

# Bay Area Scientists in Schools Presentation Plan

**Lesson Name:** Sensing The World Around Us

**Presenter(s):** Neuroscience: Greg, Colin, Elena, Christine, Franklin, and Jocelyn

**Grade Level:** Kindergarten

**CA Science Standards Connections:** Kindergarten, Physical and Life Sciences

- K-PS-1. Properties of materials can be observed, measured, and predicted. As a basis for understanding this concept:
  - a. Students know objects can be described in terms of the materials they are made of (e.g., clay, cloth, paper) and their physical properties (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, floating, sinking).
- K-LS-2.c. Students know how to identify major structures of common plants and animals (e.g., stems, leaves, roots, arms, wings, legs).
- K-IE-4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:
  - a. Observe common objects by using the five senses. [Caution: Observational activities associated with tasting and smelling should be conducted only under parental supervision at home.]
  - b. Describe the properties of common objects.
  - d. Compare and sort common objects by one physical attribute (e.g. taste, sound, texture, etc)
  - e. Communicate observations orally and through drawings.

**Next Generation Science Standards Connections:** 1<sup>st</sup> Grade, Physical and Life Sciences

- K-LS1-1.** Use observations to describe patterns of what plants and animals (including humans) to survive.
- 1-PS4-1.** Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.
- 4-LS1-2.** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p><b>Developing and Using Models</b></p> <p>Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.</p> <p>Use a model to represent relationships in the natural world. <b>(K-ESS3-1)</b></p>	<p><b>LS1.D: Information Processing</b></p> <p>Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. <b>(1-LS1-1)</b></p> <p><b>LS1.C: Organization for Matter and Energy Flow in Organisms</b></p> <p>All animals need food in order to live and grow. They obtain their</p>	<p><b>Patterns</b></p> <p>Patterns in the natural and human designed world can be observed and used as evidence. <b>(K-LS1-1)</b></p>



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<p><b>Analyzing and Interpreting Data</b> Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.</p> <p>Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. <b>(K-LS1-1)</b></p>	<p>food from plants or from other animals. Plants need water and light to live and grow. <b>(K-LS1-1)</b></p> <p><b>ESS3.A: Natural Resources</b> Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. <b>(K-ESS3-1)</b></p>	
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**Common Core Standards:**

*ELA/Literacy:*

**SL.K.3** Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

*Mathematics:*

**MP.2** Reason abstractly and quantitatively.

**FOSS Connections:**

Grade 5: *Living Systems*

Investigation 2: *Land and Water Snails*

Part 4: *Shells*

**Teaser:**

The five senses help us do a lot of things in the world! In this lesson, students will explore the five senses in interactive activities that allow them to describe what they taste, see, smell, hear and touch. They will also perform activities to learn how the senses are related to each other.

**Objective:**

The objective of our lesson is to clarify the importance of the five senses and to let the students experiment personally with sight, touch, taste, smell, and hearing.

**Vocabulary/Definitions:**

Taste, smell, touch, hearing, seeing, eyes, mouth, nose, hands, ears, senses, brain

**Materials:**

Items that are needed for each station

Touch	<ul style="list-style-type: none"> <li>• paper bags</li> <li>• hand warmers, play dough, cotton balls, smooth marbles, sand paper</li> </ul>
Smell/Taste	<ul style="list-style-type: none"> <li>• pictures of food: sweet, bitter, sour, salty</li> </ul>

	<ul style="list-style-type: none"> <li>dried food (unsweetened chocolate, rock salt, sweet dried fruit, sour dried fruit)</li> <li>scented markers</li> <li>blindfolds/bandanas</li> </ul>
Sight	<ul style="list-style-type: none"> <li>5 mason jars</li> <li>Water</li> <li>Food coloring (blue or red)</li> <li>paint cards from Home Depot (4 shades of yellow, 4 shades of red, 4 shades of orange, 4 shades of green)</li> </ul>
Hearing	<ul style="list-style-type: none"> <li>small paper cups with rice, paperclips, coins, cotton balls</li> </ul>

\*\* Students should have clean hands because they will be sharing and touching a lot of items  
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### Classroom Set-up:

*Student grouping, Tables/Desks set up to provide enough space for each station*

There will be four stations so students will be need to be split into four groups. We will need to allow for at least 10 minutes for cleanup and to set up.

## Classroom Visit

### 1. Personal Introduction: \_\_\_\_\_3\_\_\_\_\_ Minutes

We are students from UC Berkeley who are studying the brain. The brain lets us do many important things like watch movies, listen to our teachers, and smell flowers! We need to know how we see, hear, smell, taste, and feel things. These things make our everyday lives interesting. For example, it helps us eat our favorite foods and listen to our favorite music. What are your favorite foods? What is your favorite song?

### Topic Introduction: \_\_\_\_\_5\_\_\_\_\_ Minutes

Do you know what the five senses are? What parts of the body do we use for these five senses? How do the five senses help us in our everyday lives?

### 2. Learning Experience(s): \_\_\_\_\_40\_\_\_\_\_ Minutes

**We will ask the teacher to break up the students into groups of 4 for the four various stations. Every 10 minutes, the students will rotate to another station. Each station will have an adult to supervise the activities/experiments with the students. There will be four adults facilitating.**



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### Station 1: Touch

- Students will feel objects in a paper bag and try to guess what is in the bag. The items in the bag will have different textures and temperatures (sandpaper, cotton balls, play dough, smooth flat marbles, oobleck, and hand warmer).
  - The students will discuss how they were able to identify and describe the texture of the objects.

### Station 2: Smell and Taste

- Students will be blindfolded and smell pictures of objects drawn with scented markers. They will try to identify some of the pictures with only their smell.
- They will then taste some snacks while plugging their nose. They will try to identify whether or not they can figure the item out without smelling them.
- Often times, taste and smell go hand in hand. Sometimes you can't taste when you're sick because your nose is all stuffed up.
- At the end they will get some samples of sour, sweet, bitter, and salty foods.

### Station 3: Sight

Color discrimination:

- Students will have various jars filled with water and different amounts of food coloring (this is already premade by the facilitators)
- Students will arrange them from lightest to darkest.

Color sorting:

- Students will sort various (similar) shades of paint cards (yellow, red, orange and green) into groups.

### Station 4: Hearing

- Students will each have a container filled with items that make specific sounds (water, rice, beans, beads)
- The students will find their partners with the same items as them
- They will then describe how they found each other and how the sounds differed when they were looking for their partner.

### **3. Wrap-up: Sharing Experiences**

6 Minutes

*Putting the pieces together – how will students share learning, interpret experience, build vocabulary?*

- Students can volunteer to talk about the activities they enjoyed the most and what they learned from the activity.
- Ask the kids to define/review the new vocabulary words that they learned.
- Ask students to share other ways that using senses can be helpful.
  - Why is color important for us: When you eat bananas, what color are they? (*yellow*) Do you eat green bananas? (*No because they aren't ripe*) Why not? What about when they turn brown? We use color to let us know when food is good to eat. We also use our eyes to let us know when it is safe to cross the street.



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**4. Connections & Close:** \_\_\_\_\_ **6** \_\_\_\_\_ **Minutes**

*What else might kids relate this to from their real-life experience? How can they learn more? Thanks and good-bye! Clean-up.*

- The kids can be more aware of how multiple senses come together in their everyday activities such as taste and smell. It is hard to taste when have a stuffy nose.

**Total 50 – 60 Minutes**

### **Follow-up – After Presentation**

**ELA:**

Have students write a letter to a friend and/or draw a picture of what they learned about the 5 senses.

Students can complete printable packet on 5 senses:

<http://www.enchantedlearning.com/books/easy/senses/>

**Math:**

Students can go outside and make tally marks for everything they can hear.

Have students list their favorite foods and sort into different categories (sweet, salty, bitter, sour)



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