



# A Teacher's Guide to **Animal Senses** Grades K-2

## Description

The five senses help us interpret the world around us. They allow us and animals to see, feel, hear, taste, and smell and transfer the meanings of those senses to the brain, which allows us to react to stimuli. This guide will help you to get the classroom practicing their senses and relating them to animal senses. And also learn how animals use their senses to survive.

## Outcomes

Students will gain knowledge of the five senses and the organs that they are associated with. They will also learn how animals survive by using their senses and the adaptations they have grown to better use their senses.

### Suggested Activities before Your Visit

#### Vocabulary

Smell      Taste      Touch      Hearing      Vision      Adaptation      Senses

- Discuss your upcoming trip to the Academy. Have your students brainstorm a list of good rules to follow while at the Academy
- Learn about the five senses and the organs associated with each by doing activities
- Locate sense organs on animals and have a basic understanding of special animal sense adaptations
- Explore how animals have adapted to use their senses

### Suggested Activities after Your Visit

- Have the kids do a small project on an animal (you can choose or they choose) and write about its senses and how those sense help it survive in the wild.

### AAAS's Project 2061 Benchmarks

**1B: Scientific Inquiry-** The activities in this packet will have students using the five senses to make observations and conclusions based on the physical world around them.

**5A: Diversity of Life-** Animal senses explores how various animals have different ways of using their senses.

**6C: Basic Function-** While exploring animal senses students will learn how their own senses work.

### Pennsylvania Academic Standards in Environment and Ecology

4.7.4.A- Identifying differences in living things

4.7.4.B- Know that adaptations are important for survival

### Pennsylvania Academic Standards in Science and Technology

3.2.4.B. Describe objects in the world using the five senses.

3.3.4.A Know the similarities and differences of living things

## Let's Talk about the Five Senses

**Definition:** We use the five senses when we use parts of our bodies to investigate the world around us.

**Questions to get you started:**

**Why do we need the five senses?**

So we can see where we are going, to taste good or bad stuff, to hear sirens (danger) or other people, to feel if something is cold or hot, and to smell something, like a fire. Just some examples you can add more.

**What would happen without the senses?**

Walk into walls, eat stuff that is not good for you, not be able to find your friends or locate danger, you couldn't tell if something is too hot or cold (burn yourself or freeze), and you wouldn't be able to smell food or a fire, etc.

**Why do animals need the senses?**

For the same reasons as we do. However, they need and use them in different ways. They need to find food by smelling, hearing, etc. Humans used to use their senses more but because of modern technology we do not rely on them as much as animals.

**How do the five senses work?**

The sensory organs take in information and send it to the brain, which interprets the information.

*Have the students point to the organs associated with each sense*

We see with our eyes

Hear with our ears

Touch with our skin

Taste with our tongue

Smell with our nose

### **The Sense of Vision**

**Activity One: What's Missing?**

**Purpose:** to show students how they use their sense of vision to interpret the physical environment and to allow the students to practice their observational skills.

**What you need:** any object that is fairly large that you can move in the classroom or an object on yourself (a pin, scarf, tie, etc.) that you can remove.

**How do the activity:**

- First, place an item in the classroom but do not tell the class what it is for. Or wear a unique piece of clothing or jewelry on yourself.
- Leave it there for a few days until the class becomes accustomed to it.
- Next, remove the object from the class or yourself and ask the class what is missing.

Also, consider removing more than one object for a challenge.

**Reviewing the Activity**

Once the class figures out what is missing ask them how they knew it was not there. Explain to them that our eyes sent a picture to the brain. The brain then helps us to remember what was missing.

**For extra fun with vision use eye puzzles found at following web sites:** <http://www.vision3d.com/>,  
<http://www.scientificpsychic.com/graphics/>  
<http://www.michaelbach.de/ot/>

## The Sense of Hearing

### Activity One: What's that sound?

**Purpose:** To allow the students to practice using their sense of hearing, to have the students identify a sound, and to discuss what the sound means to them.

**Materials:** Worksheet, pen/ pencil, recordings or sound clips from the internet (some suggested sounds- siren, animal sounds, nature sounds, maybe a unique human noise (for a funny sound)), or if you want, use sounds around the classroom (drop a book, shut door, etc. be creative).

### **How to Do the Activity**

- Hand out the worksheet and make sure each child has a pencil/pen
- Tell the students to close their eyes or put their heads down (No Peaking!)
- Play or make the first sound
- After the sound is done playing, ask the students to fill out the Sound One section on the worksheet
- Then repeat the following steps for each of the sounds (the worksheet allows up to 3 sounds but feel free to do more than that)

### **Reviewing the activity:**

- Go over the worksheet and talk about how some people thought of different things than others and how using the sense of hearing tells us what is going on around us.
- Relate that to animals and how they use their sense of hearing. For example, if they hear another animal making noise they might run if the sound is that of a predator or if they hear their family group, mate, etc. and allow them to find one another.

## The Sense of Taste

### **Activity One:**

**Purpose:** To use the sense of taste to identify flavors that taste bad or good

**Materials-** Jelly Belly Gourmet Jelly Beans (recommended because they have the most flavors), and/or Bernie Bott's Jelly Beans (optional, if you students like gross stuff), paper, and a pen/ pencil. **Warning:** Check for food allergies. Also, if using Bernie Bott's Jelly Beans have tissues or a trash can available. Some of the flavors like pepper, vomit, sardine, etc. are really strong and the kids will want to spit them out.

### **How do to the Activity**

- Separate Jelly Beans into flavors. (Keep the Jelly bean bag or box; it will help in identifying the flavors).
- Write the flavors of the jelly beans you want to use on the board.
- Have the students take out some paper and list one through five.
- Pass out the Jelly beans and give each student ten jelly beans total; 2 of each flavor of five different flavors.
- The students will only be eating **one** of each bean pair. The other bean will be used to identify the flavor afterwards.
- Have the students describe what the bean looks like.
- Next tell the students to eat one of the flavors and have them predict what each flavor will be based on their observations for each bean.
- Continue to let them eat until they have tasted each of the five different flavors
- Then with your help, have them identify the flavors of the remaining jelly beans. Allow the students to see if their predictions were correct.

### Review of the Activity

- Ask the students if their predictions match with the flavor. What methods did they use to determine the flavor of the jelly bean?
- Explain that our tongue has taste buds on it. Those taste buds send signals to the brain which interprets the taste of food. We then decide whether or not that food is good or bad for us to eat.
- Animals in wild do the same thing we do when trying new foods; they will try a little bit of it. But if the taste disagrees with the animal, they will spit it out—protecting them from eating bad food.

### Fun Tongues: Here are some interesting facts about tongues:

- Snakes, some lizards, and cats can smell with their tongues. They have what is called a Jacobson's organ on the roof of their mouths. When the tongue is brought back in the mouth it is placed on the Jacobson's organ and interpreted by the brain
- The forked tongue of snakes and some lizards helps them pick up scent molecules to find the direction of a scent.
- Some invertebrates, like butterflies, taste with different sense organs which are located on their feet.
- Frogs have long sticky tongues that help capture prey.
- Cats and some other animals have little hairs on their tongues that help them to groom themselves (like a comb).

## The Sense of Smell

### Activity One: What's that Smell?

**Purpose:** To allow students to use their sense of smell and understand how it helps us to understand our environment.

**Materials:** Use either small paper bags, jars, film canisters, or pill bottles as scent holders, and scents like perfume, grass, chocolate, peppermint, cinnamon, BBQ sauce, ...etc. Liquid scents can be dropped on a cotton ball.

### How to do the Activity

- Before class, place each scent in its own holder.
- Take the items around to each student and allow them to smell the contents with their eyes closed.
- Tell them to write down what they think the smell is, so each student can make their own conclusions.
- Once done with the first scent, have the class guess as to what it may be. Extension—Smells are powerful triggers of memory. What do the smells **remind** the students of?
- Continue to do the same with the rest of the scents.
- At the end of the activity, tell the class what each scent was. Allow the students to see if their predictions were correct.

### Reviewing the Activity

- Explain to the students that they used their sense of smell to help them find out what was in the bag
- Animals use their sense of smell to find food, each other, and to explore their environment
- Did you know?
  - Some reptiles and cats can smell with their tongues (as described in taste section).
  - A lot of animals rely on their sense of smell to survive.
  - Dogs have an excellent sense of smell. That is part of reason why they are used to find bombs, drugs, and missing people.

## **The Sense of Touch**

**Purpose:** to have the students use their sense of touch to identify objects.

**Materials:** small boxes with a hole large enough for the students to put their hand in or brown paper bags, various objects that have different textures (for example: fur, metal, rock, sponge, hand warmers (make sure not hot enough for burns), or something slimy like Gak. Don't forget to be creative.

### **How to Do the Activity**

- Before class, place the objects into the bags or boxes.
- Write the words like smooth, hard, soft, rough, etc on the board so the students can describe what the object you choose feels like.
- Take the first bag or box and allow each student to reach their hand inside and feel the object inside.
- Once they are finished touching the object, ask them to record what the object felt like and have them make a guess as to what the object may be. Alternative—have them draw what they believe the object to be.
- Do the same with the rest of the objects.

### **Reviewing the Activity**

- Go through each of the objects and ask the students what the object felt like and what they think it is and then uncover the object.
- Explain to them that their sense of touch helped them to identify the objects in the box or bag by just using their sense of touch.
- Animals use their sense of touch like we do. However, they have special features like whiskers which allow them to use their sense of touch further away from their bodies.

## **Suggested activities to do while at the Academy**

**Ask the students the following questions in the appropriate exhibit space:**

### **Outside-In**

Have the children touch one of the animals in the space.

What animal was it?

Ask the students how it felt? Was the animal hard or soft? Rough or Smooth? Hot or Cold?

### **Ecology Café or Lunchroom**

What did you eat?

Before eating your lunch did it smell good or bad?

Did it taste good or bad?

Would it taste good if you put pepper on your lunch? How about chocolate?

### **Live Animal Center**

What animals did you see?

What kind of noises did they make? Why do you think they made those noises?

### **North American Hall, Asian and African Hall**

What types of colors and patterns do you see on some of these animals?

Find the noses, ears, whiskers, and eyes on different animals and have the kids compare it to themselves or another animal.

**Feel free to add more questions!**

## **Web Sites and Links**

<http://www.urbanext.uiuc.edu/nibbles/succeed-senses.html>- could work as a homework assignment to do with parents

[http://www.educationworld.com/a\\_lesson/lesson/lesson183.shtml](http://www.educationworld.com/a_lesson/lesson/lesson183.shtml)

<http://www.lessonplanspage.com/LAScienceSenses1.htm>

<http://faculty.washington.edu/chudler/chsense.html>

<http://faculty.washington.edu/chudler/amaze.html>

<http://www.sedl.org/scimath/pasopartners/senses/focus.html>

## **Suggested Books and Literature about the five senses for the classroom**

Aliki. My Five Senses. Thomas Crowell. 1989. 32pp.

Archambault, John and Martin, Bill Jr. Knots on a Counting Rope. Henry Holt. 1997. 32pp.

## **Works Cited**

Baynum, Lynn F. Science and Children Magazine. May 2004 ed. 18-20pp.

Damonte, Kathleen. Science and Children Magazine. February 2005 ed. Pages 47-48

## **Websites used for pictures in worksheets: (All were found using Google Image search)**

[www.hardbargainfarm.org/animals\\_nosey.html](http://www.hardbargainfarm.org/animals_nosey.html)

[www.muddylaces.ca](http://www.muddylaces.ca)

[flickr.com](http://flickr.com)

[photos22.flickr.com/29067089\\_2a54ec1750\\_m.jpg](http://photos22.flickr.com/29067089_2a54ec1750_m.jpg)

## **Programs used for pictures in worksheets:**

Microsoft Word Clip Art

Name: \_\_\_\_\_

Date: \_\_\_\_\_

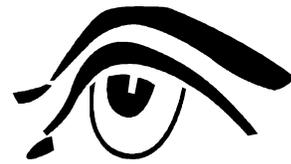
**Worksheet #1**

**Match the senses to the organs and color them in**

**Smell**



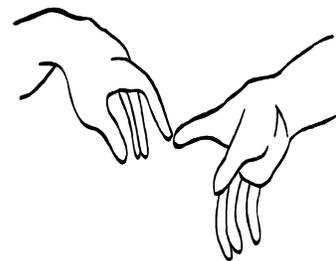
**Taste**



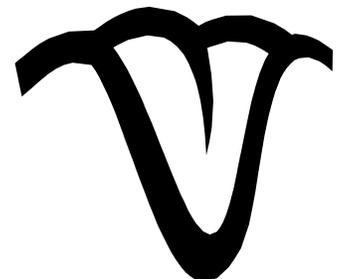
**Hearing**



**Touch**



**Vision**



**Worksheet for What's That Sound**

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Sound 1**

- What do you think made the sound you heard?  
\_\_\_\_\_
- What did it make you think of?  
\_\_\_\_\_
- How did the sound make you feel (circle one word)  
Happy      Scared      Relaxed      Nervous      None of the Above

**Sound 2**

- What do you think made the sound you heard?  
\_\_\_\_\_
- What did it make you think of?  
\_\_\_\_\_
- How did the sound make you feel (circle one word)  
Happy      Scared      Relaxed      Nervous      None of the Above

**Sound 3**

- What do you think made the sound you heard?  
\_\_\_\_\_
- What did it make you think of?  
\_\_\_\_\_
- How did the sound make you feel (circle one word)  
Happy      Scared      Relaxed      Nervous      None of the Above