

PLANT PARTS

STIR FRY

GRADE: 2nd
LENGTH: 30 minutes

Essential Question

How can we make a stir fry using different parts of plants?

Alabama Curriculum Standards

Sci 2.6 Design and construct models to simulate how animals disperse seeds or pollinate plants.

Recipe

Stir Fry Ingredients:

- 1 bunch hearty greens, such as kale, collards, chard, spinach
- 2-3 medium carrots
- 1 small kohlrabi
- 10-15 snow or sugar snap peas
- 1-2 Tbsp. cooking oil
- 5-8 sprigs of cilantro
- 3 Tbsp. sunflower seeds

Sauce Ingredients:

- ¼ cup rice vinegar
- 1 Tbsp. toasted sesame oil
- 1 Tbsp. honey
- 2 tsp. spicy mustard
- Salt and pepper, to taste

Directions:

1. Grate the carrots and kohlrabi. Snap peas in half. Tear the greens and cilantro into bite-size pieces. Collect carrots and kohlrabi in large mixing bowl. Collect greens in separate bowl. Keep cilantro separate.
2. Add all ingredients for sauce in a small jar, screw lid on tightly, and shake well to combine.
3. Heat a skillet or wok over medium-high heat. Add oil and allow to heat for 1 minute.
4. Add the carrots, kohlrabi and snow peas. Stir for about 3 minutes.
5. Add greens and stir until tender, about 3 more minutes. Turn off heat.
6. Add the sauce mixture and toss to coat the vegetables.
7. Serve topped with cilantro and sunflower seeds. Enjoy!

Objectives

- To learn how to use basic kitchen tools.
- To work together to follow instructions of a recipe.
- To identify the parts of plants needed for pollination and seed dispersal.

Materials

- Recipe cards
- Box grater
- Cutting boards
- 2 large mixing bowls
- Small jar with lid
- Measuring spoons
- Measuring cups
- Hot plate
- Skillet or wok
- Tongs
- Serving plates and forks

Vocabulary

- stem • leaf
- root • flower • fruit
- seed

Preparation

Acquire all lesson materials. Photocopy recipe cards. Set up cooking area inside or outside. Set up a wash station, if harvesting veggies during the lesson. Recruit an extra adult or two for help before, during, and/or after the lesson. Review basic food safety. Watch our YouTube video [Cooking in the Classroom](#). Have students wash their hands with warm soapy water before class begins.

Opening Circle

- Ask students to name the parts of a plant. (*Stem, leaves, roots, flower, fruit, seeds*)
- Go over the function of each plant part. (*See Teacher Background.*)
- Remind students that when we eat vegetables, we are eating one (or more) of these parts.
- Tell students that we will create a stir fry by using each of the plant parts.
- Ask students:
 - What vegetable leaves are in the garden that we can eat in a stir fry? (*Collards, kale, spinach, chard*)
 - Roots? (*Carrots, radishes*)
 - Stems? (*Kohlrabi*)
 - Fruit and seeds? (*Peas, zucchini*)
 - Flower? (*Pea flowers, any flowering brassica*)
 - Which part cannot form without pollination? (*Seeds*)
 - Which part protects the seeds? (*Fruit*) Remind students that the fruit of the plant can come in many different forms.
- Explain to students that there will be many steps to preparing our recipe, and everyone may not have the same job, but if we work together, we will be able to enjoy a snack together.

Activity

PART 1: HARVEST AND WASH

- 1 Lead students to the garden to harvest the vegetables for the stir fry.
- 2 Discuss the part of each plant as you are harvesting. (*See Teacher Background.*)
- 3 Lead students to the washing station to wash their vegetables.
- 4 Collect all the washed vegetables and return to cooking area.

PART 2: PREPARING THE RECIPE

- 5 Pass out recipe cards or direct students' attention to the recipe written on a board. Read through the recipe ingredients and instructions as a class. Ask students a few questions about the recipe to check for understanding.
- 6 Complete the steps of the recipe, calling on students as needed. (*See Teacher Background for an example of how students may participate.*)
- 7 After measuring each ingredient for the sauce, ask students to predict how it will affect the flavor of the sauce. (*Rice vinegar will add a sour flavor; honey will add a sweet flavor.*) Ask students to predict how the sauce will taste.

PART 3: TASTING

- 8 Remind students to be respectful and curious when tasting. (*See the Cooking Promise in Chapter 1 for more ideas on how to encourage students to try new foods.*)

- 9 Serve everyone a sample. While waiting for everyone to be served, students can use their senses to experience their sample.
 - Can you identify each vegetable? By color, by shape, etc.
 - How does it smell? Can you smell any one ingredient the most? Are there any ingredients that you don't see or smell?

10 Taste and enjoy!

Closing Circle

Prompt students in a discussion about the following:

- Survey students for their reactions, using a thumbs up to indicate enjoying the stir fry, a sideways thumb for mixed feelings, and a thumbs down for not liking it.
- Would you change anything about the recipe? Add more of something, less of something? Swap ingredients?
- Ask students to share their favorite plant part from the stir fry.
- Ask students what the most difficult part was of making the stir fry.

Extension

- 1 Have students write their own recipe using different plant parts. Have them illustrate the final product. Collect them to create a class Plant Parts Cookbook!
- 2 Have students compare and contrast the different ingredients for the stir fry. How were they different? How were they the same? Facilitate by asking questions about how each tasted, looked, or felt. Then help students to write sentences. For example:
 - The rice vinegar was sour, but the honey was sweet.
 - The kohlrabi was purple or green on the outside and white on the inside.
 - The peas were smooth, but the kale was bumpy.

teacher

BACKGROUND

HARVESTING

For specific information on when and how to harvest and wash each vegetable included in this recipe, see the Appendix.

PLANT PART FUNCTIONS

ROOTS – anchors the plant in the soil; home to beneficial soil organisms; absorbs nutrients and water from the soil.

STEM – holds the plant upright; water and nutrients move from the plant’s roots through the stem and on to the leaves.

LEAVES – helps the plant breathe (respiration); helps the plant make its own food through photosynthesis; can absorb water for the plant and is the site of water loss (transpiration).

FLOWER – where pollination occurs and is the site of plant reproduction.

FRUIT – grows from the flower after pollination; holds and protects the seed.

SEED – grows inside the fruit and is the product of plant reproduction; inside the seed is the embryo, which will grow into a new plant.

MAKING THE PLANT PART STIR FRY

Engaging students:

- Have several students shred the carrots and kohlrabi.
- Have several students help snap the peas in half.
- Have one student tear cilantro and set aside for later.
- Have 1-4 students help prepare the sauce.
- Have every student help mix the sauce by shaking the jar.
Tip: Have students say aloud “One, Two, Three, Pass” to signal when to pass the jar.
- Have several students carefully add the carrots, kohlrabi, peas, and greens to the skillet.
- Have one student carefully add the sauce to the skillet.
- Have a couple students take turns and carefully stir the stir fry.
- Have a couple students help serve.

DISCUSSION IDEAS

For more discussion questions to ask students throughout the lesson or to use as a writing prompt see page 83.



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