



Classroom Bites

Chickpeas

Did You Know

- Chickpeas, also called garbanzo beans, have been enjoyed as a nutritious food source for 7,000 years. The name chickpea comes from their similarity of appearance to a chick's beak.
- Like other legumes, chickpeas have root nodules that fix nitrogen, which helps to improve the soil. This bushy plant varies in height from 8 inches to 3 feet and grows best in dry climates. Each pod contains 1-3 chickpeas.
- Montana's production of chickpeas is growing. In 2016, Montana farmers harvested 254,000 acres of chickpeas.

Gardening & Agriculture

Since only 1-3 chickpeas are in each pod with several pods on each plant, chickpeas are not often found in home gardens. Montana farmers plant chickpeas in the spring (in May). Once the pods are mature in late summer (August – September), the plants are either swathed (cut down) and then allowed to dry or they are sprayed with a desiccant, which is a chemical that dries out the plants. A combine then drives through the field, harvesting and threshing the plants. Threshing is the process of separating the chickpea seeds that we eat from the rest of the plant. The chickpeas are transported and further sorted to remove unwanted plant material and debris, like small rocks, that are picked up during harvesting.

Selection

Most chickpeas are beige in color, but this can vary to include black, red, yellow, and green. Kabuli (larger and most common in the U.S.) and desi (smaller) are the main varieties of chickpeas grown. Chickpeas are available as whole chickpeas, either cooked and canned or dry and uncooked, as well as in processed forms such as pasta, flour, etc. If selecting canned chickpeas, choose low-sodium chickpeas, or rinse regular chickpeas thoroughly to remove some of the sodium.

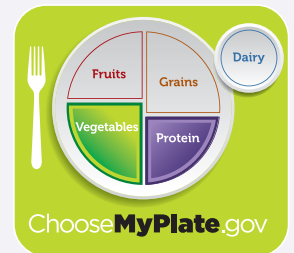


Storage

Store chickpeas in airtight containers in a cool, dry place for up to a year. Cooked chickpeas may be refrigerated up to 5 days or frozen for up to 3 months.

Nutrition Information

Chickpeas are a nutrient powerhouse. They are an excellent source of many nutrients including potassium, calcium, iron, vitamin B-6, and magnesium. Magnesium can help prevent migraines, ensure strong bones, regulate blood pressure, and manage blood sugar, among many other important functions in the body. Like other legumes, they provide protein and fiber. In 1 cup of chickpeas, there are 39 grams of protein! Fiber is important for a healthy digestive system, lowering cholesterol, and helping to manage weight. These gems are perfect for school nutrition programs as they credit as either a vegetable-legume or a meat alternate and are an affordable protein.



Cooking

Cooking dried chickpeas. Cooking your own chickpeas is easy with a little planning! One cup of dried chickpeas is equivalent to 2 cups (11.6 oz) cooked chickpeas. First, soak dry chickpeas using one of two methods: A) **Overnight soak:** Cover a pot of water and chickpeas. Place in the refrigerator and soak overnight. B) **Quick soak:** Bring chickpeas to a boil. Reduce heat and simmer for 2-3 minutes. Remove from heat and cover the pot to allow the chickpeas to soak for 1 hour until the chickpeas expand to 2-3 times their dry size. Second, cook soaked chickpeas: add soaked chickpeas to water (1 cup chickpeas per 3 cups water). Bring to a boil and simmer for 45-60 minutes or until tender. When chickpeas can be mashed by a fork, they are done. Pour through a colander to remove excess water. **Salad.** Chill chickpeas after cooking. Combine with chopped vegetables, such as tomatoes and broccoli, then toss with a vinaigrette dressing. Add to cooked pasta or green salad.

Pan-fry. Cooked chickpeas can be used to make veggie burgers, falafel, or croquette.

Pressure cook. Place desired amount of dried chickpeas in pressure cooker with three times the amount of water as beans. Close and lock lid in place. Pressure cook on high setting for 40 minutes if using dried chickpeas or 20 minutes for soaked chickpeas. Use a 10-minute natural release, then release any remaining pressure. Carefully open the lid. Drain off any remaining water prior to use or serving.

Puree. Place cooked and strained chickpeas in food processor and drizzle with olive oil, add seasonings if desired. Blend until smooth. Use the puree as a dip for vegetables, spread on sandwiches, or base for croquette.

Roast. Place cooked and strained chickpeas on a tray to dry for 1-2 hours, or pat dry with paper towels. Place beans in a bowl to drizzle with oil and low-sodium seasonings. Stir until chickpeas are coated. Spread on a baking sheet and roast at 400°F for 25-30 minutes or until lightly toasted. When done, the peas should sound like rocks when rolling around the pan.

Risotto, Soups, Stews, or Stir-fry. Add cooked chickpeas for added nutrients.

Season. For added flavor, cook chickpeas in water, broth, or tomatoes. To enhance flavor, experiment with allspice, bay, chili powder, cloves, cumin, curry powder, garlic, ginger, nutmeg, oregano, rosemary, and thyme.

Preserve. For information on preserving chickpeas, look for Extension MontGuides on *Home Canning Pressures and Processing Time*. Visit www.msuextension.org/nutrition and click on the food preservation link or contact your Extension Office.

Activities

Growing a Chickpea

Source: *Make Room for Legumes, Georgia Organics*

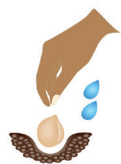
Grades

Pre-K – 2

Objectives

Students will:

- Define what germination means
- Sprout chickpea seeds
- Observe and record their seed's growth



Supplies

- A variety of seeds (different sizes)
- Per child: one dried chickpea, one plastic re-sealable bag, one folded paper towel
- Water in a container (one per table)
- Music and Movement video clip: [Preschool Learn to Dance: Can You Plant a Bean: https://youtu.be/LCKEdDEr82k](https://youtu.be/LCKEdDEr82k)
- A journal for each child to track seed progress
- Optional extension: soil and a pot for planting seeds

Directions

Engage (whole group): 10 minutes

- Begin by asking students, where do plants come from? Seeds! With younger students, introduce the idea that plants come from seeds. Show different types of seeds and lead students to make observations about how some seeds are big and some are small.
- Pass out a dried chickpea to each child. Explain that chickpeas are also called garbanzo beans. The part we eat, the chickpea, is the seed of the plant. Encourage students to feel the seed and ask, "how does it feel?" Explain that seeds have a hard outer shell called a seed coat.
- Explain that inside the seed is a tiny plant surrounded by special plant food to help the seed grow. Direct children to find the small 'beak' on the chickpea or the 'hole' on the side of the bean; this is where the seed will sprout.
- Explain to student that when a seed first starts to grow, it's called "germination." Have students repeat the word "germination."
- Discuss what a seed needs to grow: water, warmth, and light. If students suggest soil as a plant need, tell them that this science investigation into how plants grow will help determine if plants always need soil.

Explore (small groups): 10 minutes

- Explain that we usually grow plants in soil, but that means we can't see the seed sprout because it's underground. We are going to try growing the seeds in a plastic bag so we can watch them germinate.
- Review that germination refers to the process of a seed starting to sprout and grow leaves.

- Provide each child with a re-sealable plastic bag, paper towel, and chickpea; provide each table with a small container of water.
- Instruct each child to fold the paper towel into quarters then gently dip it into the water to wet it. The paper towel should not be dripping, so have students ring it out if needed then place it in the bag. Lay the chickpea on top of the paper towel. Place bags in a warm spot, like a windowsill. To make it easy to see, you can tape the bags to the window.
- Instruct children to get out their journal and draw the seed how it looks today and label it.

Explain (whole group):

- Ask students what they think is going to happen to their chickpea seed? Discuss how the chickpeas are going to germinate and ask students to make a prediction of what that will look like in a day, a week, and a month. Explain that students will track their seed's progress, making observations and diagrams every day or every other day.
- Explain that this seed will grow into a chickpea plant, and that chickpeas are a kind of legume. Legumes are a group of vegetables that grow in pods. Other legumes include other kinds of beans, lentils, peas, and peanuts.
- All vegetables, including legumes, help our bodies grow and get stronger.
- Participate in a music and movement activity about planting beans: [Preschool Learn to Dance: Can You Plant a Bean: https://youtu.be/LCKEdDEr82k](https://youtu.be/LCKEdDEr82k).

Extend (whole group): 15 minutes (daily or every other day)

Every day or every other day, lead the following activities to encourage students to track their seed's growth.

- Allow students to check on their seeds daily and draw their observations in their journal.
- Ask them to identify and label the seed, roots, and leaves as they grow.
- Continue reviewing what "germination" means and have them explain it in their own words.
- Have children share with the class different legumes.

Optional Extension:

- As seeds grow larger, they can be transplanted into a pot with soil. Even if you don't plant them in a garden to create fully productive plants, you can continue to grow the plant in a pot so students can get an idea of what the process looks like over time.
- Children can act out each stage of a plant life cycle to encourage movement.

Recipes

Roasted Munching Chickpeas

Great crunchy snack packed with protein.

Developed by: MSU Extension Nutrition Education Program

Servings

6

Ingredients

- 1 1/4 cups Dry chickpeas
- 1 tsp Olive oil
- 1/4 tsp Salt
- 1/4 tsp Cumin
- 1/4 tsp Paprika
- 1/4 tsp Garlic powder

Preparation

1. To cook chickpeas ahead of time: using a colander, rinse dry chickpeas with running water. Add chickpeas to a medium-large bowl and add 3 1/2 cups of water. Cover bowl and leave chickpeas to soak for about 16 hours. After soaking, drain off chickpea water and add chickpeas to a large pot along with 3 1/2 cups of water. Bring to a boil on the stovetop and reduce to a strong simmer for 1 1/2 - 2 hours. Taste test a couple chickpeas to check if they are done. Chickpeas should no longer be mealy, but not yet mushy either.
2. Drain the chickpeas, shaking off as much water as possible.
3. Preheat oven to 375°F.
4. Line a baking sheet with parchment paper and pour the chickpeas onto the sheet, making sure they are spread out.
5. Pat dry with a paper towel.
6. Bake for 30 minutes total. Halfway through baking time, shake the pan so the chickpeas turn over. The peas should sound like rocks rolling when they are well roasted.
7. Mix dry seasonings into a large bowl.
8. As soon as the chickpeas are done baking, pour into large bowl, add olive oil.
9. Shake the bowl so all the chickpeas are coated with oil.
10. Pour chickpeas into the bowl with the seasonings.
11. Shake the bowl so all the chickpeas are coated with seasonings.
12. Serve immediately at room temperature, or store in a covered container.

Bistro Chickpea Salad Sandwich

A new twist on the classic sandwich.

Source: *Idaho Grown Legumes Cookbook*

Servings

6

Ingredients

- 3/4 cup Celery, *chopped*
- 1/3 cup Green peppers, *chopped*
- 1/3 cup Green onions, *chopped*
- 1 1/2 cups Dried chickpeas
- 1/3 cup Mayonaise, *reduced calorie*
- 1 Tbsp Sweet pickle relish
- 1/2 Tbsp Dijon mustard
- 12 slices Whole grain-rich bread, *at least 1 oz equivalent each slice*
- 1/4 lb Spinach

Preparation

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2. Chop celery, green peppers, and green onions.
3. In a bowl or mixer, add mayonnaise, relish, and mustard.
4. Stir in celery, green peppers, green onions, and chickpeas.
5. Mix well.
6. Assemble sandwiches by placing 3/4 cup chickpea mixture onto slice of bread, top with 1/4 cup spinach and add second slice of bread. Serve chilled.



Book Nook

The Sandwich Swap, by Queen Rania Al Abdullah & Kelly DiPucchio

One Bean, by Anne Rockwell

Mr. Putter and Tabby Spill the Beans, by Cynthia Rylant



Dig Deeper

For sources and photo credits along with more recipes, lessons, quick activities, resources, and guides, visit:

www.montana.edu/mtharvestofthemoth.



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The Montana Harvest of the Month program showcases Montana grown foods in Montana communities. This program is a collaboration between Montana Farm to School, Office of Public Instruction, Montana Team Nutrition Program, National Center for Appropriate Technology, Montana State University Extension, Gallatin Valley Farm to School, FoodCorps Montana, and Montana Department of Agriculture. More information and resources are available at: www.montana.edu/mtharvestofthemoth.

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