August 2001

SeaWorld/Busch Gardens

Sharks

K-3 Classroom Activities

It Makes Sense to Me

OBJECTIVE

Given various materials, students explore their sense of smell.

ACTION

1. Tell your students that they're going to be scientists studying a human's sense of smell. How will they do it?

   Brainstorm with your students ways that they can test which kinds of smells people are best adapted for detecting. List each of their ideas on the classroom board. (After you do this activity you may decide to try a few of the students' ideas.)

2. Students work in pairs. One student will wear a blindfold or close his eyes while his partner holds various objects—one at a time—a few inches in front of the first student's nose. The student with his eyes closed will try to identify the object his partner is holding. When the student thinks he knows what the object is, he makes a guess. Each student gets three guesses to identify each object.

3. Distribute objects to each pair of students. (*You may add other available objects with recognizable smells.*)

4. Students take turns closing their eyes and guessing objects by their smell. Each student gets a chance to smell every object and make guesses.

5. Discuss the results. Which objects could the students identify easiest? Which were harder to identify? Were there object that the students couldn't identify?

6. Tell students that sharks can smell certain substances from hundreds of meters away. Help students to think of substances we can smell from far away. (*Examples: tarring a roof, pine trees, coffee brewing, popcorn popping, cookies baking, a barbecue, bacon frying, a fire burning.*)

   Are there some items that we aren't adapted for smelling? For example, what does an aluminum can smell like? What does a plastic bowl smell like? A rock?

BACKGROUND INFORMATION

A sense of smell is what leads many animals to their food. Sharks use their sense of smell to find prey, as do many other fishes. Sharks can detect certain substances, such as blood, in the water from hundreds of meters away from the source.

MATERIALS

Per student pair:

- apple slices
- orange slices/peel
- grapefruit sections
- lemon wedges
- chunks of onion
- cotton balls soaked in extracts such as vanilla and cinnamon oil
- blindfolds (optional)
- paper plates for items

Sharks have two nasal sacs, one on each side under the snout. As the shark swims, water flows in and out of the U-shaped sacs. Lining the inside of the nasal sacs is sensitive tissue that contains the cells responsible for detecting odors. In experiments, some sharks could detect certain amino acids in concentrations as low as one part per billion.