Senses: 1.F.IV

Taste

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>1</th>
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| Sessions      | Session I: How we taste introduction – 10 minutes  
|               | Session II: How foods taste – 10 minutes          
|               | Session III: Discover our taste buds – 35 minutes 
|               | Session IV: Design your own tongue! – 20 minutes  |

<table>
<thead>
<tr>
<th>Seasonality</th>
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<tbody>
<tr>
<td>Instructional Mode(s)</td>
<td>Whole class</td>
</tr>
<tr>
<td>Team Size</td>
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| MA Frameworks| Skills of Inquiry  
|--------------|-------------------|

1. Ask questions about objects, organisms, and events in the environment.  
2. Tell about why and what would happen if?  
3. Make predictions based on observed patterns.  
5. Record observations and data with pictures, numbers, or written statements.  
6. Discuss observations with others.  

<table>
<thead>
<tr>
<th>Life Science</th>
<th>6. Recognize that people and other animals interact with the environment through their senses of sight, hearing, touch, smell, and taste.</th>
</tr>
</thead>
</table>
| Technology/Engineering| 1. Materials and Tools  

1.3 Identify and describe the safe and proper use of tools and materials (e.g., glue, scissors, tape, ruler, paper, toothpicks, straws, spools) to construct simple structures.

| WPS Benchmarks | 01.SC.IS.01  
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<tbody>
<tr>
<td></td>
<td>01.SC.IS.02</td>
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<td>01.SC.IS.03</td>
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<td>01.SC.IS.05</td>
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<td>01.SC.IS.06</td>
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<td>01.SC.LS.03</td>
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<td>01.SC.LS.05</td>
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<tr>
<td></td>
<td>01.SC.TE.03</td>
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</tbody>
</table>

| Key Words     | Senses, taste, taste buds, tongue |

Summary

The students will talk about the five senses. This lesson is part of a series of lessons that describes each sense. The students will map the taste buds on the tongue to demonstrate the sense of taste. The students will also get a chance to design their own tongue by choosing what taste buds they would have and their location.

Learning Objectives

Massachusetts Frameworks for Grades Pre K-2

Skills of Inquiry

1. Ask questions about objects, organisms, and events in the environment.
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Worcester Polytechnic Institute – Worcester Public Schools
Supported by: National Science Foundation

2. Tell about why and what would happen if?
3. Make predictions based on observed patterns.
5. Record observations and data with pictures, numbers, or written statements.
6. Discuss observations with others.

**Life Science**

6. Recognize that people and other animals interact with the environment through their senses of sight, hearing, touch, smell, and taste.

**Technology/Engineering**

1. Materials and Tools

1.3 Identify and describe the safe and proper use of tools and materials (e.g., glue, scissors, tape, ruler, paper, toothpicks, straws, spools) to construct simple structures.

**2002 Worcester Public Schools (WPS) Benchmarks for Grade 1**

- 01.SC.IS.01 Ask questions about objects, organisms, and events in the environment.
- 01.SC.IS.02 Tell about why and what would happen if?
- 01.SC.IS.06 Discuss observations with others
- 01.SC.LS.03 Recognize that people and other animals interact with the environment through their senses of sight, hearing, touch, smell, and taste.
- 01.SC.LS.05 Talk about how people use their senses every day.
- 01.SC.TE.03 Identify and describe the safe and proper use of tools and materials (e.g., glue, scissors, tape, ruler, paper, toothpicks, straws, spools) to construct simple structures.

**Additional Learning Objectives**

1. None

**Required Background Knowledge**

1. Introduction to senses – 1.F.I

**Essential Questions**

1. What are the five senses?
2. What are the body parts responsible for the five senses?
3. Do you know anyone that does not have one of the five senses?
Introduction / Motivation
Ask the students about the five senses. Ask the students about different foods that they like to eat and discuss how they taste different. Ask the students if they know why they can taste the differences between each type of food.

Procedure

Session I: How we taste introduction – 10 minutes

Instructor preparation:
1. Become familiar with taste buds. There are four different tastes:
   a. Bitter
   b. Sour
   c. Salty
   d. Sweet

The instructor will:
1. Tell the students that taste buds cover their tongues. The location of a taste bud in their mouth determines how something will taste when that item touches the taste bud.

Session II: How foods taste – 10 minutes

Instructor preparation:
1. Become familiar with the taste of different foods. Examples:
   a. Bitter = Tonic Water, yogurt
   b. Sour = Lemon
   c. Salty = Salt
   d. Sweet = Sugar

The instructor will:
1. Have the students discuss how different foods taste. Have the students give examples.

Session III: Discover our taste buds – 35 minutes
Instructor preparation:

1. Photocopy appropriate number of “Discover our taste buds” worksheets so that each student has one tongue and one person. Give the girls in the class the girl worksheet and the boys the boy worksheet. The same tongue can be used for both the girl and boy worksheet.

2. Prepare four different solutions to give the students.
   a. Bitter = Tonic Water
   b. Sour = Lemon Water
   c. Salty = Salt Water
   d. Sweet = Sugar Water

3. Obtain 5 small cups so that each student can have their own bitter, sour, salty, sweet, and plain water sample. Obtain four cotton swabs for each taste.

The instructor will:

1. Pass out “Discover our taste buds” worksheets. Give the girls in the class the girl worksheet and the boys the boy worksheet and everyone the tongue.

2. Have the students read the directions on top of the worksheet and ask them how they are going to be able to accomplish the task.

3. Pass out five small cups and have the students color the bottom of the cups according to what solution will be placed into each cup. The green cup is for tonic water, the yellow cup is for lemon water, the blue cup is for salt water, and the red cup is for sugar water. The cup without any color is for plain water for the students to rinse their palate.

4. Pass out the four different solutions and four cotton swabs to each student.

5. Have the students discover their taste buds and color in the tongue according to the directions.

6. Once the tongue is completed, the student should cut out the tongue fold it and glue it to the girl or boy worksheet. The students can color in the picture of the girl or boy as well.
Session IV: Design your own tongue! – 20 minutes

Instructor preparation:
1. Photocopy appropriate number of “Design your own tongue” worksheet

The instructor will:
1. Pass out “Design your own tongue” worksheet to students and have them use the engineering design process to create their own tongue based on what they think would make an ideal tongue.

Materials List

<table>
<thead>
<tr>
<th>Materials per class</th>
<th>Amount</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitcher containing tonic water</td>
<td>1/class</td>
<td>Pitcher can be purchased at Walmart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tonic water can be purchased at Grocery store</td>
</tr>
<tr>
<td>Pitcher containing lemon water</td>
<td>1/class</td>
<td>Pitcher can be purchased at Walmart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lemon can be purchased at Grocery store</td>
</tr>
<tr>
<td>Pitcher containing salt water</td>
<td>1/class</td>
<td>Pitcher can be purchased at Walmart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Salt can be purchased at Grocery store</td>
</tr>
<tr>
<td>Pitcher containing sugar water</td>
<td>1/class</td>
<td>Pitcher can be purchased at Walmart</td>
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<tr>
<td></td>
<td></td>
<td>Sugar can be purchased at Grocery store</td>
</tr>
<tr>
<td>Pitcher containing water</td>
<td>1/class</td>
<td>Pitcher can be purchased at Walmart</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Materials per student</th>
<th>Amount</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small cups</td>
<td>5/student</td>
<td>Grocery store</td>
</tr>
<tr>
<td>Cotton swaps</td>
<td>4/student</td>
<td>Grocery store</td>
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<td>“Discover our taste buds”</td>
<td>1/student</td>
<td>Attachment section</td>
</tr>
<tr>
<td>“Design your own tongue”</td>
<td>1/student</td>
<td>Attachment section</td>
</tr>
</tbody>
</table>
Vocabulary with Definitions
1. *Taste buds* – small structures on the upper surface of the tongue that provide information about the taste of food being eaten.
2. *Tongue* – one of the organs of taste and is covered in taste buds.

Assessment / Evaluation of Students
The instructor may assess the students in any/all of the following manners:
1. Check to make sure the students accurately completed “Discover our taste buds” worksheet.
2. Check to make sure the students understand that the tongue helps us to taste different types of foods.

Lesson Extensions
The map of the tongue could trigger discussion regarding symmetry.

Attachments
1. “Discover our taste buds” worksheet
2. “Design your own tongue” worksheet

Troubleshooting Tips
None

Safety Issues
Students should be supervised at all times.

Additional Resources
None

References for Lesson Plan Ideas

References for Pictures
None

Key Words
Senses, taste, taste buds, tongue
Discover our taste buds!

Name___________________________________

Directions:
Color the bitter taste buds GREEN
Color the sour taste buds YELLOW
Color the sweet taste buds RED
Color the salty taste buds BLUE

When you are finished, cut out the tongue, fold the top of the tongue, and then glue onto the boy or girl's mouth!
Discover our taste buds!
Discover our taste buds!
Name ____________________________

**THINK:** How would you design your own tongue?

**DESIGN:** What types of tastes do you want your tongue to be able to identify? Where would the taste buds go?

**CREATE:** Time to make our tongues!
TEST: Do you think you would like your new tongue? Why?