

Genes & Supertasters, Teacher Resource

Topic	Coverage
<p style="text-align: center;">Goals</p>	<ol style="list-style-type: none"> 1. To help students understand how genes and our sense of taste influence our food preferences. 2. To teach students the importance of taste and how it helps our body stay healthy. 3. To introduce the concept of supertasters and nontasters and how they differ from normal tasters. 4. To explain how Miracle Berries can enhance or change our sense of taste. 5. To provide students with an opportunity to conduct an experiment to determine their own level of taste sensitivity and learn about the scientific method through hypothesis testing. 6. To encourage students to reflect on their own taste preferences and how they may be influenced by biology and environment.
<p style="text-align: center;">Why do we like certain foods over others?</p>	<p>Our genes give us instructions on how our bodies work, including what we like to eat. Some people don't like the taste of cilantro because of a special part of our genes that helps us smell things. We are born with our own taste preferences, but we have to learn more about smells as we grow up.</p>
<p style="text-align: center;">Why is taste important to life?</p>	<p>A long time ago and even now, our sense of taste helps us stay healthy and alive. Our ancestors used taste to tell if food was safe to eat or if it might make them sick. Taste also helps our body know when we need more energy or fluids. So, it's really important!</p>
<p style="text-align: center;">What are supertasters?</p>	<ul style="list-style-type: none"> • Some people are called "supertasters" because they can taste things really strongly. This means they might really like some foods, and really not like others. Supertasters have a special type of genes and more taste buds, which makes them more sensitive to bitter foods. • Non-tasters are people who have low likes and dislikes for different foods because they are less sensitive to flavors. They have the AVI genotype. This is where the cilantro debate comes into play. <p>Taste buds by count:</p> <ul style="list-style-type: none"> • Normal: 15-30 • Supertaster: > 30 • Nontaster: < 15



<p>How can a nontaster become a supertaster?</p>	<p>Some people can't taste things as well as others, but a special protein called "miraculin" in Miracle Berries can help them taste more flavors. People who can't taste things as well might not be as happy with their meals as those who can taste more. We can use Miracle Berry to help enhance or change our taste buds. The berry is magic for your tongue!</p>
---	---

Experiment: Students will test if they are a supertaster, nontaster or normal.

Topic	Coverage
<p>Hypothesis</p>	<p><u>Hypothesis:</u> if _____, then _____</p> <p>Have students write their hypothesis on how many taste buds they think they will have and which kind of taster they are</p>
<p>Materials Needed</p>	<ul style="list-style-type: none"> ● 1 Blue Regular Lollipop, blue is the best color to show your taste buds. You can also use blue food coloring ● 1 Sour Lollipop or any sour candy ● Pieces of paper cut in squares with a hole punch in the middle, just big enough to fit on their tongue ● Scissors ● Magnifying glass or phone camera ● 1 mberry Miracle Fruit Tablet
<p>Procedure Part One</p>	<ol style="list-style-type: none"> 1. Get in groups of two and one person completing this at a time 2. Begin eating blue lollipop or add a couple drops of food coloring to their tongue and have them spread with a finger 3. Once your tongue is entirely blue, put the piece of paper on your tongue towards the front 4. Have their partner count the amount of taste buds they have in that circle. They made need tissues because of drool 5. Switch turns!
<p>Procedure Part Two</p>	<ol style="list-style-type: none"> 1. Open your sour lollipop/candy and see how sour it truly is by tasting 2. Open and place an mberry tablet on your tongue and use it similar to a mint. Be sure to move the tablet all around your tongue for a few minutes until dissolved or soft to chew 3. Now they can taste their sour candy/lollipop 4. Have them record their thoughts and reactions

