



## SENSING NATURE

**Overview:** In this activity, students will take part in several activities to practice using their senses and then use their senses to observe nature.

**Content Standards Correlations:** Language Arts, p. 297

**Grades:** K-6

**Key Concepts:** People observe nature with all five of their senses. Students can improve their observation skills in preparation for the field trip by focusing on all five of their senses and expressing their observations through art, poetry, and music.

**Objectives:**

Students will be able to:

- Identify their five senses
- Describe how to use their senses to observe nature.

**Materials:**

**Part 1: Our Five Senses**

- one copy of display labels on p. 95
- sweet-scented flower
- a few oranges, apples, and/or bananas
- paper napkins

**Extension 1: Sensing Nature Booklets**

- paper
- colored markers or crayons
- stapler

**Extension 2: Calling All Birds**

- opaque film containers (one per student; fill each pair with different small objects, such as paper clips, erasers, pushpins, etc.)

**Time:** Two 30 minute sessions or one hour

### SUPPORTING INFORMATION FOR THIS ACTIVITY

- We use sight, smell, hearing, taste, and touch as our five sensory tools to perceive the world around us.
  - There is a tendency to focus on sight and hearing, with books, videos, and discussions, however, experiences that engage many senses lead to greater brain activity and physiological growth of the brain.
  - Observing nature can be a highly sensory experience and thus, a highly memorable experience. Enhance the field trip experience by making the students aware of their ability to “sense” nature.

#### The Five Senses

- Eyes are sensitive to external light. Light passes through the cornea, a clear covering of the eye, before reaching the pupil. Behind the pupil is a lens that focuses light. The cornea, pupil, lens and other structures at the front of the eye direct light to receptors in the retina, at the rear of the eye. The receptors transmit the information to the brain, which interprets it for us.
- Our sense of smell is possible because of an olfactory nerve. Branches of this nerve are located in the nasal passage. The olfactory nerve sends messages to the brain, which interprets the smell.
- Sound waves enter the ear, travel through the auditory canal, and reach the eardrum, causing it to vibrate. The vibrations are transmitted by three tiny bones (the hammer, the anvil, and the stirrup) to the inner ear. Organs within the inner ear transmit the vibrations to receptors at the end of the auditory nerve, which sends the information to the brain.
- Various receptors in the skin enable us to feel such sensations as pressure, pain, or temperature. Touch receptors are located near the surface of the skin, while receptors that sense pressures are located deeper in the skin.
- Specialized receptors located on the taste buds of the tongue enable us to sense sour, sweet, salty and bitter foods. These receptors, like those of sight, smell, and sound, transmit the information to the brain for interpretation.

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## **TEACHING METHOD**

### **Part 1: Our Five Senses (20 minutes)**

#### **Do**

Begin with a Sharp Eyes Test! Divide the students into two lines facing each other; make sure each student has a partner.

#### **Read**

"Look very carefully at the person facing you. Pay attention to details such as buttons, shoe laces, jewelry, etc. When I give the signal (make up a signal, such as clapping your hands), turn your backs to each other and change one thing about the way you look. You could unbutton a button, take off your glasses, roll up your sleeves, or make another small change. When I give the signal again, turn around, face your partner, and try to figure out what changes your partner has made."

#### **Do**

- Allow about one minute for students to observe each other.
- Give the signal and allow time for the students to make changes.
- Give the second signal and allow time for the students to figure out what changes the other person has made.
- Have each pair of students share the changes they observed about each other.
- Repeat the activity until everyone has gained their Sharp Eyes!
- Have the students return to their seats and hold a discussion about sensing nature.

#### **Ask**

? **What sense were you using during Sharp Eyes?** (Sight. We use our eyes to see the world around us.)

#### **Do**

Hold up a flower and ask the students how they could learn more about it. Elicit responses such as seeing, smelling, and touching, and pass the flower around.

#### **Read**

"Taste is another sense, but never taste plants unless an adult you trust says it is okay. There are many poisonous plants."

#### **Do**

Distribute napkins and small pieces of fruit to each student. Ask the students to look, smell, touch, and finally taste each piece of fruit.

Show students the display labels and ask them to describe the sense related to each drawing. (Eye = sight; ear = hearing; hand = touch; nose = smell; and mouth = taste.) If desired, use the background information to discuss the senses in greater detail. Tape or tack up the display labels on a bulletin board or wall.

### **Part 2: Sensing Nature (30 minutes)**

#### **Ask**

? **How can we use our senses to learn about nature?** (We can look at plants, rocks, animals; we can touch leaves, mud, water; we can smell flowers, skunks; we can listen to birds, mammals, the wind rustling leaves; we can even taste some plants; but never taste a plant unless an adult says it is okay - there are many poisonous plants.)

#### **Read**

"We are going to go into the schoolyard and use our senses to observe nature."

#### **Ask**

? **How should we behave outside?** (Discuss rules for behavior with the students.)

#### **Do**

Take the students outside and sit in a comfortable grassy area.

#### **Read**

"The first sense we will concentrate on is hearing. Close your eyes and sit quietly until I tell you to open your eyes. Concentrate on listening. Count the number of different sounds you hear."

#### **Ask**

? **What did you hear? Which things were natural and which were not?**

? **Which sounds did you like the most? Which did you dislike the most?**

#### **Do**

Take a sensory walk around the area to discover other sights, sounds, smells, and textures. Pick up

objects and use as many senses as possible to observe each object. (Do not pick up human-made objects that can cause injury, transfer disease, etc.) Smell a plant, feel a rock, look at an insect. **Do not taste any plants** - there are many poisonous plants! Remind the students to place any natural objects they pick up back where they found them.

## Extensions

### Extension 1: Writing Topics for Language Arts Content Standards, p. 297

#### Sensing Nature Booklets (Grades K-6)

Have the students create sensing nature booklets. Distribute paper and drawing materials and ask students to use one piece of paper for each sense (sight, sound, smell, and touch). If possible, have them write the word at the top of the piece of paper. Under the heading, ask the students to draw pictures of ways they can use their senses to observe nature. Have the students create a cover for their booklet and staple the pages together.

#### Extension 2: Calling All Birds (Grades K-6)

*Adapted from "Sound Off", Outdoor Biology Instructional Strategies, Lawrence Hall of Science.*

##### Ask

? **Why do birds sing or call?** (To attract mates, to alarm others about danger, to establish territory, and just to sing.)

? **How do birds find a mate of the same species?** (Birds identify each other through their songs. A keen sense of hearing is critical for the survival of their species because if they cannot find a mate, no young birds are produced to replace the old birds that die or are eaten by predators.)

##### Do

Pass out pairs of opaque film containers (each pair should be filled with something different). Pass out one film container to each student.

##### Read

"The sound that the canister makes is your song and you need to find another bird with the same song by shaking the canister. When you think that you have found your partner, stand together. When time is called, open your canisters to see if you found your partner."

##### Do

Once everyone has found their partners, collect the canisters and pass them out again; decrease the amount of time they have to find a partner. You can play several rounds making each one shorter as the students improve at differentiating the sounds. At the end of the activity, collect the canisters and discuss the questions below.

##### Ask

? **What problems did you experience while trying to find your partners?** (Some potential answers are: too much noise or not enough time.)

? **Do birds have the same problems?** (If there is noise that sounds similar to their call, the birds may have trouble finding a mate.)

? **How do unnatural sounds affect bird calls?** (They have to adapt to the interfering sounds or move to a different area.)

#### Extension 3: Senses Poem (Grades 3-6)

Return to the classroom and create a senses poem to describe something observed on the sensory walk. On the board, write down four of the senses (sight, smell, hearing, touch). Choose an object from the sensory walk to describe. Ask the students to generate a list of words under each heading to describe the object. Using some of these words, create the poem as below. Have each of the students write their own poem after writing one with the entire class.

Use one word to name the object \_\_\_\_\_

Use three words for how it looks \_\_\_\_\_

Use one word for how it smells \_\_\_\_\_

Use two words for how it sounds \_\_\_\_\_

Use three words for how it feels \_\_\_\_\_

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**Extension 4: Speaking topic for Language Arts Content Standards, p. 297**

**Sensible Salt Marsh Song (Grades K-3)**

Sing the "Sensible Salt Marsh Song" using the movements and gestures. Sung to the tune of "This Old Man".

**Sensible Salt Marsh Song**

**Lyrics**

I can see, I can see,  
My eyes see a Harvest Mouse.  
With a blink, blink, blink, blink,  
Looking back at me,  
My eyes see a fuzzy mouse.

I can smell, I can smell  
My nose smells that plant so well  
With a sniff, sniff, sniff, sniff,  
Smelling you can tell,  
This furry plant is California Sage.

I can hear, I can hear,  
Songs of marsh birds in my ear.  
With a kek, kek, kek  
Singing loud and clear,  
The Clapper Rail sings in my ear.

I can taste, I can taste,  
My tongue knows the taste of lunch,  
With a munch,  
Tasting, I can't wait,  
My tongue knows which foods taste great.

I can touch, I can touch,  
Hands and feet can feel so much,  
With a squish, squish, squish,  
Walking in the marsh,  
The Salt Marsh land is like a sponge.

**Movement/Gestures**

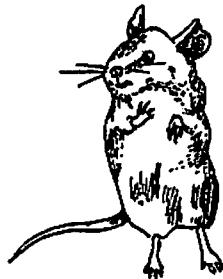
Hands to eyes  
Arms close to body, mousy  
Wiggle nose & tail, blink  
Turn around in circle  
Hands to eyes

Hands to nose  
Pick leaf  
Sniff California Sage  
Turn around in a circle  
Hands to nose

Hands to ears  
Flap arms like long wings  
Flap arms  
Flap arms, turn around in a circle  
Hands to ears

Hands to mouth  
Hold sandwich & put in mouth  
Hands rub belly  
Rub belly; turn around in a circle  
Hands to mouth

Hands outstretched in front  
Bend from waist; touch toes  
Wiggle & squish in mud  
Turn around in a circle  
Hands outstretched in front, squish sponge.

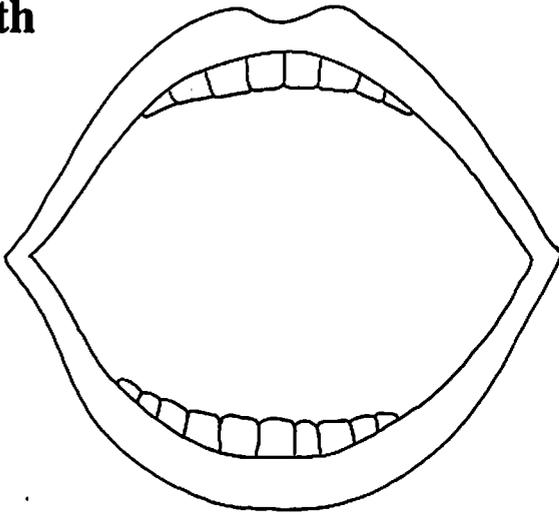


*Adapted from "Sensing Nature," p. 132, 'Ohi'a Project: An Environmental Education Guidebook for Hawai'i, Grades K-3, Bernice Pauahi Bishop Museum, Moanalua Gardens Foundation, and Hawai'i State Department of Education, 1990.*

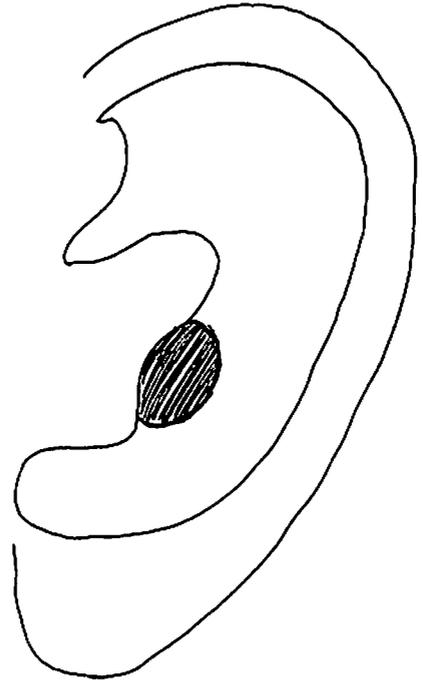
# OUR FIVE SENSES

## DISPLAY LABELS

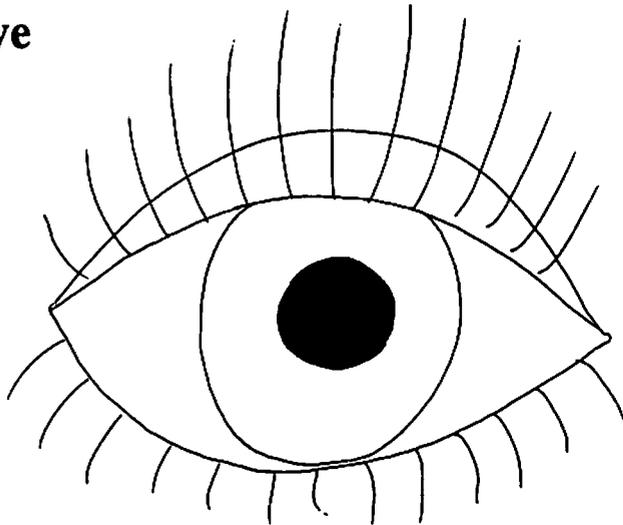
**Mouth**



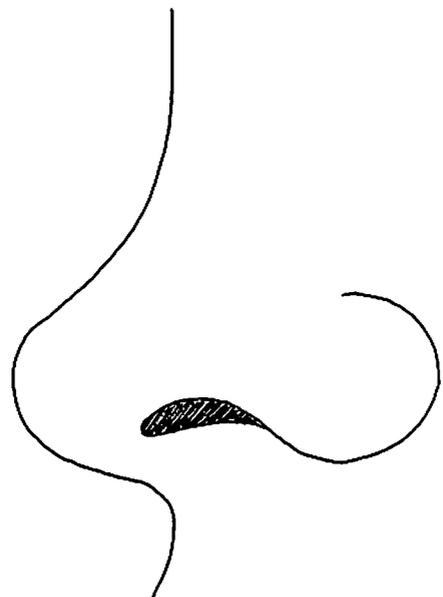
**Ear**



**Eye**



**Nose**



**Hand**

