



SENSES – SMELL--GRADES K-2

BACKGROUND

How does the sense of smell work? Molecules which carry scent through the air enter our nose. Inside the nose are cilia, which are like tiny hairs. The scent molecules attach to the cilia and these cilia send a message to the brain to tell us what kind of molecules are in the air. The sense of smell is very closely connected to memory – that is why certain smells often bring back vivid memories.

BASIC LESSON

Objective(s)

Students will be able to: identify which body part is used for smelling, determine “good” and “bad” smells, and describe why the sense of smell is so important. *Knowledge*

State Science Content Standard(s)

Standard 2: Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems. **2.2** Students will be able to examine, measure, describe, compare and classify objects in terms of common physical properties.

Materials		Safety
From the Kit	Provided by Teacher	
<ul style="list-style-type: none"> 5 sets of 5 smell jars (film canisters with holes poked in tops) numbered 1-5. These canisters already have odors assigned to them. Included in each scent bag is the scent, dropper, and numbered canisters. Cotton balls 	<ul style="list-style-type: none"> Numerous strong-smelling items: Garlic, Most spices, Scented oils, Perfumes, vinegar, lemon or grapefruit juice or grated peels, fruit extracts, coffee grounds or beans, fresh grass clippings, pine needles, fragrant flowers Orange for peels in canister #3 Candy or cookies to taste (optional) 	<ul style="list-style-type: none"> Be sure students don't touch or taste substances in the smell jars Be aware of allergies when selecting substances to smell Don't use any substances which produce toxic fumes
Key Vocabulary		Mastery Questions
<ul style="list-style-type: none"> Scent Smell Odor memory 		<ul style="list-style-type: none"> How can your sense of smell keep you safe? How does your sense of smell and sense of

taste work together?

- What would life be like without a sense of smell?

Detailed Plan

Before class, hide several strong smelling items around the classroom. When students arrive, begin by saying "today we are going to learn about the sense of smell. What part of your body do you use to smell with?" Explain that our noses can identify smells by sending messages to our brains. Many animals have a much better sense of smell than humans do. Dogs have amazing noses, and can be trained to find people and things using their excellent sense of smell. Tell the students that today we are going to be "Sniff Detectives", just like dogs!

Have students try to find the objects you have hidden, just by using their noses. When they think they have found all of them and think they know what they are, have them return to their seats and draw or write what they discovered.

Next, discuss the sense of smell and its importance

Ask students, "What things do you like to smell?" "What things do you NOT like to smell?" "Do certain smells bring back certain memories?" "Can you guess what you're having for dinner based on the smell?" "Are there situations where your sense of smell can protect you from harm?" You might then discuss how smelling smoke or a gas leak in a house could save your life, and how the smell of spoiled food or garbage keeps us from eating it and getting sick!

Activity: Smelling Canisters

Prepare these before class: Using the film canisters provided, add drops of the scent as instructed on the bag if the canisters have lost their odor. **Do this on the same day you will be doing the activity.** Some canisters may not need refreshing. Be sure to try the smells in the canisters yourself to make sure they are strong enough for your students to detect. Please make sure the caps are on tight and the dropper empty when finished preparing.

If using solids for pine scent, put a small (pea size) amount directly into the canister using the small fork provided. A quarter size piece of orange peel is needed for the orange scent canisters.

1. Peppermint 2. Pine 3. Orange 4. Garlic 5. Licorice

Divide the students into 5 groups. At each table you can have all five of the same canister scent (same number) or you can have one of each scent (five different numbers)

In small groups, ask the students to sniff each container and do the following:

1. Identify the smell
2. Determine which part of a house it might come from, or if it is an outdoor smell

3. Decide if it is a “good” or “bad” smell (of course not everyone will agree on these).
 4. Have the students individually draw or write their answers on the worksheet provided.

Smell Canister	Smell Identification	Inside/Outside Smell	Good ☺ or Bad ☹
1			
2			
3			
4			
5			

Assessment

Questions:

Is it easy to determine the smell?

What smells better solids or liquids?

What smells better – odors from outside or inside?

Does everyone agree on the smells identification? Why would they be different?

Does everyone agree that they like or dislike the same odor? Why or why not?

How close did their pictures reflect the object the odor came from? (Did the students put effort into their smelly pictures?)

ADVANCED LESSON

Objective(s)

Students will be able to use their sense of smell to identify and describe scents, classify good/bad scents using a graph and understand and demonstrate the connection between smells and memories.

Analyze

State Science Content Standard(s)

Standard 2: Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems. **2.2** Students will be able to examine, measure, describe, compare and classify objects in terms of common physical properties.

Materials

Safety

From the Kit

Provided by Teacher

- Same as above

- Same as above

- [List any safety precautions here]

Key Vocabulary

Mastery Questions

Smell
Scent
Odor

- Same as above, plus

Memory	<ul style="list-style-type: none"> How do scents become memories?
Detailed Plan	
<p>Use the above introduction and activities.</p> <p>To extend the smelling jars activity, show students the picture cards of smelly things and have students make a bar graph of numbers of good vs. bad smells, or take a poll of the students' most favorite smell and/or least favorite smell. Have the students make a bar graph of the most/least favorite class smell.</p> <p style="text-align: center;">Activity: Smelly Walk</p> <p>Take students on a walk around the school – inside and outside. Include the cafeteria, library, playground, gym, lockers, etc. As they walk, have them write down the smells they find along the way.</p>	
Assessment	
<p>Smell Memory Activity: Ask students to think about a favorite person, place or thing, and think about the smell that is associated with it. Have them write about their “smell memories” and read them to the rest of the class.</p>	
Resources	
<ul style="list-style-type: none"> http://cocopreme.hubpages.com/hub/smellingbottleactivitiesforkids http://voices.yahoo.com/free-sense-smell-lesson-plan-kindergarten-and-5060664.html 	
EXPLORE MORE	

Activity: Stuffy Nose

Bring edible treats to school for the students to sample. Offer 2 tastes of the same item. Have students take one sample and describe what it tastes like. Then have students squeeze their nose shut with their hand while tasting the other sample. Ask them to compare/contrast the taste. Talk to the students about how taste and smell depend on each other.