

# The Five Senses: Smell

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**Strand** Scientific Investigation, Reasoning, and Logic

**Topic** Investigating the sense of smell

**Primary SOL** K.2 The student will investigate and understand that humans have senses that allow them to seek, find, take in, and react or respond to information in order to learn about their surroundings. Key concepts include

- a) the five senses and corresponding sensing organs;
- b) sensory descriptors used to describe common objects and phenomena.

**Related SOL** K.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

- a) basic characteristics or properties of objects are identified by direct observation.

## Background Information

The sensing organs—eyes, ears, nose, tongue, and skin—are associated with the five senses. Using the senses, we can make observations about the world. To communicate what is observed, descriptors are used.

One of our strongest senses is our sense of smell. We use our nose to smell. Smells can change our attitude about a place or a situation. Smells can make us do many things; they can make us cringe, relax us, or bring back memories. Some animals use their sense of smell to locate their offspring.

## Materials

- Popped popcorn (keep it in a sealed bag until it is needed)
- Brown paper bag
- Small containers
- Cotton balls
- Items with various scents (e.g., lemon extract, peppermint extract, cinnamon, ginger, curry, garlic, cocoa, cloves, orange, bubble gum, licorice, root beer, baby powder)
- Picture cards of items that show objects with both good and bad smells

## Vocabulary

*five senses, smell, nose, sensing organ, strong, faint, bad, good*

## Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

Prepare for the activity by placing a cotton ball in each container and adding scents to the cotton balls so that the same scent is found in two containers. For each scent, label one container with a letter and the other one with a number (e.g., A and 5). Make a key showing the matching letters and numbers. Continue adding scents until all containers have been used. When you are finished, you should have pairs of lettered and numbered containers that match by scents (for example, containers A and 5 might both smell of

peppermint). Cover each container with a paper towel or cheesecloth secured with a rubber band. (Change the paper towel or cheesecloth if a student sneezes on it!)

**Safety Note:** Show students how to smell something using a wafting technique. This consists of waving your hand over the container in such a way as to gently push the vapor towards you while keeping the container itself well away from your face. It's basically the same way a cook smell hot food without sticking his/her head right over the pot and getting a faceful of steam.

**CAUTION!** Verify that none of your students have allergies. Also, avoid doing this activity in the winter because of the prevalence of colds that may be shared.

### *Introduction*

1. Teach students the song “Eyes, Ears, Nose, and Mouth” (to the tune of “Heads, Shoulders, Knees, and Toes”):  
Eyes, ears, nose, and mouth, nose and mouth,  
Eyes, ears, nose, and mouth, nose and mouth,  
Hands and fingers make the five,  
Eyes, ears, nose, and mouth, nose and mouth!
2. Talk about today’s sense: SMELL. Ask: What organ do we use to smell?
3. Have students close their eyes. Open the bag of popcorn, place the bag of popcorn in the brown paper bag, and place it under their noses. Talk about what they smell. Ask, “What might be in the mystery bag today?”

### *Procedure*

1. Randomly pass out one container to each student. Demonstrate wafting again.
2. Count to three, and let students open their containers, waft the scent, and think about it. On the count of five, have students walk around the room and find someone that has the matching scent. They are to only use their noses during the activity and not their mouths. When they believe they have found a matching scent, have them sit down with their partners and talk about what they smelled and describe it, using descriptors. Have them guess what the scent might be.
3. Watch and listen as students try to find the matching scents. Notice how they describe their scents and what they think might be the original source of it.

### *Observations and Conclusions*

1. Come together as a class, and list the words students used to describe their scents.
2. Show pictures of various objects to students that represent odors. Have students vote thumbs up if the odor is good or thumbs down if the odor is bad. Examples of pictures to use are garbage, flowers, perfume, old sneakers, cookies, and a skunk.

### **Assessment**

- **Questions**
  - What part of our body (organ) do we use to smell?

- **Journal/Writing Prompts**
  - Draw a picture of something that smells good to you. Tell what the thing is, and describe its odor.
- **Other**
  - Have students describe safe ways to smell things.
  - Have students divide a piece of paper in half. On one half, have them write “Good,” and on the other half have them write “Bad.” Under each descriptor, have them draw items that smell good or bad.

### **Extensions and Connections (for all students)**

- Send home brown paper bags for families to play “mystery object” using their sense of smell. One person places a mystery object in the bag, and another person smells the object and uses this information to try to guess the mystery object.

### **Strategies for Differentiation**

- Use visual picture symbols depicting good/bad scents (to assist sorting of scents) and have students sort the pictures.
- Create a slide presentation of pictures of items associated with strong smells.
- Use graphic organizing software to create a classification (sorting) of good/bad smells.
- Have an adult hold the container and wave the scent toward a student’s nose.
- Set up five or less stations displaying a picture in each associated with the smell in the scent canisters. Group students in groups of two or three with a set of scent canisters. The small group moves among the stations to match each scent to the scent at each station.
- Have pairs of students sort magazine pictures under “good”/“not good” scents. Use visual picture symbols as noted in Assessment.
- Lead students on a “scent walk” around the school campus, and have them name smells and identify the source for each. During the walk, ask, “How does that smell?” and “What does that smell like?” to evoke descriptors.
- Use a bar graph to chart how many students thought a particular scent was good/bad.