

Taste & Smell, Teacher Resource

Topic	Coverage
<p style="text-align: center;">Goals</p>	<ol style="list-style-type: none"> 1. To introduce students to the basic concepts of taste and smell and how they work together to create flavors when we eat. 2. To help students understand the five types of tastes (Sweet, Salty, Sour, Bitter, and Umami) and how they are detected by taste buds on the tongue. 3. To help students understand the importance of the sense of smell in taste perception and how it affects our ability to distinguish different flavors. 4. To conduct an experiment using mberry tablets to see how they can change the way our taste buds work and make some foods taste different. 5. To encourage students to explore the Miracle Berry and its glycoprotein Miraculin, and other foods that contain this protein and how they affect our taste buds. 6. To help students gain a deeper understanding of the relationship between taste and smell and how they work together to create the flavors we experience when we eat.
<p>Taste & Smell - How it Works</p>	<p>Your tongue and nose help you taste and smell the food you eat. Taste buds on your tongue are like tiny windows that can open and close to analyze what food they are detecting. There are five types of tastes: Sweet, Salty, Sour, Bitter, and Umami. Similarly, your nose has receptors that can smell thousands of different scents. Without your sense of smell, your sense of taste greatly decreases. When you eat, the food molecules go through your nose to give you the taste of the whole item.</p> <p>In the experiment, you will try different foods and see how they taste with a special tablet called mberry. This tablet can change how your taste buds work and make some foods taste different than before. For example, the sour taste of lemon can become sweet like lemonade.</p>

Materials Needed:

- 2 spoons
- 2 slices of lemon or 1 teaspoon lemon juice
- 2 slices of grapefruit
- 3 drops of Tabasco
- 2-3 salt & vinegar chips
- 1 packet of ketchup
- 1 packet of yellow mustard
- 1 teaspoon of apple cider vinegar
- 1 mberry Miracle Fruit Tablet
- 1 paper plate



- *You can also use a big bottle of ketchup and mustard to put some on their plates instead of packets. If you do not have these foods available, visit our website to see a list of the best foods to try with mberry in our blog. If you choose fewer foods, we highly recommend using lemon

Experiment Notes

While everyone will have different perceptions to taste with mberry, here are the normal changes:

Lemon	Lemonade
Grapefruit	Sugar covered grapefruit
Tabasco	Donut Glaze
Salt & Vinegar Chips	Sweet and Salty Snack, less bite
Ketchup	Sweet tomatoes
Mustard	Sweet mustard
ACV	Apple juice

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The Miracle Berry and Glycoproteins	After the experiment, you can learn more about the Miracle Berry, which is found in West Africa. It has a special protein called Miraculin that can change how your taste buds work. It attaches to your sour taste buds and makes you only taste sweet. Lemons turn into lemonade and grapefruit turns into pure sugar. You can also explore other foods that contain this protein and how they affect our taste buds. By learning about taste and smell, you can better understand how flavors work together and make food taste delicious!

