

Garlic Toast with Greens



GUIDING QUESTIONS

Why and how do our bodies use taste to help us get what we need?

1. WASH HANDS (5 minutes)

Ask students to wash hands. Divide students into three groups and assign each group to a table. Reiterate the safety rules for using the Charlie Cart.



2. INTRODUCE THE LESSON (10 minutes)

Today we will make sautéed greens on toast with a leafy green called Swiss chard.

[Show chard.] *Vegetables that are dark green are power foods—packed with good things for your body. We’re going to experiment with the chard to see how the flavor changes when we add a few simple ingredients: lemon, oil, and salt. When we have finished the tasting, I’ll sauté the greens at the cart and we’ll eat them with garlic bread toast. Then we’ll see how the flavors come together to create a balanced taste.*

What do we know about taste? We have sensory receptors that allow us to see, feel, and smell, and we have taste receptors, too. There is a reason for taste: If something tastes bitter, our body is telling us not to eat too much. If something tastes sweet, it means we can get a quick burst of energy from that food.

Scientists believe the first humans had a real “sweet tooth,” to help them seek out the most sugary, quick-energy foods. In those days, sweet meant berries, honey, and maple syrup. Not the kind of sweets we eat today! We also have a “hardwired” taste for salt—we need it to breathe and to digest food, among other important things. So our salt cravings originally served an important purpose.

3. MAKE GARLIC TOAST WITH GREENS

(30 minutes)

Ask students to read the recipe aloud.

CHECK IN ABOUT KNIFE SAFETY

Review knife safety with students as a whole class before getting started. Review the claw and saw technique and ask students to demonstrate the “claw.” Review your classroom’s safety protocols.

MAKE THE TOAST

- Prepare the garlic: Coarsely chop 2 cloves—slice one lengthwise twice, then crosswise twice. Set it aside. Slice the remaining clove in half, lengthwise.
- Rub each piece of bread with the halved garlic cloves. Use the flat side of garlic and rub around the edges and across the bread several times. Drizzle sliced bread with about 2½ tablespoons of the olive oil.
- Lay the bread flat on parchment-lined baking sheet, and bring to the cart to be toasted.
- (Adult) Set oven to 350°F and toast for 2 minutes. Switch position of baking sheets and toast for another 2 to 3 minutes.

PREPARE THE GREENS

- Demonstrate how to destem and remove the rib; then chop the chard. Assign tasks to prepare the chard.
- De-stem the chard and remove center rib. Then, using paring knives and taking turns, chop the leaves (stack them, and chop into 1- to 2-inch strips). Place the chopped greens in the mixing bowl and discard stems and ribs into the compost.
- Ask each student to reserve half a leaf of chard for him- or herself.
- Assign a student to take the garlic and chard to the cart to be cooked.
- Use the peelers to slice thin ribbons of Parmesan cheese. Set these aside for garnish.

EXPERIMENT WITH THE INGREDIENTS

- Put a drop of oil onto the back of each student’s hand for the student to feel. Ask them to rub the oil into their skin. How does it feel? What is the texture? How does it change the way their skin feels?
- *Oil and other fats have round molecules. They feel like lotion on your skin!*
- *Do they have that same effect on your tongue? Yes! Fat/oil coats your tongue, like lotion on your hand. It helps the flavor of food move all around your mouth.*
- Distribute lemon wedges. Ask students to smell the lemon, then squeeze a small drop of lemon juice on the back of their hand to taste.
- *What happened when you smelled the lemon?*
- *How do you predict adding lemon will change the flavor of the chard?*
- *Acid molecules are sharp. Can you “taste” the sharpness?*
- Pour out a pinch of salt for each student to taste.
- *What is the texture of salt? How does your tongue react to the taste of salt?*

TASTE THE GREENS

Ask students to tear their piece of chard into four (more or less) equal-size pieces. Before each taste, first ask students to write down their prediction of how the chard will taste. Then ask them to taste it, and write down how it actually tastes. Challenge students to use descriptive words, even if they don’t like the taste.

- **Taste plain chard.** Taste a small bite of plain chard. Note the taste and texture. Record findings.
- **Taste chard with oil.** Pass around the bowl of oil, and ask students to dip the leaf into the oil. Taste, and record findings. *How did the taste of the chard change when we added olive oil? Did the texture change?*

- **Taste the chard with oil and lemon.** Dip a new piece of the leaf into the oil and squeeze just a drop of lemon juice on it. *If you add a lot of lemon juice, how do you predict the taste will change? If you add too much lemon juice, can you remove it?*
- **Taste the leaf with oil, lemon, and salt.** Dip the leaf into the remaining oil. Add a squeeze of lemon and a pinch of salt. Taste and record. *How did the flavor change?* Ask students to record their findings.

SAUTÉ THE GREENS

- (Adult) Unplug the oven and plug in the cooktop.
- Coat the stockpot with 2 tablespoons of oil and heat to 300°F. Allow the oil to warm for 30 seconds.
- Add the garlic and sauté for 30 seconds.
- Add the greens, all at once, add ¼ cup water and cook, stirring, for 1 to 2 minutes.
- Add ½ teaspoon salt and 2 tablespoons lemon juice, stirring to combine.
- Reduce the heat to 200°F. Add more water if the pan is becoming dry. Cover the greens and cook until wilted and tender, 7 to 9 minutes longer.
- Taste and adjust seasoning for salt.
- Divide among three bowls and bring to the tables to be served.

WHILE THE GREENS ARE COOKING

Ask students to review their findings.

- *Using your chart, circle the taste you liked best so far.*
- *Write what you predict the cooked chard will taste like.*
- *Make up a meal that includes the flavors and textures of fat, salt, and acid. Use the bottom of the page to describe this meal. Name and describe the ingredients, and how you prepared them. When and where will you eat this meal?*

4. EAT AND DISCUSS (10 minutes)

Clean up and set tables to eat. Serve each student a small amount of greens heaped over a piece of toast.

DISCUSSION QUESTIONS

Describe the difference between the cooked chard and the raw chard.

How did the flavor of the raw chard change after we added oil? The lemon? The salt?

How did the flavor and texture of the chard change when we cooked all of those ingredients together?

5. CLEAN UP (5 minutes)

EXTENSION

Learn more about how people taste things differently using an activity from *Scientific American*:

www.scientificamerican.com/article/super-tasting-science-find-out-if-youre-a-supertaster/

Predictions and Observations of Flavor

	Prediction (How will it taste?)	Observation (How does it taste?)
Plain kale		
Kale with oil		
Kale with lemon		
Kale with lemon, oil, and salt		
Cooked kale		