

SLEUTHING FOR POLLUTION WITH OUR FIVE SENSES

GRADES K-5

MATERIALS

- 5 clear plastic cups for each group of 4-5 students
- One spoon per plastic cup
- Permanent marker for numbering cups
- Tap water
- Four “pollutants” for the water, representing each of the senses except taste. Any safe nontoxic food substance can be used, e.g.:
 - **Sight:** drop of yellow food coloring, coffee, or carbonated water
 - **Touch:** baking soda, clear syrup
 - **Smell:** vinegar, lemon juice, orange juice
 - **Hearing:** carbonated water

DEFINITION

Pollutant - A material that harms the quality of the environment.

TEACHER PREPARATION (DO THE FOLLOWING FOR EACH COLLECTION OF 5 CUPS):

- Number the cups 1 through 5.
- Put some tap water in each of the cups.
- Put a small amount of one “pollutant” in each of the cups. Keep one of the cups “unpolluted.”

BACKGROUND

This song celebrates the five senses, showing children how they use seeing, smelling, hearing, taste, and touch every day, even in such a simple activity as eating pizza. It also shows how other living creatures also use their senses, sometimes in ways humans might not expect.

By awakening children to the processes by which they experience their lives, the song encourages them to be conscious of, and curious about, the world around them. In turn, being interested in their environment helps them become more engaged, active, and creative learners.

INSTRUCTIONS

1. Review the five senses with students: sight, smell, sound, taste, and touch.
 2. Talk with students about how they use their senses to notice things in their environment. Ask them what senses they use for water. See how many they can come up with: not just seeing it or tasting it, but hearing it flow in a stream or from a faucet, touching it in a bathtub, smelling it on a lake or on a beach.
 3. Introduce the concept of pollution. What if there's something in the water that isn't supposed to be there? What senses could we use to notice it? (If a student mentions taste, agree that tasting is a possibility, but point out that tasting water might be dangerous if we don't know what's in it; it could make us sick!) Explain that when something's in an environment that isn't supposed to be there, it's called a pollutant.
 4. Show students one of the collections of five cups. Explain that four of the cups has a pollutant in it, and the fifth one does not.
 5. Divide the students into groups. Explain that each group's job is to use sight, touch, smell, and hearing to find out which cup is unpolluted. They can look at, listen to, smell, and feel the water in the cups. (Again, mention why tasting is less practical for testing unknown liquids!)
 6. Distribute the cup collections and set the groups to work, making sure each one tries out looking, listening, smelling, and feeling.
 7. After a minute or two, call the groups to order and go around the room, having them report their findings. Review all of the senses tested. Did each cup look like water? Sound like water? Smell like water? Feel like water? If they answered "no" to one of those questions, they've found a pollutant! Point out to students that they just used their senses to find out something they didn't know before.
 8. As a follow-up for students in Grades 3-5, have them prepare a written summary of their findings in this experiment. What did they find in each cup? Which senses did they use to find evidence of pollution?
- Note: If preparation time is limited, this activity can be done with just five cups; divide the students into five groups and give them each a cup to test. If this variation is used, it's helpful to cover each of the cups with a piece of tissue paper. This doesn't just add a touch of drama; it also keeps students from figuring out the condition of the water until the activity is ready to begin.

• Adapted from https://www.globe.gov/documents/11865/354450/hydro_la_waterdetectives.pdf