

Bay Area Scientists in Schools Presentation Plan

Lesson Name How do we taste food?

Presenter(s) Shyam Patel

Grade Level K Standards Connection(s) Five Senses

Teaser: Taste is an important sense that helps us select nutritious healthy food and avoid harmful substances. In this lesson, kids will learn about their sense of taste. They will explore the four different types of taste. They'll perform experiments to find out where their taste buds are located. They'll also perform experiments to learn how their sense of smell affects how they taste food.

Objective: The students will learn why we need to taste food and about the 4 types of taste. They'll know that the tip of their tongue has taste buds and they'll learn that smell is a very important part of tasting food.

Vocabulary/Definitions:

3 – 6 important (new) words

Engineer
Taste buds
Bitter
Spoil

Materials:

What will you bring with you?

Apple slices
Cotton balls
Vanilla extract
Garlic extract
Dried fruit
Rock Salt (colored)
Unsweetened Chocolate
Q-tips
Flavored water

Classroom Set-up:

Student grouping, Power/Water, A/V, Light/Dark, set-up/clean-up time needed

Students will be in 3 groups for the presentation. We will need 10 minutes before and after the lesson to setup and cleanup.



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Classroom Visit

1. Personal Introduction:

5 Minutes

Who are you? What do you want to share with students and why? How will you connect this with students' interests and experiences?

My name is Shyam and I'm an Engineer. Engineers build things like buildings, bridges computers and airplanes. I'm a Bioengineer and I help doctors heal people by building body parts like bone, skin, and hearts! To do my job, I need to know how the body works. I need to know how our eyes see things, how our ears hear sounds, how our hearts keep us alive and how our brains think. When I'm not working, I love to travel, play basketball and eat delicious food. I like to eat all kinds of food like pizza, fresh fruits and even veggies. But my favorite type of food is indian food especially when it's spicy! What are some of your favorite foods?

Topic Introduction:

10 Minutes

What questions will you ask to learn from students? Big Idea(s), vocabulary, assessing prior knowledge...

We eat food to give our bodies energy so we can do things like thinking, walking and talking. We eat all kinds of different foods with different tastes. We have 4 different types of tastes, let's try to name all of them. [Ask them to name foods that are Sweet, Sour, Salty and Bitter].

Read an appropriate passage from the book: [You Can't Smell a Flower with Your Ear!](#)

Today, we're going to do science experiments to learn about the 4 different tastes and how we taste food. We use our eyes to see, our ears to hear, our fingers to touch, our noses to smell and our mouth to taste. But how does our mouth tell what food tastes like? Our mouth gets help from taste buds. Taste buds are little things in our mouth that help us taste food. The taste buds tell our brain if the food is sweet, sour, salty and bitter. Where do you think our taste buds are? Lips? Teeth? Roof of our mouth? Tongue? Very soon, we'll do an experiment to figure out exactly where the taste buds are in our mouth. [If the students know it's the tongue, we'll do an experiment to know for sure that our taste buds are on our tongue.]

Our sense of smell also helps us taste food. What are some great smelling foods? How about cookies baking in an oven? When I was a kid, I could tell what my mom was cooking for dinner just by the smell. Today we're going to do an experiment to see how smell affects how we taste food.



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2. Learning Experience(s):

35 Minutes

What will you do, what will kids do? Demonstrations, hands-on activities, images, games, discussion, writing, measuring... Describe in order, including instructions to kids.

The students will be divided into 3 groups and 3 experiment stations will be setup. Every 10 minutes, the students will rotate to another station. Each station will be manned by an adult, who will supervise the experiments (presenter and 2 helpers).

Station 1: Different Tastes

This station will explore how we need to taste food to tell what it is.

Experiment:

Experiment: There will be 4 containers each containing a different food and labeled by a number. Containers: 1. Sweet dried fruit, 2. Sour dried fruit, 3. Colored Rock Salt, 4. Unsweetened chocolate. The adult will ask students what they think container 1 will taste like based on how it looks. The adult will write down the majority consensus. The adult will give each student a piece of food from Container 1 and will ask him/her to eat it. The adult will survey the students again about the taste of food in Container 1 and determine whether their initial guess was correct. Repeat with all 4 containers.

Station 2: Taste Buds

This station will determine the location of taste buds in our mouth.

Experiment:

The adult will have the students pair up. Each pair of students will be given a paper cup with flavored water and two Q-Tips. The adult will instruct each pair to pick a “first” and a “second.” Each student will be asked to hold a Q-tip (by the center part). The adult will demonstrate how to dip the q-tip in the water and dab it onto his/her lip. The adult will then ask the “first” student in each pair to dip their q-tip and dab it onto the “second” student’s lip. The “second” student will raise his/her hand if he/she tasted anything. Now the “second” student will dip the q-tip in the water and dab it onto the “first” student’s lips. The “first” person will raise his hand if he/she tasted anything. Repeat with dabbing on front teeth (toothy smile pose), middle of tongue (open mouth) and tip of tongue (open mouth). All the students should at least agree that the tip of their tongue gave the strongest taste. The adult will discuss the results with the full group.



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Station 3: Smell

This station will determine the role smell plays in how we taste food.

Experiment:

The adult will pass out cups with apple slices and have each student take a small bite. Then the adult will ask the students to pair up and assign a “first” and “second” student. The adult will pass out cotton balls with vanilla extract to each pair’s “first” student. The “first” student will hold the cotton ball near (but not touching) the “second” student’s nose. The adult will ask the second student to take a bite out of his/her apple while smelling the cotton ball. Ask if things tasted different. Have the “first” and “second” students switch roles. Pass out cotton balls with garlic extract. Have them repeat the experiment and ask what it tasted like.

3. Wrap-up: Sharing Experiences

5 Minutes

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

We learned today that there are 4 types of food taste and that we can’t always tell what something is going to taste like by simply looking at it. So our sense of taste helps us identify different foods. We also learned that our taste buds are on our tongue and that the tip of our tongue has a lot of taste buds. That’s probably why we enjoy licking ice cream on a cone, lollipops and popsicles! We also learned that our sense of smell is very important in how we taste food. In fact, we can make an apple taste like garlic using our sense of smell!

Why do you think it’s important for us to taste food? What happens as food like fruits and veggies get really old? [They spoil]. When you eat spoiled food, what could happen? [We get sick]. Old, spoiled food tastes BAD! So our body is trying to tell us not to eat something that tastes bad because it could make us sick. So bad taste is an easy way for us to know what NOT to eat.

What if something tastes really good like a sweet banana? [Eat more of it.] Our body likes sweet fruits because they give our muscles and brains lots of energy. So tasting food is a very important way for us to know what to eat and what not to eat.



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4. Connections & Close:

5 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 students can hold their nose while eating dinner tonight and see if their food tastes different.

The presenter and adult volunteers will cleanup stations.

Total 50 – 60 Minutes

Follow-up – After Presentation

*Suggest students write a letter explaining “How we learned about _____?”
List or attach examples of activities, websites, connections for additional learning.
Attach worksheets, hand-outs, visuals used in classroom presentation.*

Reading Connections:

- You Can't Smell a Flower with Your Ear! By Joanna Cole
- You Can't Taste a Pickle with Your Ear! By Harriet Ziefert



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