

Lesson Plan Template

Topic: The Five Senses - Taste

NSES: Life Science Content Standard C

SOL: Scientific Investigation, Reasoning, and Logic K..2: Students will investigate and understand that humans have senses that allow one to seek, find, take in, and react or respond to information in order to learn about one's surroundings.

Daily Question: Does your whole tongue taste everything?

Date: October 18, 2008

Grade level: Kindergarten

Subject: Different Kinds of
Taste Buds

***Note* This plan has been written specifically for classroom implementation with 3 student-teachers.**

Procedures for Learning Experience	Guiding Questions	Materials Needed	Evaluation (Assessment)	Approximate Time Needed
<p>Engagement: As a whole group, student teacher 1 (ST) will begin by discussing investigating their own tongues. ST 1 will remind the students that usually it is not nice to stick out your tongue at others, however for today they are being scientists and it's okay just for this experiment. The students will look at each other's tongues. After making observations of their tongues, ST 1 will demonstrate how to use a cotton swab to touch the different parts of the tongue. The students will be given a clean cotton swab and follow the ST1 directions. After there is clear understanding on how to test the different areas of the tongue, students will then be given a cotton swab soaked in lemon juice by the ST 1. <i>Do not tell the students it is lemon juice.</i> Ask them to place the swab on one part of their tongue, keep their mouths open, and raise their hand if they taste something immediately. Let students look at where others have their swabs on their tongues. Hopefully, not all students will raise their</p>	<p>How would you describe your tongue? What does it look like?</p> <p>What do you think the bumps on your tongue are for?</p> <p>Was everyone able to taste what was on the swab?</p> <p>What did it taste like?</p> <p>Why couldn't everyone taste the swab when it touched their tongue?</p>	<p>Lemon juice, Cup for lemon juice, a large supply of cotton swabs, collection cup or box for used swabs, large image of tongue on white board</p>	<p>Students will be assessed based upon ST's observations of active participation observation of their own tongue, following instructions, and their responses to what they do or do not taste.</p>	<p>About 5 to 8 minutes</p>

<p>hands to say they taste something, but if they do, be sure to clarify if some students think tasting cotton or feeling the swab is what they think the “taste” is. If the students do not say it, tell them that they are tasting “sour.” Then continue to a different location on the tongue. As the students are touching the swab to the different parts of the tongue, the ST 1 should be pointing to where that spot is on the large image.</p>				
<p>Exploration: Students will then be broken into small groups of about 6 children. As the students go into their groups, allow the students to have a sip of water from the cups set up at each table to rinse out the lemon juice flavor. Working in pairs with the student next to them, one student will act as the Taster and one student will act as the Recorder. Each pair will be given two large images of a tongue and two stickers of X’s and O’s. The ST will give the Taster a new swab soaked in Liquid A (sugar water). Tell the students that they are looking for the sweet tasting parts of their tongues. The Recorder will watch where the Taster puts the swab on his/her tongue. The Tasters should be instructed to keep their mouths open and to raise their hands if they taste something immediately. The Recorder will then a X sticker (Tongue A) on the spot the Taster tested if he/she raised his/her hand or an O sticker if the Taster did not raise his/her hand. The Tasters should then take a sip of water. Now switch roles. The Taster is the Recorder and the Recorder the Taster and the process will repeat itself with the roles</p>	<p>Do you taste something immediately? What about after you close your mouth?</p> <p>Do the swabs taste differently depending on where you put them on your tongue?</p> <p>Why is it important to only touch one part of your tongue with the swab at a time?</p>	<p>A small cup of water for each child, A large tongue image for each student, a set of at least ten X’s and O’s stickers for each pair, a large supply of cotton swabs, sugar water mix in a cup, salt water mix, a small cup of water for each child, collection cup or box for used swabs.</p>	<p>Students will be assessed based upon ST’s observations of active participation in tasting and recording, ability to work cooperatively with partner, and on the results of the tongues each pair generates.</p>	<p>20-25 minutes</p>

<p>reversed. With the roles still reversed, the ST should give the Taster a swab soaked in Liquid B (salt water). Tell the students that they are looking for the salty tasting parts of their tongues. The same process should be repeated as before, but the recorded information goes on the other large tongue image (Tongue B). The students should then switch roles once more and the new Tester should test the Liquid B.</p>				
<p>Explanation: Once students have been given ample time to record on their tongue images, the students will be gather for whole group discussion. The ST 2 will ask for the students to share their results. As the students share their results, the ST 2 should make a drawing compiling the results of Tongue A and Tongue B on separate sheet using the X's and O's to show where there was and wasn't taste. Compare these to the Master Tongue A and Master Tongue B, which show the actual designated areas of taste. Hopefully these will be similar to the actual areas of the tongue designated to taste these flavors. (If not, be sure to concentrate on asking why the students' results might be different.) The ST 2 should share the master images with students and explain that our tongues are covered with little bumps called taste buds. These taste buds may look the same, but some taste buds taste certain flavors while others do not. The four kinds of flavors our tongues can taste are: salty, sweet, sour, and bitter. (Explain that we did not try bitter because it is not a good taste.) Because the</p>	<p>Where were some places you could taste the sweet water?</p> <p>Where were some places you could taste the salt water?</p> <p>Were there places on your tongue that could taste more than one flavor?</p> <p>Did you find one place on your tongue was able to taste more strongly than others?</p> <p>Why don't you notice that there are different parts of your tongue while you are eating?</p> <p>Why do you think our tongues work this way?</p>	<p>2 Tongues to show compiled results, Master Tongue A (sweet), Master Tongue B (sour), two blank tongues to draw student results, pencil.</p>	<p>Students will be assessed based upon their presentations of their results, respectful behavior toward others, and their discussion and responses to questioning by ST.</p>	<p>10 minutes</p>

<p>tongue's taste buds have different tasting jobs, you cannot taste certain flavors on certain parts of your tongue.</p>				
<p>Extension: The students should now understand that different parts of the tongue are used for tasting sweet, sour, bitter and salty tastes. Relate those tastes to food they already know. Give each student a bag containing a pretzel, a Sour Patch Kid, and a candy corn. ST 3 will have the students pull out the pretzel and taste it. Once they determine the taste is salty, ask them where on the tongue they can taste the pretzel. Place the picture of a pretzel on the large image of the tongue. Repeat this process for the candy corn and the Sour Patch Kid.</p>	<p>What does this food taste like?</p> <p>Is it sweet, sour, salty, or bitter?</p> <p>Do you remember which parts of the tongue like salty, sweet, and/or sour tastes?</p>	<p>Baggies for each student containing 1 pretzel, 1 Sour Patch Kid, and 1 candy corn, Large picture of tongue on white board, picture of pretzel, candy corn, and Sour Patch, tape</p>	<p>Students will be assessed based upon their ability to correctly predict the parts of the tongue that will taste certain familiar foods. They should finish with a final tongue that has all of the food pictures correctly placed.</p>	<p>20 minutes</p>

Notes: This lesson can be introduced to students with little background experience in the classroom because taste is something they experience on a daily basis. This lesson can be used as an opening activity to learning about the five senses or at some point in a five senses unit. The lesson should have an impact on students because it is unlikely that they are aware that their tongues have different areas of taste. This lesson challenges them to explore and learn more about a sense which they may think they already fully understand.

Safety: The students should not share cups of water or reuse cotton swabs; this is to cut down on the transfer of germs. If students do touch their own tongues with their fingers, they must wash their hands before moving on from the activity. The student-teacher (or teacher) should be the only person in control of the test liquids to cut down on the spread of germs. Mirrors should be handled safely with adult supervision

or students should be supplied with non-glass mirrors. Make sure to dispose of used cotton swabs at the end of the activity.

Differentiation: The small groups will be designed to include students of different academic abilities. Pairs will be formed in these groups placing commonly struggling students with commonly stronger students. For students who are uncomfortable with being a taster, partners can agree with remain either in just one role or partners can be switched to accommodate as long as this keeps strong/struggling pairing intact. If there is an odd number of students, fewer turns as taster and recorder will be shared among three group members. Special needs should be paired with commonly stronger students who are usually more patient and mature.

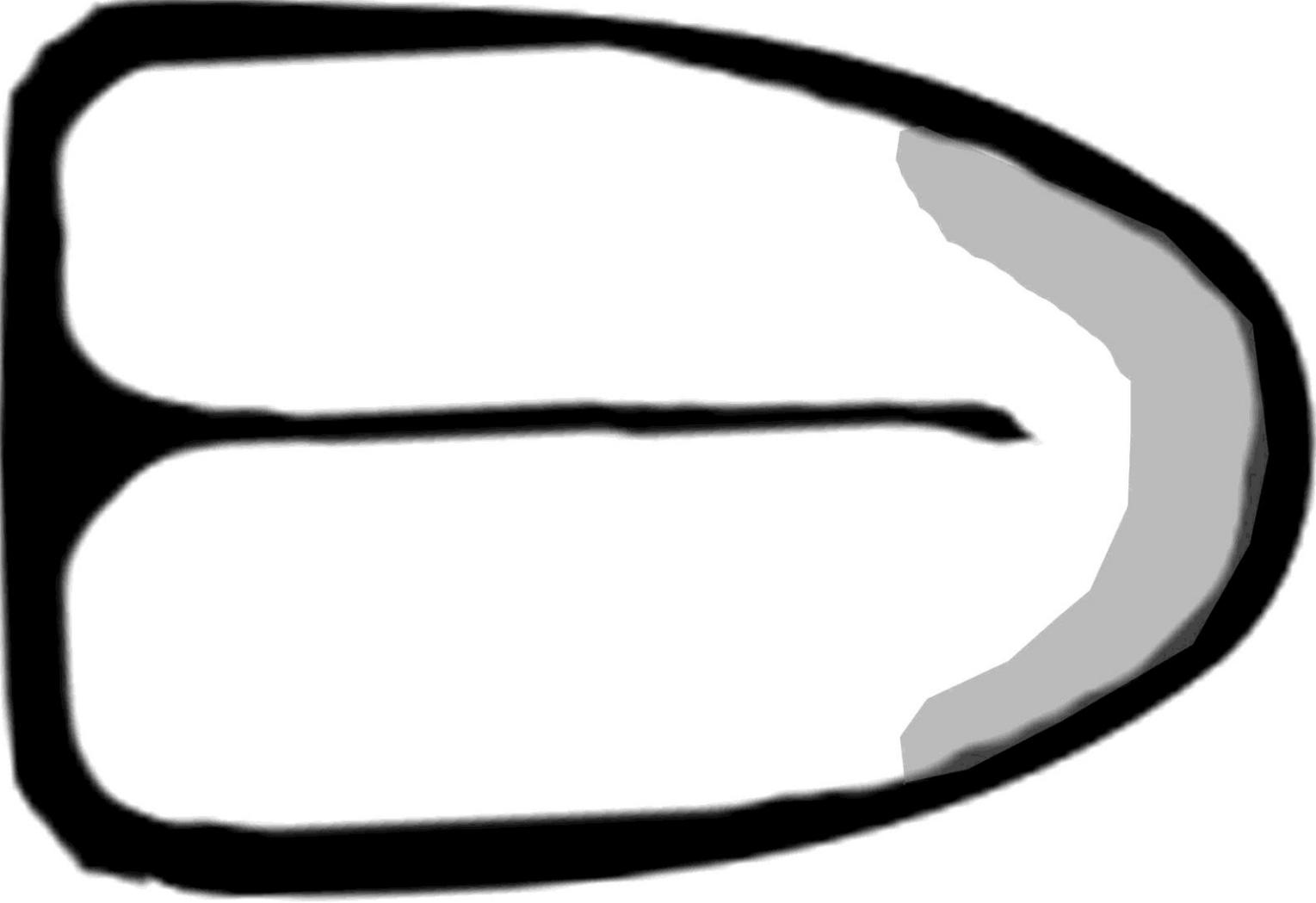
Tongue A



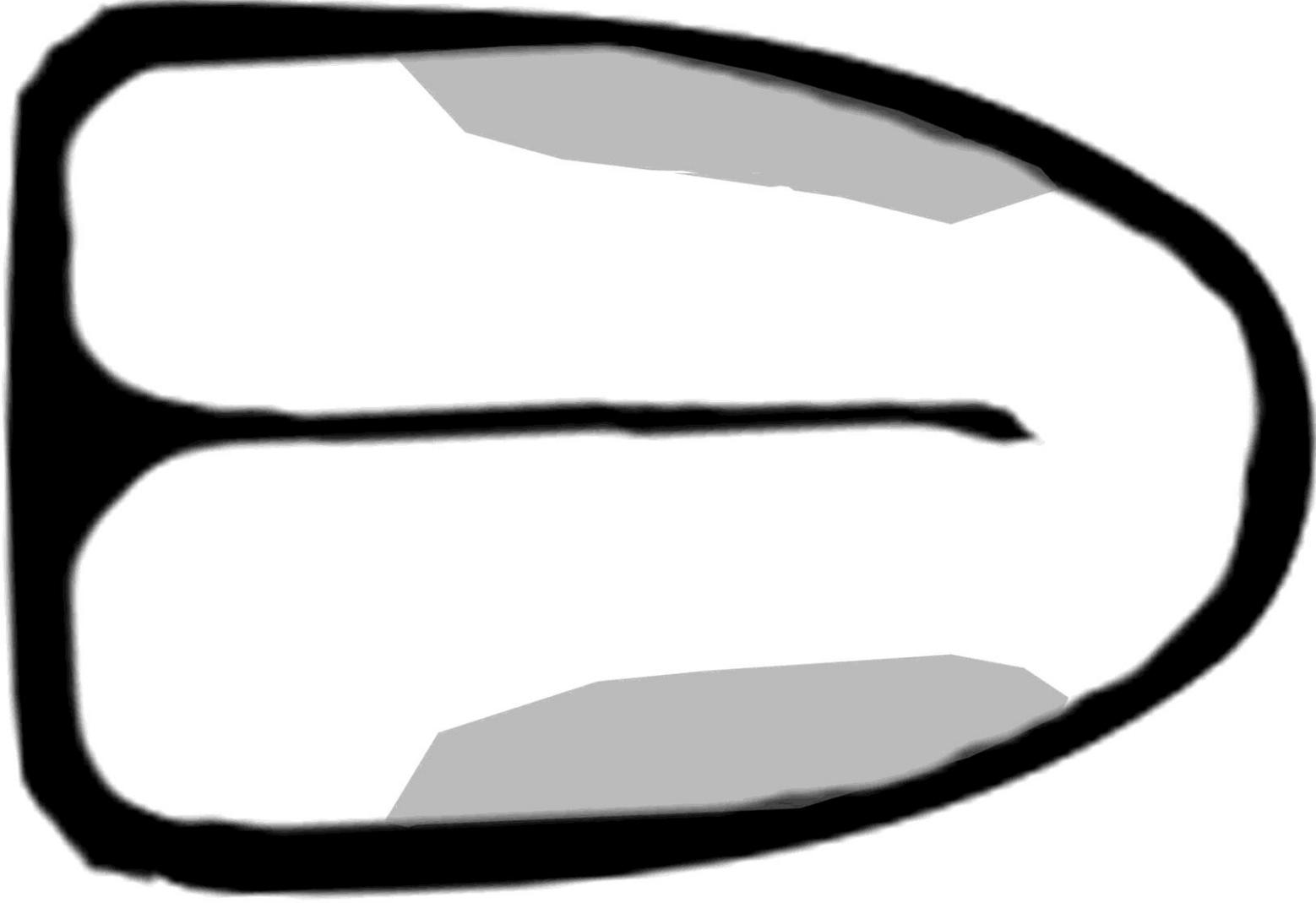
Tongue B



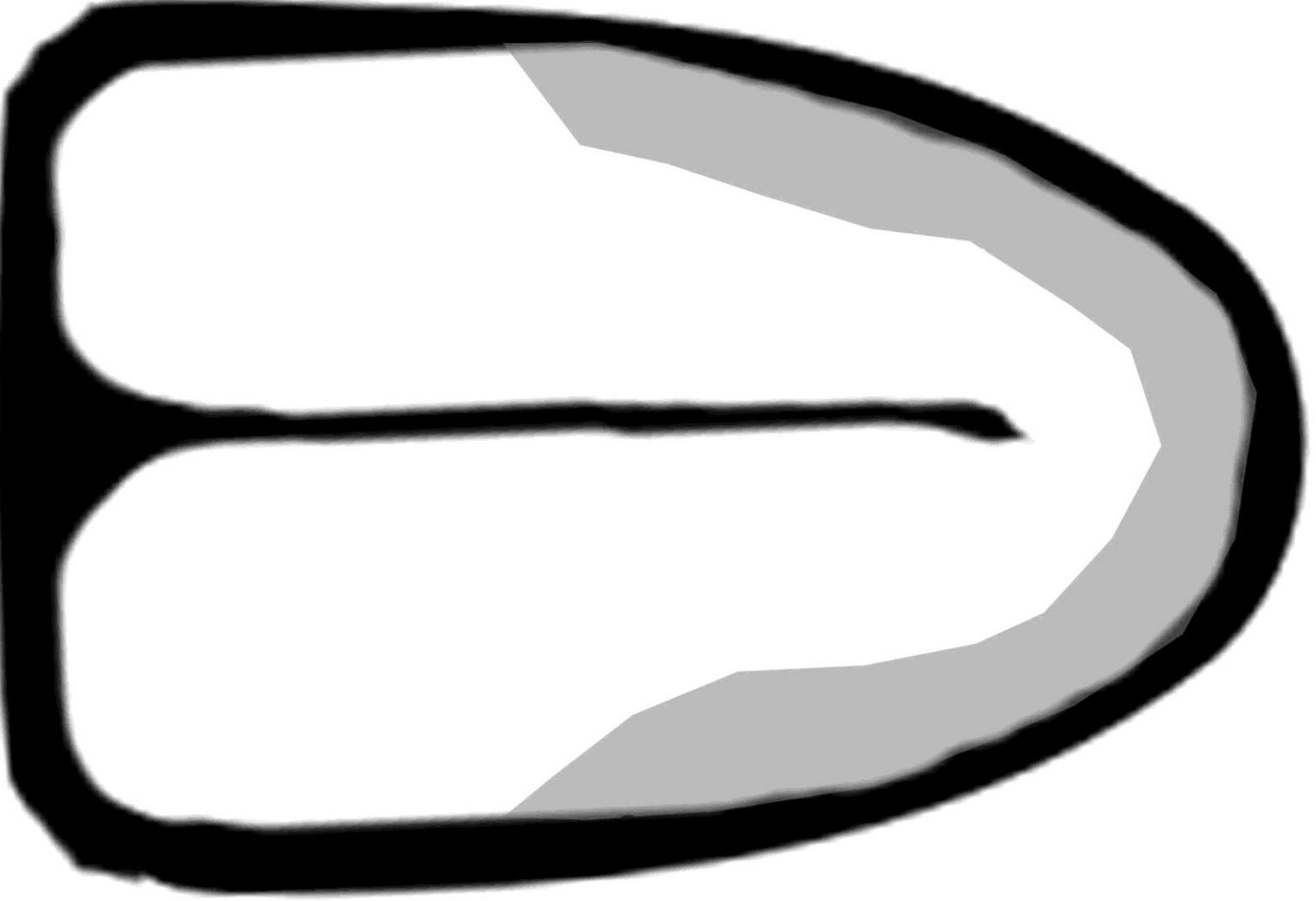
Tongue A Master : Sweet



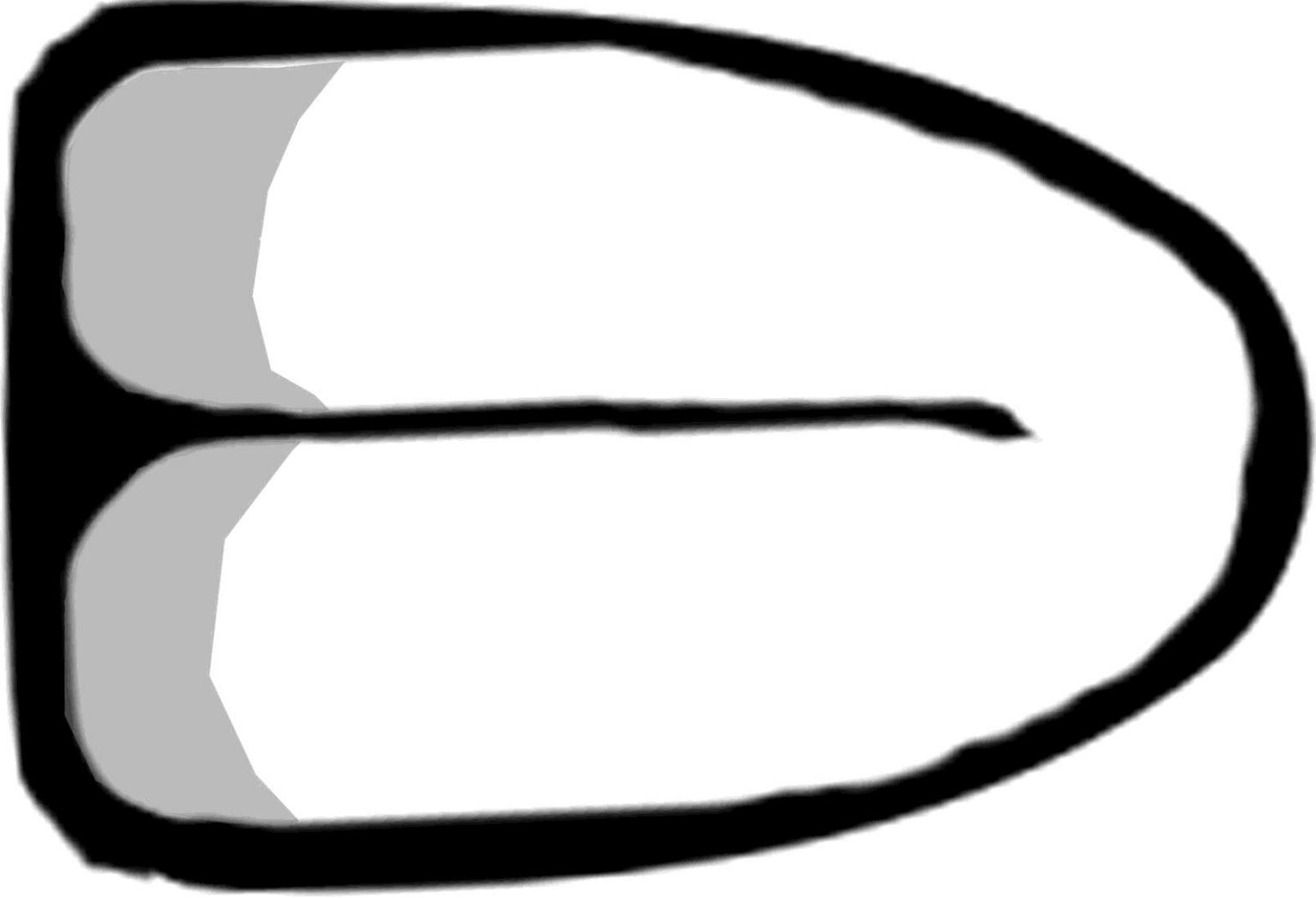
Tongue B Master : Sour



Tongue Master : Salty



Master Tongue Bitter



All Results A



All Results B





Rubric

	3 points	2 points	1 point
Following directions and participation in activity	Follows all of the directions the first time; participates in all aspects of the activity.	Does not follow all of the teacher's directions the first time they are given; limited participation.	Does not follow the teacher's directions for the activity; does not participate in the activity.
Cooperating and contributing to the group	Cooperates with other group members and fulfills role as a partner and group member; is an active contributor.	Has some difficulty cooperating with others and/or fulfilling role as a group member.	Does not cooperate with others or fulfill role as a partner/group member. Must be removed from group.
Discussing observations and answering thoughtfully	Actively contributes to discussion of observations; thoughtfully answers questions.	Contributes only partially to the class discussion and answers with little thought or consideration.	Does not discuss any observations; does not answer any questions.
Critical thinking and making predictions	Applies observations and makes connections to real food; predicts correctly.	Does not correctly or completely use explanation to predict.	Does not attempt to use prior or new knowledge to make predictions.

Rubric for Kids

			
Follows Directions			
Contributes/ Cooperates			
Talking/Answering			
Predicting			

Resources

Adapted from: Gossett, C., Delano, J., Kammer, V., Welk, V., & Hillen, J. (2004). *Sense-able Science*.

Fresno, CA: AIMS Education Foundation.