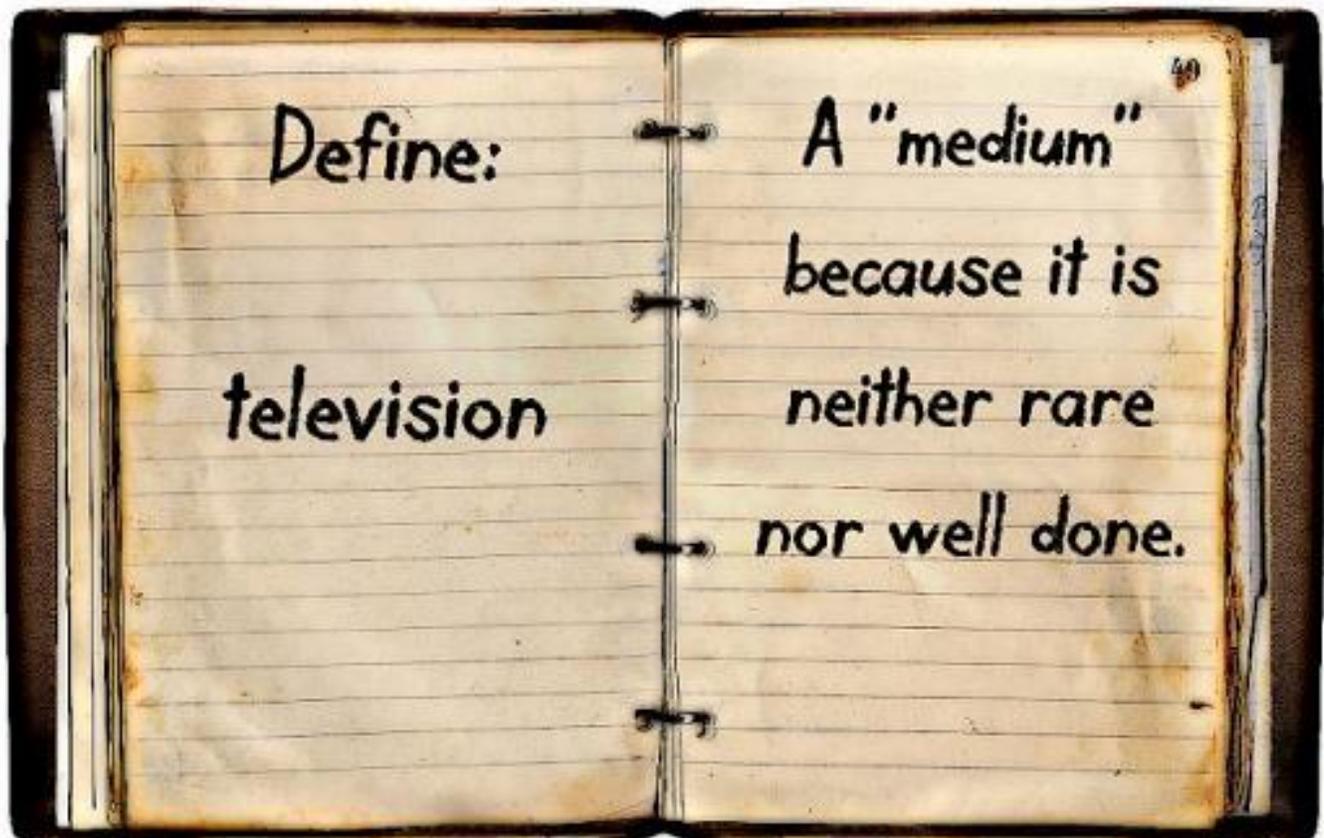


# Chapter 21

## Taste and Smell



Define:

television

A "medium"

because it is

neither rare

nor well done.

# Day One:

Today, you and your child will:

1. Read the text
2. Review the text with your child
3. Complete the student worksheets
4. Collect the materials you will need for days two and three

## National Science Education Standards covered this week:

The behavior of individual organisms is influenced by internal cues (such as hunger) and by external cues (such as a change in the environment). Humans and other organisms have senses that help them detect internal and external cues.

Taste and smell are two of our external senses as they relay information to us from the environment. These two senses are closely connected. Without your sense of smell, it is not possible to fully taste anything at all.

# Definitions

<b>External senses</b>	feelings that give us information about what is going on outside of our body
<b>Sense organ</b>	organs such as eyes, ears and skin that are used to collect information outside of our body
<b>Brain</b>	an organ that controls what your body does
<b>Mucus</b>	"mew-cus"; a slimy, sticky goo
<b>Taste buds</b>	parts of the tongue that are used for the sense of taste
<b>Saliva</b>	a liquid created in your mouth

## Sample questions to ask your child after completing the weekly reading.

**Where do the sense organs send their messages to?**

All sense organs send messages to the brain.

**What filters the air you breathe?**

As air enters your nose, your nose hair and mucus traps anything that is being carried by the air (i.e. dirt, pollen, bacteria, smoke particles, etc.)

**What two sense organs work together to give you your sense of taste?**

Your nose and tongue.

# Answers to worksheet questions:

## Page 1:

"What are sense organs and what do they do?"

*Sense organs send messages to your brain which are used to give us our external senses.*

## Page 2:

5 - external senses

3 - sense organs

1 - brain

2 - mucus

6 - taste buds

4 - saliva

## Page 3:

"Look into the mirror and draw a picture of your own face! Label all of the sense organs you can find!"

*Answers will vary*

# Day Two:

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

**The following text will give you the most important items to review for your activity today.**

The sense of smell and of taste are directly linked to each other.

The flavors our brain recognizes cannot be determined without the use of our nose. This is why you cannot taste food very well when you have a cold.

# The nose knows...

## Objective:

Children will explore how the senses of taste and smell are connected.

## Materials:

several hard candies of different flavors (lollipops will work too)

glass of water

blindfold (optional)

## Procedure:

Remind the child that his/her tongue can tell the difference between food that is salty, sweet, sour and bitter. However, some of these senses can be confused if you cannot use your senses of sight and smell.

Instruct the child to close their eyes (or use a blindfold) so that they cannot see the candy they are going to eat.

Have the child pinch their nose.

Unwrap one candy out of the wrapper and have the child put it in their mouth.

Ask the child to describe what they are sensing. Have them predict what flavor of candy they have in their mouth. Write this down on the data chart.

Instruct the child to stop pinching their nose and state what flavor they have in their mouth. Write this down on the data chart.

Remove the candy and have the child rinse out their mouth with some water.

Repeat this experiment with a different candy.

## Explanation:

The child is not likely to identify the flavor of the candy when it is first put in his/her mouth. However, they should be able to recognize a sensation of sweetness or sourness or both. After opening their noses, most people can easily identify the flavor. Taste and smell are connected. Odors that pass from the mouth to the nose are detected and become a part of a food's flavor.

# The nose knows... Data chart

True flavor of the candy	Prediction

# Day Three: Lab Activity

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

**The following text will give you the most important items to review for your activity today.**

The human tongue contains thousands of nerve endings. Each one can only code for a single sensation of salty, bitter, sweet or sour.

The nerve endings for each of these flavors are grouped together in particular areas on the tongue.

# Mapping your tongue

## Objective:

Children will explore what parts of their tongue are sensitive to certain flavors.

## Materials:

several cotton swabs

several kinds of liquid samples for each of the four flavors (i.e. Vinegar = sour, Strong coffee = bitter, Syrup = sweet and Salt water = salty)

glass of water

blank map of the tongue data sheet (see attached)

## Procedure:

Instruct the child that you will be placing a small amount of liquid on different parts of their tongue with a cotton swab. They are to inform you what they can taste each time (sour, sweet, bitter or salty).

You may only touch their tongue with the cotton swab one time before having them rinse their mouth with water.

Ask the child to close their eyes.

Dip one swab into a liquid and place it on Area #1 (from the Blank Map) on the child's tongue. Have them state what flavor they can taste and record it on the data sheet.

Rinse their mouths with water and repeat this procedure for Areas #2-4.

When this is completed, repeat this procedure with another flavor.

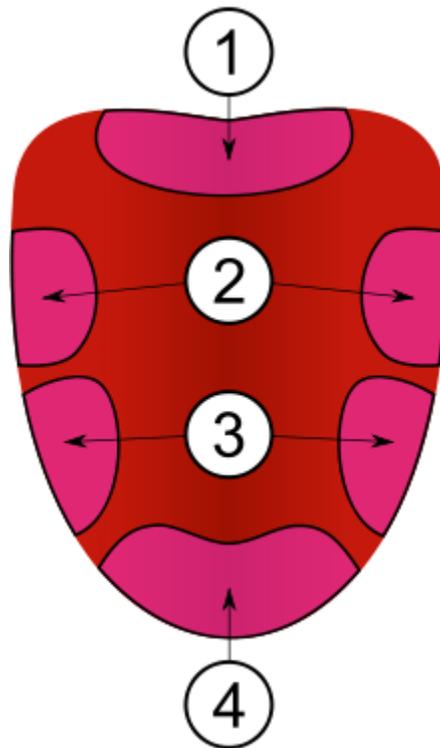
## Explanation:

It is a common misconception that different sections of the tongue are responsible for different tastes; however, this has been scientifically disproven. Taste buds are found all over your tongue and are responsible for identifying salty, sweet, bitter and sour flavors in your food. Nevertheless, different parts of a person's tongue can be more sensitive to certain tastes than others. This activity may locate some of these areas on your child.

# Map of the tongue data sheet

Location on the tongue	Flavor placed on the tongue	Flavor that is sensed by the child
Location #1	Sweet	
Location #2	Sweet	
Location #3	Sweet	
Location #4	Sweet	
Location #1	Sour	
Location #2	Sour	
Location #3	Sour	
Location #4	Sour	
Location #1	Salty	
Location #2	Salty	
Location #3	Salty	
Location #4	Salty	
Location #1	Bitter	
Location #2	Bitter	
Location #3	Bitter	
Location #4	Bitter	

# The myth of the tongue map



1 tastes bitter, 2 tastes sour, 3 tastes salt, and 4 tastes sweet.