Create Your Own Flavor Wheel

Created by Emily Holden of Oregon State University

Description
Students will create their own flavor wheel for chocolate. Creating their own flavor wheel will allow them to reach a higher classification of Bloom’s Taxonomy of Cognitive Thinking by encouraging them to develop their vocabulary and apply newly learned scientific principles to taste-testing.

“Bitter Words for Beer” details the work of Tom Shellhammer as he develops a new vocabulary for bitterness that would serve as a basis for communication across an entire industry. Using food science techniques, he has trained a panel of taste-testers who document all of the sensory experiences that make up taste. These techniques are being applied across a wide variety of food industries and provide endless opportunities for vocabulary enriching and tasty classroom experiments.

Time Estimate
Two 45- to 50-minute class periods

Student Outcomes and Objectives
• Students will investigate the importance of a large, shared vocabulary in communication.
• Students will apply the process by which food products are taste tested.

Standards
Science
H.4.D.5: Describe how new technologies lead to scientific inquiry and are responsible for changes in the ways people live and work.

Language Arts
EL.HS.RE.01: Read at an independent and instructional reading level appropriate to grade level.
EL.HS.RE.02: Read and understand a wide variety of informational text.
EL.HS.RE.03: Make connections to text, within text and among texts.
EL.HS.RE.05: Match reading to purpose.
EL.HS.RE.08: Understand, learn and use new vocabulary that is taught through informational text.
EL.HS.RE.15: Read magazines and news stories.

Career-Related Learning Standards
CS.PM.02: Plan, organize, and complete assigned tasks on time, meeting standards of quality.
CS.HS.01: Locate, process and convey information using traditional tools.
Materials

- Copies of “Bitter Words for Beer” from the 2009 issue of Oregon’s Agricultural Progress magazine, a special issue on Food in Oregon
- Paper, poster board or cardboard for each student, or group of students
- Colored pencils, markers, or construction paper
- Scissors
- Glue sticks
- Paper for taking notes
- Pencils or pens
- Multiple varieties of chocolate chips, in uniform containers
- One cup for each variety of chocolate, for each student
- One cup for water for each student

*There are a wide variety of chocolate chips on the market. Below is a list of suggestions for varieties.

- Milk chocolate chips
- Dark chocolate chips
- White chocolate chips
- Name brand chocolate chips (Hershey’s, Tollhouse, Nestle, etc.)
- Store brand chocolate chips

Vocabulary
Fermentation: The process by which something is broken down by bacteria or yeast. It is commonly used in the production of beer and wine.

Palate: The range of tastes that a person can sense.

Extensions/Resources
The Flavor Recognition Exercise is a great warm-up activity that encourages students to explore the effect of sight and other senses on what they taste.
“Bitter Words for Beer” Create your own Flavor Wheel Procedure

Preparation

1. Give each variety of chocolate chips a number.
2. Mark a cup (small Dixie cups work well) with each number for each student.
3. Fill the cups with the corresponding brand of chocolate chips.

Activity

1. Present the students with some of each type of chocolate chip, in the marked cups.
2. Also present them with a glass of water that they will use to cleanse their palates between tasting the varieties of chocolate chips.
3. Students should sample each type of chocolate chip and take notes. After tasting all of the samples once, they may go back through and resample in whichever order they choose.
4. Students should make a list of adjectives to describe the chocolates.
   a. If you are making this a two-day activity, this may be a good stopping point for day one.
5. Then students will construct or draw their flavor wheels out of the provided materials.
   a. Provided are flavor wheel examples, each of which were created by their respective industries. Student examples may differ from them.

*Other items, such as apples, could be used to create the flavor wheel. When taste testing, it is important to present foods as uniformly as possible.

Possible Adjectives
Students can address the textures or aromas of the chocolate, in addition to the flavor. The important part of the activity is that students are teasing out a distinct and descriptive vocabulary that describes the variety of flavors present in chocolate. Provided is a list of possible adjectives.

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<thead>
<tr>
<th>Taste</th>
<th>Texture</th>
<th>Aroma</th>
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<tbody>
<tr>
<td>Smokey</td>
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<td>Bitter</td>
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<td>Bitter</td>
<td>Creamy</td>
<td>Sweet</td>
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<td>Toasted</td>
<td>Tongue-coating</td>
<td>Chocolate</td>
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<tr>
<td>Milky</td>
<td>Powdery</td>
<td>Nutty</td>
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Flavor Wheel Courtesy of Australian Subtropical Coffee
http://astca.org/arabicanews