in your story as you can. You will need to give your planet and the restaurant a name. Be creative!
- 7. **Think of a country that you would like to visit someday.** (It cannot be the country in which you live.) Research the food from this country. What do the people there eat? How do they prepare their food? Create a menu for a day's worth of food. Include the foods you think would be the best tasting and best smelling. You will need to include foods for breakfast, lunch and dinner.



How Much Air?

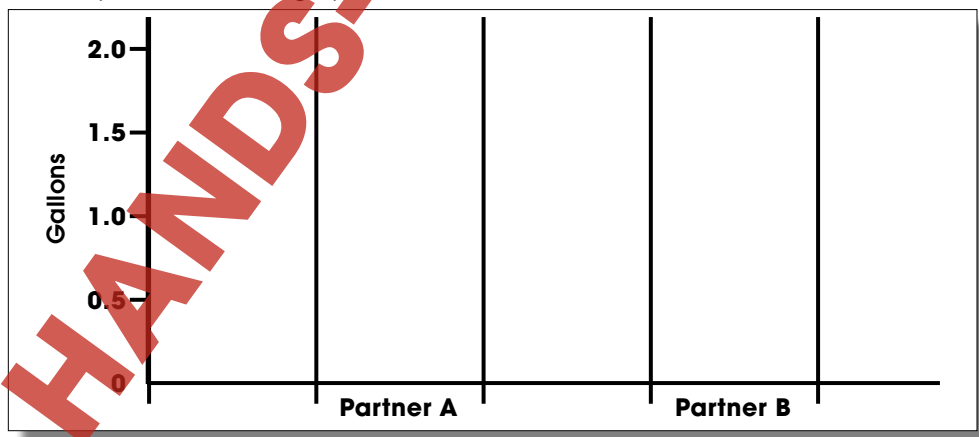
We have learned that when you **INHALE**, your lungs fill with air, and that when you **EXHALE**, air is pushed out of your lungs. This activity will show you how much air your lungs can hold.

Work with a partner.

FOR THIS ACTIVITY, you will need: • a shallow tub • a 2-gallon pop bottle, filled with water • a flexible tube • a marker

STEPS:

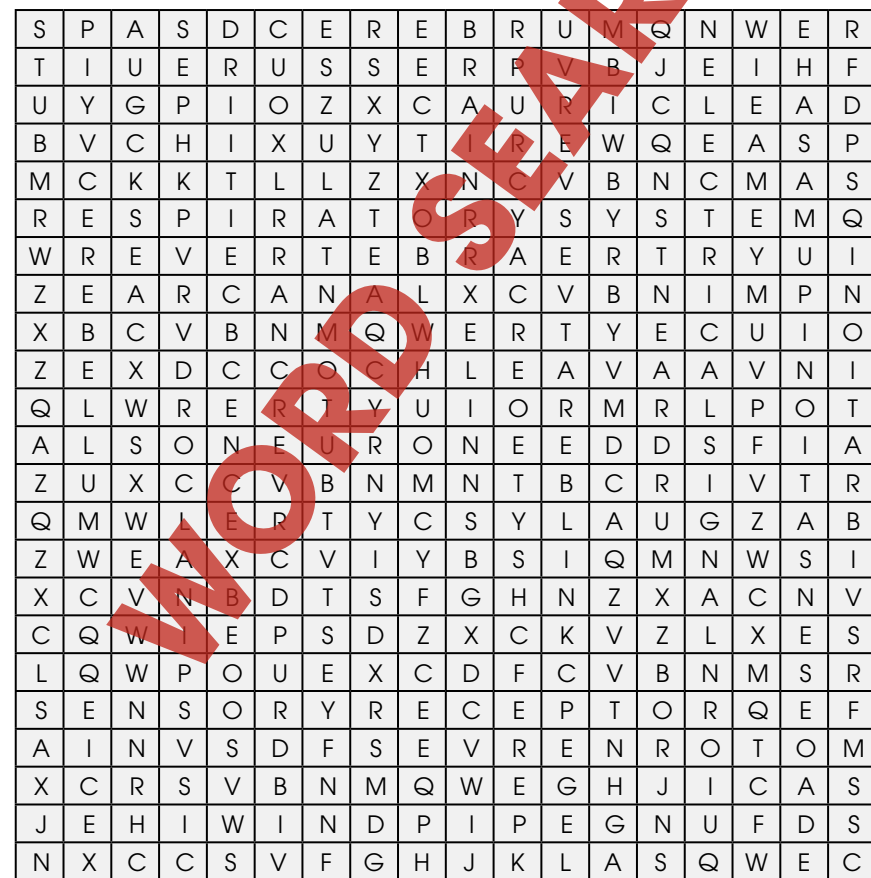
- Set up your materials as follows. (Your teacher may do this for you.)
 - Make sure the bottle is filled up with water so there is no air in it.
 - Put one end of the tube in the bottle of water.
 - Partner A holds the bottle right-side up over the tub. (No water should fall out if you hold it up straight.)
 - Partner B holds onto the other end of the tube.
- Partner B takes a deep breath in, and then blows into the tube. Keep blowing into the tube until you have run out of air. (As you do this, you will see water coming out of the bottle. The air pushes the water out.)
- The air that you will see inside the bottle is the air that was in your lungs. We call this your **lung capacity**. With your marker, put a small line on the bottle where the water begins.
- Switch roles and repeat Steps 1 to 3.
- Record your results on a graph like the one below.



Word Search

Find all of the words in the Word Search. Words are written horizontally, vertically, or diagonally, and some are even written backwards.

- | | | | |
|--------------------|-------------|------------------|-----------|
| nervous system | lens | motor nerves | vibration |
| retina | cerebellum | brain | ear canal |
| electrical signal | windpipe | cochlea | blink |
| respiratory system | optic nerve | iris | auricle |
| pupil | vertebrae | spinal cord | pressure |
| cerebrum | neuron | sensory receptor | pain |
| sight | eardrum | focus | sensation |



Part C

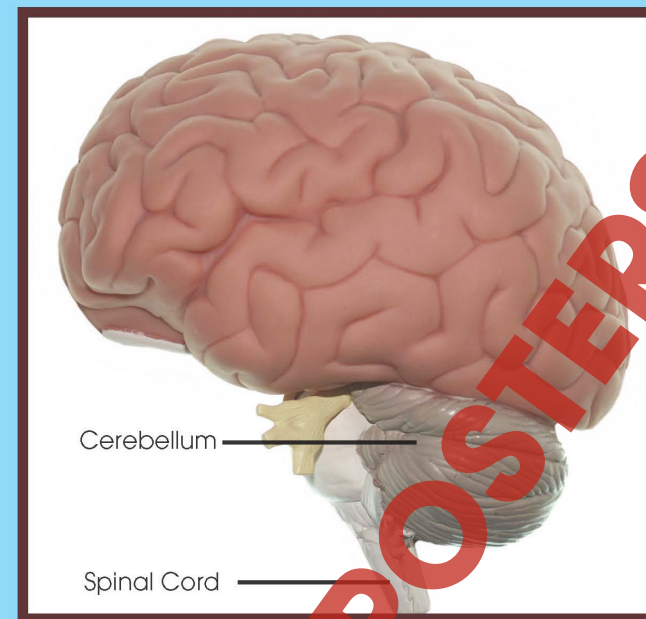
Comprehension Quiz

Answer each question in complete sentences.

- Name the **three** main parts of the **nervous system**. Describe what each part does. 6
- Name **one** part of the **brain**. Describe where it is in the brain, and one main job it has. 3
- Name **one** of the two kinds of **nerves** in the human body. Describe what they do in the body. 2
- Describe what happens with **oxygen** and **carbon dioxide** in the respiratory system. Use the terms **inhale**, **exhale**, **lungs** and **bloodstream** in your answer. 4
- Describe how our body feels **pain**. Use the terms **skin**, **sensory receptors**, **message** and **brain** in your answer. Why is it important that we can feel pain? 3

SUBTOTAL: /18

Parts of the Brain



NAME: _____

After You Read 



The Senses of Taste and Smell

3. Why would it be important for a fire fighter to have a good sense of **smell**?

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3.

To help sense smoke (and thus the flames/fire)

Answers will vary

11

4.

Because if they were unpleasant children would not want to take them

5.

It gets weaker

Answers will vary

12

6.

Answers will vary

Answers will vary

13

7.

Answers will vary

Answers will vary

10

14



EASY MARKING ANSWER KEY