



Cucumbers

Lakota: kunḱuŋ

Lesson Plan

Objectives

- Participants will identify cucumbers a vegetable from MyPlate.
- Participants will identify the two types of cucumbers grown in gardens.
- Participants will increase knowledge in the growing, selection, storage and use of cucumbers.
- Participants will demonstrate the use of cucumbers in a recipe.

Items Needed for the Lesson

- MyPlate poster
- Nutrition facts for cucumbers
- Visuals of or samples of pickling and slicing cucumbers
- Cucumber seeds
- Waxed covered cucumber from supermarket
- ½ cup measure
- Ruler
- 8 oz. cup

Handouts or Take Home Items

- Pick It, Try It, Like It Handout with recipe
- Additional recipe card with alternative recipe

Recipe Choices

- Easy – Thai Cucumber salad
- Intermediate – Cucumber yogurt dip

Facts to Share with Students

- Start with the Ice Breaker – guess the fruit or vegetable.
- MyPlate – vegetable servings per day and serving size
- How to plant cucumbers in the garden
- How to choose, store, and use Cucumbers
- Cucumber nutrition

Cooking and Food Safety Skills

- Wash hands for 20 seconds
- Washing fresh vegetables
- Measuring dry and liquid ingredients
- Knife and cutting board skills
- Cooking terms – “dissolve”, “grate” and “chop”

Supplies for Cucumber Lesson

- Thai Cucumber Salad
 - » Measuring cups
 - » Measuring spoons
 - » Liquid measuring cup
 - » Cutting boards
 - » Knives
 - » Saucepan
 - » Bowl
 - » Spoon
- Cucumber Yogurt Dip
 - » Measuring cups
 - » Measuring spoons
 - » Rubber scraper
 - » Knives
 - » Vegetable peeler
 - » Cutting boards
 - » Bowl
 - » Spoon

What You Say:	What you do:
<p>Every class we're going to learn about a different fruit or vegetable. I'm going to give you some clues and I want you to try to think of what it is. After each clue, raise your hand if you think you know what it is.</p> <ul style="list-style-type: none"> • These are 96% water. • Most of their flavor comes from the seeds. • Some have smooth skin, others have bumpy. • Their thick skin makes it hard for bugs to eat, But bugs do eat the plants they grow on. • The smell of these help some people to relax. <p>(Answer: Cucumber)</p>	<ul style="list-style-type: none"> • Name off each clue, allow a few guesses before moving on to the next clue. • After someone guesses the answer, or you tell them, show them visuals of cucumber.
<p>Cucumbers. Along with cantaloupe, squash, pumpkins and watermelon are members of the cucurbit family of produce. They grow on vines on the ground or can be grown on poles or trellises that hold the produce up.</p>	<ul style="list-style-type: none"> • Keep the visuals of cucumbers visible
<p>Because cucumber develop from a flower and contain enclosed seeds, they are scientifically a fruit. They are, however eaten as a vegetable and thus are part of the vegetable group on MyPlate.</p> <p>MyPlate shows us how to eat healthier. As the MyPlate diagram shows, we should be filling half our plates with fruits and vegetables. Depending on your age and gender, one should be eating between 1 and 3 cups of vegetables each day. One-half cup of cut up cucumbers counts as one-half cup of the MyPlate vegetable group.</p>	<ul style="list-style-type: none"> • Point to the MyPlate poster. • Refer to the daily vegetable chard for specific age groups. • Show a ½ cup measure
<p>There are 5 subgroups of vegetables: dark green, red and orange, beans and peas, starchy and others. We need to make sure we are eating vegetables from each of these groups because each have different vitamins and nutrients in them.</p> <p>Do you know what subgroup cucumbers are in?</p> <p>(Answer: others)</p>	<ul style="list-style-type: none"> • Call on someone who wants to answer. • Show the vegetable subgroup visual.
<p>How many of you have grown cucumbers in your garden? Cucumbers are usually grown by planting seeds. Seeds should be planted ½ to 1 inch deep in warm spring soil. They can be thinned to one plant every 12 inches in a row. If they are planted in hills, thin to 3 plants per hill. Cucumbers have shallow roots and need to be watered to keep the soil moist through the whole growing season. When the cucumbers start setting on the plant, it is very important to keep them watered.</p>	<ul style="list-style-type: none"> • Allow discussion. • If possible, show a packet of cucumber seeds, demonstrating how to plant in rows or hills.

What You Say:	What you do:
Cucumbers can be picked at any size. The best size depends on the variety and how they are going to be used. When pickling, cucumbers of the 2-inch length are appropriate. For dill pickles, 4-6 inch long cucumbers work well and if they are going to be sliced and eaten, the 6-8 inch cucumber can be picked and used.	<ul style="list-style-type: none"> • Show the different lengths using a ruler.
<p>As mentioned, there are two types of cucumbers grown in the garden.</p> <ol style="list-style-type: none"> 1. Pickling cucumbers. This type usually has thick, bumpy skin. They are smaller and have fewer seeds. 2. Slicing cucumbers. This type is for eating fresh. This type includes most cucumber sold in grocery stores. 	<ul style="list-style-type: none"> • Refer to cucumber visuals or if possible have one of each type of cucumber available to show.
<p>Cucumbers should be picked early in the morning while it is still cool outside. Refrigerate cucumbers immediately after picking. They can be stored in the refrigerator for up to 3 days in loose plastic bags. Do not wash before storing.</p> <p>If we have heard the term "cool as a cucumber", it refers to the fact that growing in a garden on a hot day, the inside of a cucumber is 20 degrees cooler than the outside air temperature.</p>	
<p>If you are purchasing cucumbers at the store, note that some are covered in an edible wax that prevents them from losing moisture. It also makes the cucumbers look shiny.</p> <p>Choose firm, well-shaped cucumbers that are heavy for their size and that have a dark green color.</p> <p>Avoid buying cucumbers that are shriveled, have bruises or dark spots, or that have bulging middles. This is a sign of a cucumber that has large seeds and is water inside.</p>	<ul style="list-style-type: none"> • If possible, show a cucumber that has the waxy coating.
Two to three cucumbers make about one pound. One pound of cucumbers makes about 3 cups of chopped cucumbers.	

What You Say:	What you do:
<p>How do you like to eat cucumbers?</p> <p>Cucumbers are best eaten raw. They can be eaten plain as a snack, used in salads or dipped in low-fat dressing.</p> <p>Cucumbers should be scrubbed and rinsed well before eating or using in recipes. They can be eaten with the peel or they can be peeled using a vegetable peeler or knife.</p> <p>For food safety, keep cucumbers that are going to be eaten raw away from raw meat, poultry or seafood and the kitchen tools used with the meat, poultry or seafood.</p>	<ul style="list-style-type: none"> Allow discussion.
<p>Pickling is the easiest way to preserve cucumbers. There are many ways to make pickles. They may be canned, refrigerated or even made in the freezer.</p>	<ul style="list-style-type: none"> Allow discussion of making pickles.
<p>Why might we want to eat cucumbers?</p> <p>Unpeeled cucumbers are higher in nutritional value than peeled cucumbers because fiber is lost by peeling.</p> <p>Cucumbers add crispness to sandwiches and salads, but they do not supply a good source of nutrients. They are fat-free, sodium free, cholesterol free and low calorie.</p> <ul style="list-style-type: none"> Water is the most abundant nutrient in cucumbers. Why is water important for our bodies? Water is an essential nutrient needed for all forms of life. 60-65% of our body is made up of water. All cell tissues and organs need water. Water helps maintain body temperature, carries nutrients, helps get rid of waste and lubricates our joints. It is recommended that we get 8 cups (64%) of fluids each day. This can come from water and other beverages as well as from foods like fruits and vegetables. Cucumbers can contribute to this recommendation because they are made up mostly of water. 	<ul style="list-style-type: none"> Call on someone who would like to answer. Allow someone to answer. Show an 8 oz. cup
<p>Are you ready to try out a recipe using cucumbers?</p> <p>What is the first thing we always do before preparing food?</p> <p>(Answer: wash our hands)</p>	

Use this page if you are going to prepare Thai Cucumber Salad

Equipment List

- Measuring cups
- Measuring spoons
- Liquid measuring cup
- Cutting boards
- Knives
- Saucepan
- Bowl
- Spoon

What You Say:	What You Do:
<p>Today we are going to be making Thai Cucumber Salad.</p> <p>Let's read through the recipe to make sure we understand all of the step.</p>	<ul style="list-style-type: none"> • Pass out the recipe. • Read the recipe with participants.
<p>We are going to be measuring some dry and liquid ingredients.</p> <p>What are some things we want to remember about measuring dry ingredients and liquid ingredients? (Possible answers: Level dry ingredients, flat surface and eye level for liquid ingredients)</p>	<ul style="list-style-type: none"> • Go over measuring from resource section. Demonstrate measuring dry and liquid ingredients.
<p>The recipe says to heat the sugar mixture until dissolved. What does the cooking term "dissolve," mean? (Answer: to cause a dry substance to pass into solution in a liquid)</p>	<ul style="list-style-type: none"> • Call on someone to answer. • Define "dissolve".
<p>How will we seed the cucumber? (Answer: after slicing the cucumber lengthwise (from end to end), use a spoon to remove the seeds)</p>	<ul style="list-style-type: none"> • Call on people • Prepare recipe with participants
<p>We will also be using a knife and cutting board to cut the onions, red pepper and cucumber. What things do we need to keep in mind when using knives and cutting boards?</p>	<ul style="list-style-type: none"> • Refer to knife and cutting board safety in resource section.

Use this page if you are going to prepare Cucumber Yogurt Dip

Equipment List

- Measuring cups
- Measuring spoons
- Rubber scraper
- Knives
- Vegetable peeler
- Cutting boards
- Bowl
- Spoon

What You Say:	What You Do:
<p>Today we are going to be making Cucumber Yogurt Dip.</p> <p>Let's read through the recipe.</p>	<ul style="list-style-type: none"> • Pass out recipes. • Read recipe with participants.
<p>We will be peeling, seeding and grating the cucumber for this recipe. We can peel the cucumber with a vegetable peeler or a knife. After peeling, we can cut the cucumber lengthwise, from end to end, and then use a spoon to scoop out the seeds. This is seeding the cucumber. Then we are going to grate one of the cucumbers. Do you know what the term "grate" means?</p> <p>(Answer: to rub on a grater that separates the food in various sizes of bits or shreds.)</p>	<ul style="list-style-type: none"> • Call on someone who would like to answer. • Define "grate"
<p>We will also be chopping the garlic. What does the term "chop," mean?</p> <p>(Answer: to cut solid into pieces with a sharp knife or other chopping device)</p>	<ul style="list-style-type: none"> • Define "chop" • Go over knife and cutting board safety from resource section.
<p>Besides vegetables, this recipe has yogurt in it, which comes from the dairy group on MyPlate. Why do you think we need dairy foods?</p> <p>(Possible answers: they have calcium, make our bones and teeth strong)</p>	<ul style="list-style-type: none"> • See the chart for ages and daily-recommended amounts.
<p>The amount of dairy foods we need each day depends on our age.</p> <p>It is best to choose low-fat choices from the dairy group.</p> <p>This recipe calls for plain, non-fat yogurt.</p>	

Visuals



A cucumber blossom



A cucumber growing on the plant.



Photo by Mike Licht

Smaller cucumbers are great for pickling.



Large varieties of cucumbers are good for slicing.

Cucumber Nutrition Information

Type	Serving Size/Weight in grams	Calories	Fiber (g)	Vitamin A (International Units)	Vitamin C (mg)	Potassium (mg)	Folate (mcg)
Cucumbers, sliced	½ cup 52g	8	.3	4	2	76	4
Daily Recommendations RDA=Recommended daily allowance AI=Adequate intake	1-2 cup servings of fruit per day depending on age	Varies according to age and activity level	AI (depending on age) ranges from 14-33.6 g	Daily Value based on a 2,000 calorie per day diet	RDA (depending on age) ranges from 25-90 mg	AI (depending on age) ranges from 3000-4700 mg)	RDA (depending on age) ranges from 150-400 mcg)

Daily Fruit Table

Daily Recommendation*		
Children	2-3 years old	1 cup
	4-8 years old	1 to 1 ½ cups
Girls	9-13 years old	1 ½ cups
	14-18 years old	1 ½ cups
Boys	9-13 years old	1 ½ cups
	14-18 years old	2 cups
Women	19-30 years old	2 cups
	31-50 years old	1 ½ cups
	51+ years old	1 ½ cups
Men	19-30 years old	2 cups
	31-50 years old	2 cups
	51+ years old	2 cups

Daily Vegetable Table

Daily Recommendation*		
Children	2-3 years old	1 cup
	4-8 years old	1 ½ cups
Girls	9-13 years old	2 cups
	14-18 years old	2 ½ cups
Boys	9-13 years old	2 ½ cups
	14-18 years old	3 cups
Women	19-30 years old	2 ½ cups
	31-50 years old	2 ½ cups
	51+ years old	2 cups
Men	19-30 years old	3 cups
	31-50 years old	3 cups
	51+ years old	2 ½ cups

Daily Dairy Table

Daily recommendation		
Children	2-3 years old	2 cups
	4-8 years old	2 ½ cups
Girls	9-13 years old	3 cups
	14-18 years old	3 cups
Boys	9-13 years old	3 cups
	14-18 years old	3 cups
Women	19-30 years old	3 cups
	31-50 years old	3 cups
	51+ years old	3 cups
Men	19-30 years old	3 cups
	31-50 years old	3 cups
	51+ years old	3 cups

*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate.

<https://www.choosemyplate.gov>

Handwashing

Washing hands often and properly helps kill harmful bacteria. We need to wash our hands before starting to work in the kitchen and prior to handling food. To wash properly follow these steps:

1. Wet hands well with warm water.
2. Add soap.
3. Scrub hands, wrists, fingernails, and between fingers for at least 20 seconds. To measure 20 seconds, sing the Happy Birthday song twice OR sing the ABC song.
4. Rinse hands thoroughly.
5. Dry hands with a clean paper towel.
6. Use the paper towel to turn the water off.
7. Discard the paper towel.



Washing Fruits and Vegetables

- Start with clean hands. Wash hands for 20 seconds with soap and water before and after preparing fresh produce.
- All fruits and vegetables should be washed before eating. This includes produce purchased from the grocery store, farmer's market, or produce grown at home.
- Wash fruits and vegetables under cool running water just before eating, cutting or cooking.
- Even produce that is going to be peeled before eating needs to be washed first.
- Scrub firm produce, such as melons, cucumbers and carrots with a clean produce brush.
- After washing, dry the produce with a clean cloth or paper towel, this may remove even more bacteria that may be present.
- Cut away any bruised or damaged areas before preparing or eating. Produce that is moldy or that looks rotten should be thrown away.



Knife Safety

1. Always cut away from you and use a cutting board.
2. Keep knife blades sharp and clean.
3. Keep the knife handle clean.
4. Never place knives in the dish water, as they can injure the person washing dishes.
5. When wiping a knife blade, point the cutting edge away from your hand.
6. Do not lay knives close to the edge of the counter.
7. If a knife falls, do not try to catch it.
8. When done using them, return clean knives back to their proper storage areas.



Cutting Boards

1. Choose a cutting board with a smooth, hard surface.
2. Replace your cutting board when it has lots of grooves and scratches.
3. Do not chop fruits, vegetables or other ready-to-eat foods on a cutting board that was used for meat, unless you wash it first. If possible, use a different board for meats than you use for ready-to-eat foods.
4. Scrub cutting boards with hot, soapy water after each use.
5. Dishwashers are good cleaners if the cutting board is dishwasher safe – thin plastic and wooden cutting boards may be damaged in the dishwasher.
6. Make sure cutting boards are completely dry before putting them away.

Measuring Liquid & Dry Ingredients

To measure liquids:

- Use a liquid measuring cup for liquid ingredients such as milk, oil or water.
- Fill the liquid measuring cup to the appropriate line.
- Place the liquid measuring cup on a flat surface such as the table or countertop.
- Check the measured amount at eye level, adding or removing some of the liquid until the correct amount is level with the quantity line.

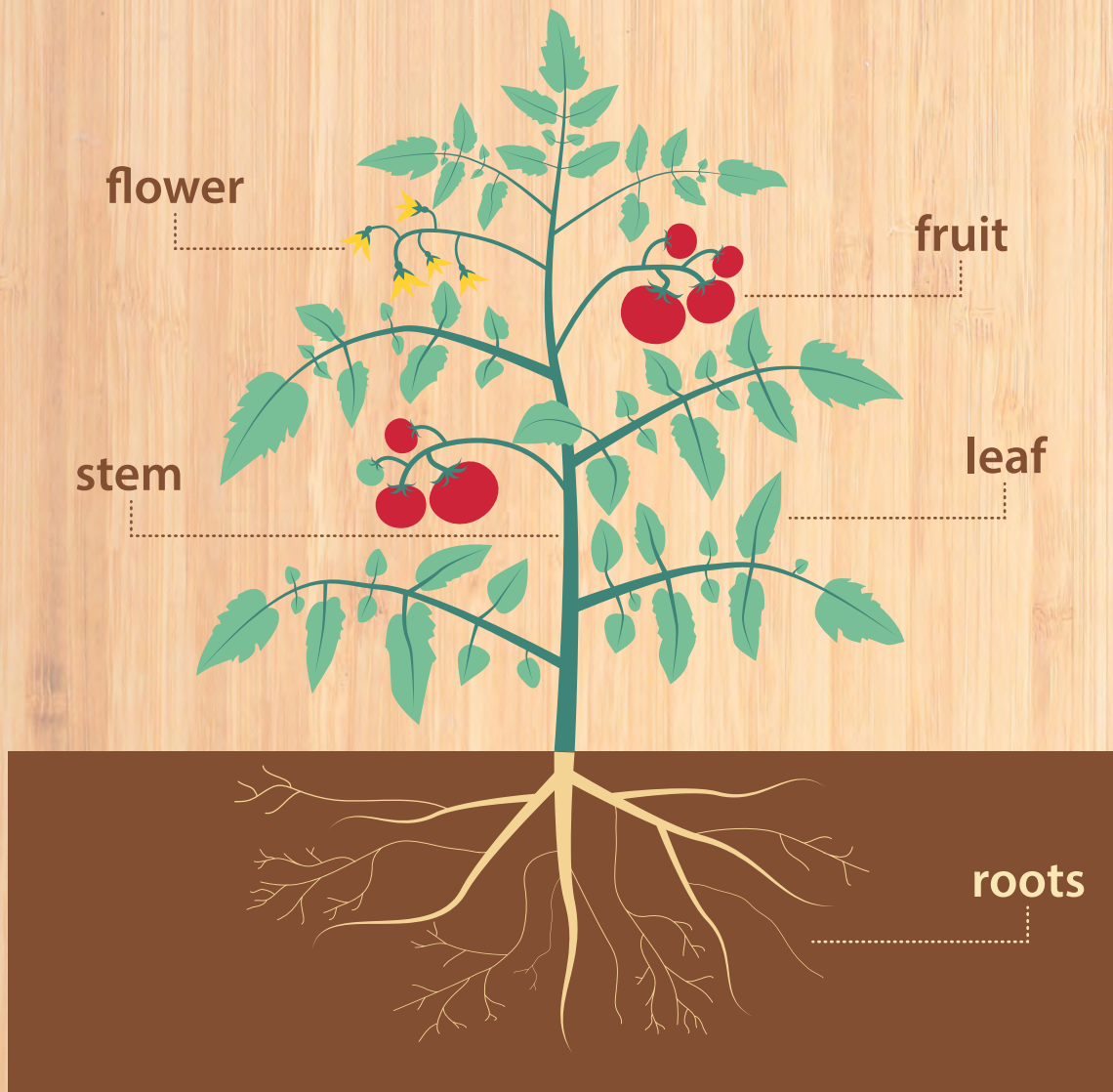


To measure dry ingredients:

- Use a dry measuring cup for larger amounts of dry ingredients such as flour or sugar.
- Spoon the dry ingredient into the measuring cup.
- Run the flat edge of a table knife across the top to level off
- Use measuring spoons for small amounts of dry ingredients. Fill and level off with the straight edge of a table knife.

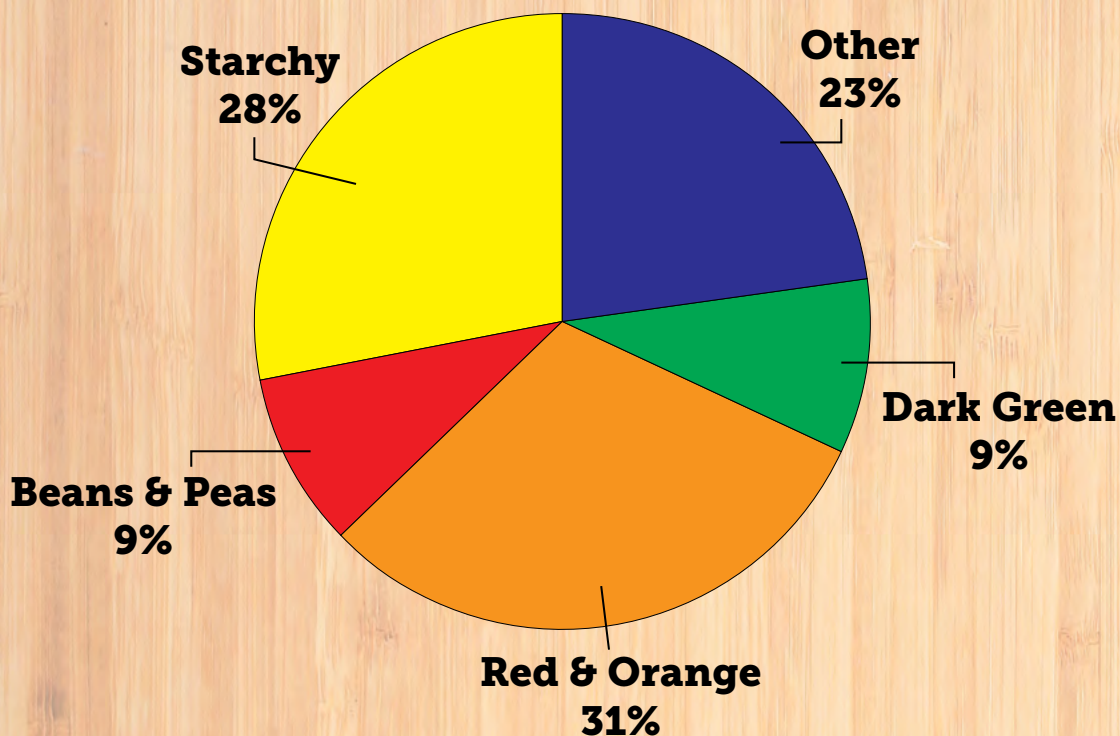


Parts of a Plant





Vegetable Subgroups



Examples of each group:

Dark Green: spinach, broccoli, kale, mixed greens

Red and Orange: acorn squash, bell peppers, pumpkin, sweet potatoes, tomatoes

Beans and Peas: Black beans, chickpeas, black-eyed peas, lentils, soy beans

Starchy: corn, green peas, white potatoes, parsnips, water chestnuts

Other: zucchini, cucumber, green beans, asparagus, cabbage, mushrooms

Cucumber Sources

Recipe

- <https://www.choosemyplate.gov/recipes/supplemental-nutrition-assistance-program-snap/cucumber-yogurt-dip>

Other

- <http://www.pickyourown.org/SDharvestcalendar.htm>
- <https://www.choosemyplate.gov/resources/seasonal/seasonal-spring>
- <https://fruitsandveggies.org/fruits-and-veggies/cucumber/>
- <https://web.extension.illinois.edu/veggies/cucumber.cfm>
- <https://extension.umaine.edu/publications/4254e>
- http://www.wifss.ucdavis.edu/wp-content/uploads/2016/05/FDA_WIFSS_-Cucumbers_PDF.pdf
- www.harvestofthemonth.cdph.ca.gov/documents/Spring/021712/Ed_Cucumber_Newsletter

Clues

- www.scienceforkidsclub.com/cucumbers.html

Cooking Glossary

- https://www.d.umn.edu/~alphanu/cookery/glossary_cooking.html

Lakota translation:

- Translated by Jeshua Estes

Photo credit:

- Pickling Cucumbers: Photo by Mike Licht, <https://flic.kr/p/h2M5Hi>