Science K-2: Taste Test

Intended Audience: Students with significant cognitive disabilities

# **Standards:**

SC.K.L.14.1 Recognize the five senses and related body parts.

SC.1.L.14.1 Make observations of living things and their environment using the five senses.

SC.1.N.1.2 Using the five senses as tools, make careful observations, describing objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

SC.2.L.14.1 Distinguish human body parts (brain, heart, lungs, stomach, muscles, and skeleton) and their basic function.

# **Learning Objectives:**

 1. Students will recognize the importance of their sense of taste.

 2. Students will identify ways that the stomach and the brain help the tongue.

 3. Students will label foods as sweet, salty, sour, or bitter.

# **Vocabulary:**

1. taste: tells your body if something is good or bad

2. stomach: the organ that holds food after you swallow and helps with digestion

3. tongue: the muscle in your mouth in charge of tasting, talking and eating

4. saliva: the liquid in your mouth

5. papillae/taste buds: help you taste if foods are sweet, salty, sour, or bitter

6. brain: tells you what food you are tasting

**Materials:**

* Video: [How the Body Works: The Tongue](https://www.youtube.com/watch?v=0hwOL91cjwM)
* Yum: A Book About Taste by Dana Meachen Rau, illus. by Rick Peterson
* Book available as an online read-aloud: [Yum: A Book About Taste](https://www.youtube.com/watch?v=Kguzkn5I5y0)
* Prepare prior to instruction: visual supports for academic content
* Two foods in each of the following categories: sweet, salty, sour, and bitter
* Chart paper (with four columns labeled sweet, salty, sour, and bitter), visual images/words for chosen foods
* Science journal or writing paper
* For labeling activity: [Simple diagram of human body](https://en.wikipedia.org/wiki/Stomach)
* Visuals for independent labeling activity: mouth, food, tongue, brain, stomach

# **Essential/Guiding Questions:**

 1. What is the purpose of your sense of taste?

 2. What are the four major types of taste?

 3. How does our brain help with our sense of taste?

 4. How does the stomach help with our sense of taste?

**Lesson Presentation:**

**Activating Prior Knowledge:**

1. Give each students a small piece of a preferred snack.

2. Ask students: What are some of your favorite foods? Why do you like them? (taste, answers will vary)

3. Tell students that they are going to learn about their sense of taste and how the tongue, brain, and stomach work together.

4. As a warm up, show the video, [How the Body Works: The Tongue](https://www.youtube.com/watch?v=0hwOL91cjwM).

**Modeled instruction:**

1. Show students the book, Yum: A Book About Taste or show the book online: [Yum: A Book About Taste](https://www.youtube.com/watch?v=Kguzkn5I5y0) .

2. Preview vocabulary with visual supports.

3. Take a picture walk through the book prior to reading, asking students what they see on each page. Identify vocabulary and review meaning.

4. Read the book and tell students that they will experience foods that are sweet, salty, sour, and bitter later in the lesson.

5. Refer to the video from 2:55- 3:05 to show students the four taste-types and a common food associated with each type of taste. (This also acts as a reinforcing visual support.)

**Supported/Guided instruction:**

1. Review vocabulary and reread Yum: A Book About Taste.

2. Show students one food from each of the four major groups. Ask students: what do you think this will taste like? (Do not eat yet.)

3. Tell students that each of these foods has a distinct flavor and a different type of taste.

4. Ask students what organ in the body helps the tongue know if a food is sweet, salty, sour, or bitter. (brain) Refer back to the book or video, if necessary.

5. Divide students into two groups (with adult support). Give each group a food that is sweet, salty, sour, and bitter.

6. Students will work individually to determine if a food is sweet salty, sour or bitter. Adult supervision may be needed to reinforce taste types and insure student safety while eating.

7. Ask students: Where does the food go when you swallow it? (stomach).

8. Using the image/word for each food/taste type, students will place the image on the chart in the correct column (i.e. pretzel in the column labeled salty).

9. Students will reconvene in a whole group to make corrections to the chart, if necessary. Discuss which foods were the most liked/disliked.

**Independent Work:**

1. Students will write an opinion on which food they preferred and why.

2. Students will label a diagram (with visuals or words) of the process that food takes from the mouth to the stomach. Words/images will be glued on the diagram.

**Small Group Suggestions:**

1. Students needing enrichment may read additional information about the five senses (See Additional Resources).

2. Students can sort foods by type, flavor using real food or visual supports.

3. Students can write in science journals a comparison of two or more items.

4. Students can create a collage (or visual board) of items that they like to eat.

**Assessment:**

1. Students will identify which foods are sweet, salty, sour, and bitter.

2. Students will label a diagram showing the process of food going from the mouth to the stomach.

3. Teachers should utilize district created rubrics to score student work.

**UDL:**

**Multiple means of representation:**

1. Students can point to a food’s taste type when given a choice of two.

2. Students can taste a fewer number of foods.

3. Due to food sensitivities, students may use visual images to show if a food is sweet, salty, sour, or bitter.

4. Students may complete writing with visual supports and images.

5. Students can work independently with peer or adult supports.

**Multiple means of expression:**

1. All students should have access to expressive language/technology that is appropriate for their specific need.

2. Expression may come in the form of verbal responses, signed responses, pointing/gestures, eye gaze, or through the use of a low or high tech device.

3. Text to speech options are available for computers on the Word app, iPads and other hand held devices. Google Chrome offers free extensions, such as Selection Reader and Select and Speak-Text to Speech, and apps, such as Text to Speech, Text to Speech with Google Drive, and TTS Reader- Unlimited Text-to-Speech.

4. Speech to text options are also available from Google. Extensions include Voice Note II-Speech to Text, Online speech recognition, and Co: Writer Universal. Voice Note II is also available as an app; Speech notes-Speech to Text Notepad is available as well. Microsoft Word also has speech to text options.

5. Additional information about text to speech and speech to text options are available through your district Assistive Technology Department.

**Multiple means of engagement:**

1. Adults may need to modify foods to meet the swallowing/oral needs of individuals (i.e. apple sauce instead of an apple slice).
2. Provide students different ways to share their opinion and preference.
3. Students can use the book or an online version of the book for additional reference.

4. Allow students to be positioned for maximum learning engagement.

**Assistive Technology Recommendations:**

1. All students should have a means of expressive communication and a way to be actively engaged in learning.

2. Response modes may include, but are not limited to: eye gaze, gesturing or pointing to pictures/words/phrases, signing, low tech devices (GoTalks, etc.), or dynamic devices (iPad, etc.)

3. Lesson vocabulary, photos/pictures and graphic representations should be created and/or printed prior to the lesson to provide all students with an opportunity to be engaged in discussion.

4. When possible, provide students with text to speech options. Articles and passages from Readworks.org have this option.

5. If students are writing in response to text or writing as a means of sharing information, provide students with alternates to pencils. Speech to text and alternative pencils should be considered. Find more information about alternative pencils here: [Alternative Pencils](http://alternativepencils.weebly.com/)

**Technology Needed:**

* Smartboard, doc camera (optional, for showing text in the book)

**Additional Resources:**

* From readworks.org: [Your Five Senses](https://www.readworks.org/article/Your-Five-Senses/7a624ee8-7178-42b8-86d3-4fdb78609773#!articleTab:content/)
* The Dr. Binocs Show: [The Five Senses](https://www.youtube.com/watch?v=q1xNuU7gaAQ)
* [Five Senses Rap](https://www.youtube.com/watch?v=iA1uLc1uEbI)
* [The Five Senses Video](https://www.youtube.com/watch?v=bMybpK7j8MM)  (with quiz)
* [Information About the Digestive System](https://kidshealth.org/en/kids/digestive-system.html)
* If You Give a Mouse A Cookie by Laura Numeroff (additional titles by this author are available)
* I Hear a Pickle (and Smell, See, Touch, and Taste It, Too!) by Rachel Isadora
* District-provided science resources