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# MY FOOD JOURNAL

Keeping a food diary can reveal a lot about ourselves and the world around us.





# My Food Journal

—  
Keeping a food diary can reveal a lot about ourselves and the world around us.

## About the Activity

What we eat is both a matter of what's available to us, and an important piece of our health. In this activity, we'll reflect on our food choices, our food options, and how to think creatively about what we eat and where it comes from. You'll get to explore the connection between the food you put in your body and how you feel – all while learning exactly where your food comes from!



## Supplies

**These simple supplies should get you started. Aside from the printout, you can probably find most of these at home or school.**

- Printouts of Journal
- Pencil
- An internet-connected device, and printer
- Supplies for decorating (Crayons, markers, magazines, glue, etc.)

## Grades: 3-12

**Topic:** Food security, Agriculture

**Time:** 30 minutes each day for 5 days



# Activity Steps

This activity is designed to take place over the course of five days, so we'll list each step based on the day. But before we start, you can either view or download the introductory prompt with accompanying pages to get an overview of what lies ahead.

## Find your inspiration

Before you can begin working on your journal, you need a place to document your thoughts and responses. This is where your journal will come into play. Try to complete 1 page per day, in the order in which they appear. Follow the prompts as inspiration for each sheet in your journal:

1

### Day 1: I Am...

Food plays a big role in who we are. Certain foods and meals may reflect our heritage, while others may demonstrate our likes and dislikes. With that in mind, the first page of your journal is going to showcase you! Using the first page of your journal, some pictures or markers, and glue or tape, create a collage all about yourself.

**BONUS TIP:** Here are some ideas of what you can include on your journal page:

- Draw a self portrait, or include a photo of yourself or even your family.
- Cut out photos from magazines that showcase your favorite foods or activities.
- Draw a picture of an activity you like to do in your spare time.

2

### Day 2: Food Is...

Food and culture are interwoven: Preparing, serving, and sharing certain foods and drinks might appear simple, but these activities often carry important social and cultural significance. For example, are there certain foods you eat on holidays or birthdays? Use Page 2 of your journal to create a collage of the foods you eat. You can find those images in magazines, or you can print them out from the internet. Then, under each image on your collage, write down why you eat that particular food.



## Activity Steps (Continued)

3

### Day 3: You Are What You Eat

Do you remember what happened the last time you ate too much junk food? Did you have a stomach ache or headache after eating too much candy or ice cream? Or maybe you felt sleepy after eating too much pizza, or maybe you had a hard time sleeping after you ate ice cream.

On Day 3, you will keep a food diary on Page 3 of your journal. In the left column, write down everything you eat throughout the day, including all meals, beverages, and snacks. In the right column, write down how you felt after each time you ate.

**DID YOU KNOW?** The phrase “You are what you eat” is more than just a saying that grownups tell kids to convince them to eat healthy foods – it’s actually true! It has been proven that dietary patterns not only **impact your overall physical health**, but also **your mood and the health of your mind**.

4

### Day 4: Farm to Plate

Have you ever stopped to think about how the food on your plate made it to your house? If you’re eating a fruit or vegetable that didn’t come from your own garden, think about this: Someone had to plant the seeds, water them, care for them, and harvest the food when the time was right. But what happened next? Did someone drive it to the local farmer’s market? Did it have to ride on a boat, plane, or truck to make it to the grocery store?

Similar to the previous day, write down every item you eat throughout the day on Page 4 of your journal, but this time, do some research and find out where your food might have come from. If you think the food came from a local (or nearby or regional) source, write it down in the left column. If you think it had to travel a far distance, like from another country or overseas, write it down in the right column.

**DID YOU KNOW?** It is estimated that in the United States, **meals travel about 1,500 miles** to get from farm to plate. Choosing foods that are grown closer to home makes for more nutritious and better-tasting foods (because they are fresher), while also reducing air pollution (from the trucks that carry the food) and helping the local economy.

5

### Day 5: Food Truck Challenge

Now that you have investigated how your food gets from the farm to your plate, it’s time to put that knowledge to use! Brainstorm and come up with at least one menu item for a food truck in Kodiak, Alaska that includes only locally sourced foods. Give it a creative name. Think about how much you would charge for the item.

**TIP:** The food truck specializes in locally caught fish, in addition to locally farmed chicken and produce.





# Test Your Knowledge

## See how much you've learned about surfactants!

### QUESTION 1

Can the food you eat change how you feel?

- a. No. Regardless of what I eat, I will feel the same.
- b. Maybe. It depends if I woke up crabby that day.
- c. Yes. Diet can impact our overall health and mental well-being.

### QUESTION 2

In the United States, on average, how far do meals travel from farm to plate?

- a. 1,500 miles
- b. 5 miles
- c. 100 miles
- d. 1 million miles

### QUESTION 3

Is food part of culture?

- a. Not really. I just eat what I'm told.
- b. Yes, food and culture are often interwoven.

### QUESTION 4

Why is it better to eat locally grown food?

- a. It is bigger
- b. It does not require as many resources to deliver
- c. It helps to reduce pollution
- d. It helps the local economy
- e. B, C, and D

## Reflection Questions

### Bonus questions for your journal:

- What surprised you when researching where your food comes from?
- What could you change about your diet to include more locally produced foods?
- When you think about your dinner, how many workers did it take to get the food from a farm to your plate?
- What makes local foods more nutritious and better tasting?



# Investigate & Explore

Take your new knowledge to the next level.

This wasn't just a one-week journey! When choosing which foods to eat, always consider where each item came from and how it makes you feel. Then think about if you can make a healthier, more local food choice next time you sit down at the table to eat. Feel free to add pages to your food journal so you can continue tracking your progress and revelations.

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This work is supported by the USDA National Institute of Food and Agriculture, AFRI - Education and Workforce Development project 2021-67037-33376.



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# WINDOWSILL GREENHOUSE GARDEN

Create your own farm-to-table salad without going to the store!

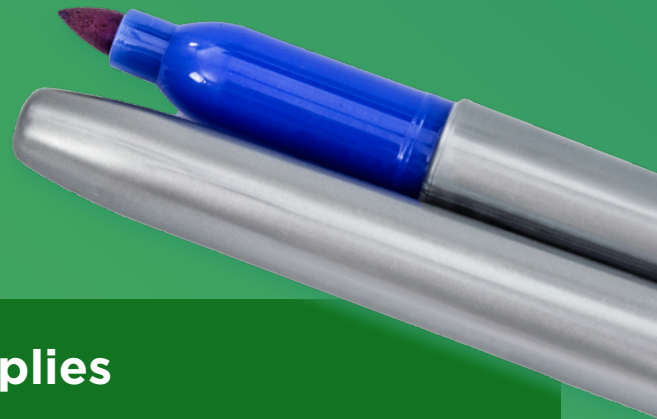


# Windowsill Greenhouse Garden

—  
Create your own farm-to-table salad  
without going to the store!

## About the Activity

Start growing plants that you can eat in a homemade salad – or however else you like! In this activity, learn to grow a variety of lettuces and edible flowers in a greenhouse-style, windowsill garden setup. You will learn how to take care of your plants, track growth, and harvest for your family dinner.



## Supplies

**These simple materials will get you started.**

Some you may have at home, while others you may have to get from a plant or hardware store.

- Clear container with a clear lid, such as a reusable food container or a clamshell container from food delivery or restaurant leftovers
- Permanent marker
- Labels
- Construction nail (a pointy one!)
- A sturdy stick or dowel rod
- Spray bottle filled with water
- Soil
- Lettuce seeds

## Grades: 3-12

**Topic:** Food Security, Agriculture

**Time:** 30 minutes on Day 1, then 5 minutes per day after that



## Activity Steps

In this planting experiment, you will learn the true meaning of eating locally by growing seeds in your own window.

### Plant your seeds

It's time to start planting!

Follow these instructions to give your plant the best chance for proper growth.

- 1 Fill the container halfway with soil.
- 2 Sprinkle lettuce seeds across the top of the soil. Try to distribute the seeds evenly. Cover lightly with soil.

### Water your plants

Water your seeds with a mister. Make sure the soil is nice and moist, but not soaking wet. Once you do this, you can close the lid and place the container in a sunny window.

Closing the lid will help to create a greenhouse effect. A greenhouse works by taking in sunlight and heating it up, converting solar energy (sunlight) into thermal energy (heat).

### Ongoing care

Plants are like pets. They need continuous care to grow and stay healthy. Use your mister to water your plants every few days (but not daily). Never soak the seeds so much that you need to drain the water. **Remember, no puddles!!** Use just enough water for the seedlings to grow. You should see sprouts starting to pop up through the soil between days 5 and 10. **Congratulations, you have just witnessed the process of germination!! (That's just a fancy word for when a plant grows from seed).**

**Tip:** When your seedlings start to flourish and reach close to the top of the container, complete the following 3 steps:

- 1 Remove the lid.
- 2 Carefully use a nail (with supervision if you need assistance) to poke 3-4 small holes in the bottom of the container.
- 3 Add a tray or plate underneath the container.

## Activity Steps

(continued...)

### Maintaining healthy seedlings and plants

Once your seedlings start to sprout, take notice of how close together they are. Do they look crowded? Don't worry! You have options:

#### Thinning

If there are too many seedlings close together, you will want to remove some. This process of making the plants less crowded is called thinning and prevents the plants from having to compete for natural resources. While it may bum you out to remove some of your seedlings, this process will make for an overall healthier garden and plants, so they don't have to compete for resources like light, water or air.

You can start the thinning process as soon as the first leaves (also called cotyledon) have fully emerged on your plants.

#### To thin your seedlings:

- Identify smaller or less-healthy-looking plants that you can thin.
- Pinch or cut the plants off at the soil line; don't pull them out. This will prevent you from damaging the roots of the remaining plants.

### — Harvest and enjoy

Knowing when to harvest your plants is a critical part of the growing experience. Now that you have grown your plants from seedlings, it's time to harvest and enjoy!

You can tell when your vegetables are ready for harvest by comparing them to the size and color of fresh vegetables in markets. If you wish, you can harvest leafy vegetables (lettuce, collards, etc.) before they grow as large as those in markets. Lettuce can also be used as you thin it.

**Tip:** Your homegrown salad contents may not be as large or as blemish-free as market produce, but their flavor will be just as good or better..



# Test Your Knowledge

## QUESTION 1

When you first see a sprout come from a seed you planted, what process has the seed gone through?

- a. Germination
- b. Harvesting
- c. Planting
- d. Digestion

## QUESTION 2

Imagine you have a ton of seedlings all crammed together in one space competing for the same resources. What process could you do to help them?

- a. Watering
- b. Thinning
- c. Planting
- d. Harvesting

## QUESTION 3

If a plant outgrows its container, what do you need to do?

- a. Harvest it
- b. Shade it from the sun
- c. A&B
- d. Transplant it

## QUESTION 4

What is another term for the first leaves to sprout from a seedling?

- a. Plants
- b. Cotyledon
- c. Thinning
- d. Germination

## Reflection Questions

- What other plants could you try to grow using this method?
- How would using an artificial light have changed this growing method?
- What different meals would be good for adding lettuce?
- What would you do differently the next time you grow seedlings or plants?



# Investigate & Explore

Take what you've learned to the next level to learn more and explore the possibilities.

Gardeners spend a lot of time planning! See if you can make a plan to grow your own lettuce all summer long, and then test it out!



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# GROW YOUR OWN MICROGREENS

Learn to sprout this tiny superfood in just a matter of days. Let's grow!



# Grow Your Own Microgreens

Learn to sprout this tiny superfood in just a matter of days. Let's grow!

## About the Activity

Microgreens are a delicious healthy addition to many meals, including salads. In this activity, kids will learn how to grow and take care of plants in a microgreen system.



## Supplies

**These simple materials will get you started.**

You should have most of these at home, but you may need to visit a plant or hardware store for an item or two.

- A planting device of your choice
  - A shallow cookie sheet or aluminum pie dish
  - A mesh-bottom tray
  - A fabric-based placemat
- A second tray for covering your planting environment
- Seeds
- Spray bottle
- Water
- Scissors
- Optional:
  - Soil
  - Grow light bulb
  - Light fixture or lamp

## Grades: 3-12

**Topic:** Food Security, Agriculture

**Time:** 20 minutes on the first day, then 5 minutes daily afterward



## Before we get started

### Here's what you need to know:

This microgreen experiment is a great example of how easy it can be to grow your own food. Other than your supplies, all you need is a little bit of time and patience.

Microgreens are tiny plants that are harvested soon after sprouting instead of when they have grown to a full-size plant. You can get microgreens from many different types of seeds, including kale, broccoli, arugula, and radish. Not only are they delicious, but they are also extremely nutritious!

Microgreens take about 10-14 days to grow from start to finish, depending on the temperature where they are growing. The warmer it is, the faster the seeds will germinate, and the sooner you will start to see your microgreens stretch and grow.

### DID YOU KNOW?

Microgreens contain up to nine times the amount of nutrients compared to their full-size counterparts.

A handful of these miniature plants pack a concentrated punch of vitamins, minerals, and antioxidants. Adding these to your diet is an easy way to increase the nutritional value of your meals.

## Activity Steps

Okay, let's get started.

### Prep your planting method

There are multiple ways to grow microgreens. Before you can plant, figure out if you prefer to use a hydroponic (soil-free) method. The primary difference between the two methods will be the type of tray you use to plant. A hydroponic method will also require less cleaning at the end.

If you are using soil, you can plant in a mesh tray or use a cooking tray of some kind, like a pie tray or cookie sheet. If you are not using soil, a fabric placemat or drying mat made of microfiber, hemp, or linen can do the trick.

**If using soil:** Before you begin planting, spread your soil throughout the tray, until you have an even layer about one-half-inch to one-inch deep. Gently press the soil into your tray so that it becomes firm.

### Sprinkle your seeds

Now it's time to plant (or rather, sprinkle) your seeds! Remember: Less is more. If you sprinkle too many seeds in the tray, they will clump together and encourage mold or fungus to grow.

Follow these steps to encourage proper spacing of your seeds:

- 1 Place half of your seeds in one hand.
- 2 Give your tray a light dusting of seeds by sprinkling the seeds across the entire space.
- 3 Repeat with the remaining seeds, trying to fill in the spots that don't have as many.
- 4 If you are using soil, add a thin layer on top of the seeds.

**Tip:** If you are planting more than one type of seed in your tray, you will want them to be approximately the same size to encourage even growth.

## Activity Steps

(continued...)

### Water your seeds

It's time to grab your spray bottle! Evenly mist the tray until the seeds are saturated and the soil or fabric is moist. Avoid water-logging your seeds! If you notice any puddles, that is too much water.

**Tip:** Set your spray bottle to mist. If your bottle is shooting out jets of water, that is too much water pressure.

### Complete the environment

Cover your seeds with a top tray to provide them with a dark and humid environment. Place the tray in a warm, dark place.

**Tip:** Do not put your microgreens close to a window or exterior wall. These types of environments are usually colder. Since these seeds like a dark, warm environment, they will prefer a warm and cozy spot in your house — at least for the first 4-5 days.

### DID YOU KNOW?

Some seeds need light to germinate, while others need darkness. No matter the environment, all seeds need moisture, oxygen, and the right temperature to germinate.

### Keep it growing!

Continue to water your seeds twice per day. Only remove the cover to water them. Remember: Locking in moisture is important for your seeds to grow!

### Let there be light

After about 3-4 days, your seedlings will start to search for light and you should see some sprouting! When they get to be about 1-inch tall, they are ready to receive some light.

- 1 Take the top tray and place it under your seedling tray as the base.
- 2 Move your tray under the grow light. Keep the light centered over the plants to ensure even growth.
- 3 Don't have a lamp? A location with bright daylight will work, too.

**Tip:** Temperature is less important now, but ideally, you want the temperature to be between 60 and 70 degrees.

### How to harvest

After about 10 days, your plants should have grown over the top of the tray. You will initially see cotyledons – the first leaves of the plant – followed by the plants' "true leaves." When you start to see the true leaves pop out, they are ready to harvest.

#### To harvest:

- 1 Do not pull out the microgreens
- 2 Use a scissors to cut the greens about a half inch above the tray.

**Tip:** Store your microgreens in a sealable glass or plastic container, a reusable plastic bag, or anything that will hold in moisture. Keep them in the fridge, but do not freeze them or they will turn mushy and go bad.



# Test Your Knowledge

## QUESTION 1

How long do microgreens take to grow before they can be harvested?

- a. 1-5 days
- b. 10-14 days
- c. 30-60 days
- d. 3 months

## QUESTION 2

Can microgreens grow without soil?

- a. Yes, absolutely!
- b. It depends
- c. Never
- d. I don't know

## QUESTION 3

Hydroponic is a \_\_\_\_\_

- a. Soil-dependent way of growing plants
- b. Soil-free way of growing plants
- c. Type of mineral water
- d. Type of microgreen

## QUESTION 4

What are cotyledons?

- a. The seeds
- b. The nutrients in the soil
- c. The first leaves of a plant
- d. The plant you harvest

## QUESTION 5

What do all seeds need to germinate?

- a. Moisture
- b. Oxygen
- c. The right temperature
- d. All of the above

## Reflection Questions

- What are the health benefits of microgreens?
- What are some different ways you could eat microgreens?
- Why do microgreens need a smaller growing space than larger plants?
- What are some other ways you could grow microgreens?



# Investigate & Explore

Take what you've learned to the next level to learn more and explore the possibilities.

There are many different types of microgreens that look and taste different. Some are mild in flavor while others can be spicy or have some zing to them. From broccoli to kale to radish, the list of available microgreens is endless!

To continue this growing exploration, try planting different types of microgreen seeds to see which ones you like best. Add them to all different types of meals — salads, pastas, sandwiches — to experiment with the flavors and where you think they taste best.

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# MAKE YOUR OWN CHEESE

Delicious cheese made right at home? Yes, please!







# Make Your Own Cheese

—  
Delicious cheese made right at home?  
Yes, please!

## About the Activity

In this activity, kids will learn how to make cheese from milk, plus they'll compare milk that comes from a cow and a goat. If you can, try this process with both types to compare!



## Supplies

**These simple materials will get you started.**

Most of these supplies you'll have at home already, but some you may need to order or get from the store.

- Saucepan
- A food thermometer that reads to at least 190 degrees
- Spoon
- Bowl
- Colander
- Cheesecloth or dish towel
- Plastic wrap or container
- 1 quart of whole milk
- Kosher salt
- ½ teaspoon of citric acid (4 tablespoons of lemon juice or white vinegar can act as a substitute for citric acid)

## Grades: 3-12

**Topic:** Food Security, Agriculture

**Time:** 90 minutes





## Activity Steps

Where does milk come from? Most people immediately think of cows, but milk can come from other animals too. You can use any kind of animal milk you have on hand for this activity.

- 1 Preparation is key when making any recipe! Collect all your supplies and ingredients, make sure your materials and workspace are clean, and then start to measure out your ingredients.
- 2 In your saucepan, warm the milk to 190 degrees. It is important to slowly warm the milk so that you don't burn the bottom of the pan.

### DID YOU KNOW?

Cheese is made from milk. By law, all milk sold to the public must be pasteurized and packaged in a licensed dairy plant. Pasteurized milk is a raw milk that has been heated to a specific temperature for a certain amount of time to kill pathogens that may be found in the raw milk. Pathogens are microorganisms, such as bacteria, that could make you sick.

- 3 Once the milk has reached 190 degrees, sprinkle citric acid in and stir briefly. Let this mixture sit untouched for five minutes.

### DID YOU KNOW?

Both goat and cow milk offer nutritional benefits, but goat milk may be easier on the digestive system. This is because the fat molecules of goat's milk are smaller than the molecules in cow's milk, which makes it easier for your body to process.

- 4 Next, place your colander over a bowl, then drape either a cheesecloth or a damp dish towel over the bowl. You are preparing for the fun part of cheesemaking!

- 5 Now it's time to revisit your milk and citric acid mixture, which after five minutes should have transformed into curds. Slowly pour the curds into the cheesecloth. Next, lift the cheesecloth allowing the extra liquid to drip out. Be extra careful so that you don't burn yourself while squeezing the extra liquid.

### DID YOU KNOW?

Milk is made of two proteins: casein and whey. When we add the citric acid to the milk and heat it, some milk proteins coagulate (another word for thicken) and form lumps in the milk. As a result, you are left with curds floating around in a liquid, which is the whey protein. You could use the leftover whey for baking or as a snack for your animal!

- 6 Leave the cheese in the cloth and wrap it in a ball. Cover the ball in plastic wrap or a container and refrigerate for one hour.

### DID YOU KNOW?

What you're making is called farmer cheese, which is an unaged (or fresh) mild white cheese with a crumbly texture. Some people compare it to cottage cheese, but with less liquid. This is how your cheese will turn out once it's done refrigerating.

- 7 You can easily customize your homemade farmer cheese with your favorite flavors! For example, you could mix in fresh herbs with the curds or sprinkle them on the finished cheese, along with olive oil and red pepper flakes. You could also use this cheese as a spread, as you would cream cheese. Or maybe you would like to sweeten your snack by adding honey, jam, or fresh fruit to eat like cottage cheese. It's up to you!



# Test Your Knowledge

See how much you've learned about the art of cheese making!

## QUESTION 1

Which milk is easier to digest?

- a. Cow milk
- b. Goat milk

## QUESTION 2

What is the process of heating milk to a specific temperature for a certain amount of time to kill pathogens?

- c. Pasteurization
- d. Farmer Cheese
- e. Whey
- f. Cow Milk

## QUESTION 3

Name the two types of proteins found in milk.

- g. Curds and whey
- h. Casein and whey
- i. Pathogens and bacteria
- j. Herbs and olive oil

## QUESTION 4

What is farmer's cheese?

- k. An unaged (or fresh) mild white cheese with a crumbly texture
- l. Aged cheese

## QUESTION 5

Coagulate means \_\_\_\_\_

- m. To thicken
- n. To thin
- o. To sneeze
- p. To have indigestion

## Reflection Questions

- Why is pasteurization an important part of the cheese-making process? How does this play a role in food safety?
- Did you use goat milk or cow milk? How did this play a role in how your cheese came out?
- What might happen if you used milk with a lower fat content, like skim milk, instead of whole milk?
- Did anything surprise you about the cheese-making process? How did this cheese taste in comparison to cream cheese or cottage cheese?





# Investigate & Explore

Take what you've learned to the next level to learn more and explore the possibilities.

Today, the majority of the world makes cheese from cow milk, but this wasn't always the case. Early cheeses were believed to be made from sheep's milk when they were first domesticated in ancient times. Because there was no refrigerator, humans used salt to preserve the cheese and it was eaten fresh.

Across the world, milk from mammals like reindeer, moose, horses, and alpacas is used to make cheese. Each of these cheeses differs in flavor and texture.

The next time you're in the supermarket, be on the lookout for different types of cheese and the animal milk they're made from. If you find one you like, maybe you could make it at home!

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# MAKE YOUR OWN SOURDOUGH PIZZA

Learn about sourdough while making a delicious meal.







# Make Your Own Sourdough Pizza

Learn about sourdough while making a delicious meal.

## About the Activity

It's pizza time! In this activity, kids will learn the science behind making sourdough crust. They will understand the important role of a sourdough starter, and how to take care of it through the feeding and discarding process. By the end, kids will get to see and taste their creation by making their own sourdough pizza!

## Supplies

These simple materials will get you started.

- Large glass jar with a lid
- Mixing bowl
- Spoon

### For the sourdough starter:

- Flour (preferably all-purpose flour)
- Warm water

### For the pizza:

- $\frac{1}{3}$  cups active sourdough starter
- $1 \frac{1}{2}$  cups of water
- $\frac{1}{2}$  teaspoon of salt
- 4 cups of flour
- Tomato sauce
- Cheese for the topping
- Toppings of your choice (vegetables, meat, etc.)

## Grades: K-12

**Topic:** Food Security, Agriculture

**Time:** One week for the starter, 90 minutes for the pizza





## Activity Steps

### Starting the Starter

- 1 The main ingredient to any sourdough bread is the starter, the bubbly mixture that helps the bread rise and gives it that unique flavor. Your starter will take at least one week before it's ready to be used, and each day you will need to feed and discard the starter.

#### DID YOU KNOW?

A sourdough starter is how we cultivate the yeast in a form that we can use for baking. Since yeast is present in all flour, the easiest way to make a starter is simply by combining flour and water and letting it sit. Starters can be made from any type of flour. However, the type of flour used will make a difference in flavor and how it works in recipes.

- 2 The first step is to mix  $\frac{1}{2}$  cup of flour and  $\frac{1}{2}$  cup of warm water in the jar. The starter should be a smooth, pasty texture. Loosely place the lid on the jar and put the starter in a warm place, like a cupboard or cabinet for one day. Take a look at our sourdough starter guide to learn how to feed and discard your starter over the next week.

#### DID YOU KNOW?

Over time, the starter develops yeast. The yeast gives off carbon dioxide gas, which forms bubbles in sourdough or any other yeast dough.

### Caring for Your Starter

Like any tiny monster, your starter needs to be fed to stay alive! You'll want to feed your starter a few times over the next week, starting three days after you first create it.

- 1 To feed, remove half of your starter into a separate container. The mixture that you remove is called the discard. In your original starter jar, add  $\frac{1}{2}$  cup of new flour and  $\frac{1}{2}$  cup of warm water, then mix together.

Over the next few days you will repeat this feeding process when your starter has bubbles on the surface.

- 2 Check on your starter daily until it's ready for baking in a week. Over time your starter will change in smell and texture!
- 3 Remember to save the discard you removed from your starter. It wasn't ready for bread making, but you can refrigerate that mixture to make another baked good, or as a gift for a friend so they can do the same!

### Making Your Pizza

- 1 Now it's time to focus on the dough! Mix your starter, water, and salt together in a large bowl. Add your flour and mix until you get a dough ball. Place the dough into another bowl and let it sit for 30 minutes.

#### DID YOU KNOW?

Yeast is a leavening agent for bread and what causes it to rise. It is a single-cell fungus that breaks down the starches in wheat flour, forming sugar. This is called fermentation!

- 2 Next, roll the dough out into four rounds. Let the dough rise again and start to prepare your toppings. Once the dough has risen, add tomato sauce with a spoon and then sprinkle cheese on top. If you want, you could add other toppings of your choice. Popular toppings are spinach, pepperoni, and olive oil. Some people even enjoy pineapples on their pizza!

#### DID YOU KNOW?

Sourdough is also a word for an Alaskan old-timer. This nickname comes from early Alaskans who spent the entire winter north of the Arctic Circle. They protected their sourdough during the coldest months by keeping it close to their body.

- 3 Now your pizza is ready to cook! Bake in the oven at 550 degrees for about 10 minutes. Once your pizza is done, let it cool for a few minutes, slice, and serve!





# Test Your Knowledge

## See how much you've learned about sourdough!

### QUESTION 1

The carbon dioxide in yeast causes \_\_\_\_\_ in the starter.

- a. Bubbles
- b. Steam
- c. Water
- d. Ice

### QUESTION 2

Yeast is \_\_\_\_\_.

- a. The leavening agent for bread
- b. Another word for dough
- c. A type of sauce
- d. A delicious pizza topping

### QUESTION 3

Does a starter only work with white flour?

- a. Yes, only white flour
- b. No, starters can be made from any type of flour

### QUESTION 4

What is the word used to describe a type of bread, but also an Alaskan older-timer?

- a. Flour
- b. Sourdough
- c. Wheat
- d. Dough

## Reflection Questions

- How long did your starter take to get bubbly?  
What do you think causes the difference in time before it is ready to use?
- Could you tell the difference between sourdough pizza crust and “regular” pizza crust?  
What was the difference? Which do you prefer?
- How did it feel to put food on the table that you made from scratch?  
Did it taste any different than store-bought products?



# Investigate & Explore

Take what you've learned to the next level to learn more and explore the possibilities.

Sourdough doesn't have to be sour, and the term simply refers to any bread made from yeasts and bacteria. In fact, nearly all leavened bread in the world came from sourdough. For example, the French baguette, Chinese mantou, and the East African injera are all examples of sourdough breads that vary in taste and texture. The most famous sourdough is San Francisco sourdough, developed at Boudin bakery in 1849.

Bread isn't the only baked good that can be made with your sourdough starter. The yeasty mixture could also make other baked goods like hot cakes, waffles, muffins and even cake! Try these other recipes the next time you want to experiment with sourdough.

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This work is supported by the USDA National Institute of Food and Agriculture, AFRI - Education and Workforce Development project 2021-67037-33376



**4-H at  
HOME**



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# MAKE YOUR OWN BUTTER

Churn up something tasty with this fun at-home activity.





# Make Your Own Butter

Churn up something tasty with this fun at-home activity.

## About the Activity

Who doesn't love butter? In this activity, you will learn about where butter comes from and how to make your own butter!



## Supplies

**These simple materials will get you started.**

You may need to order or buy marbles from a toy store.

- Jar with lid
- Marbles (optional)
- Heavy whipping cream
- Salt (optional)

## Grades: K-5

**Topic:** Food Security, Agriculture

**Time:** 25 minutes







## Before we get started

### Here's what you need to know:

This microgreen experiment is a great example Butter is made from the cream that exists naturally in milk. When milk settles, the cream will naturally float to the top, where you can skim it off.

## Activity Steps

### Let's get started.

- 1 First, wash the jar, lid, and marbles with hot water and soap. Always be sure your hands and utensils are clean during food preparation! That's especially important when what you are preparing, like this butter, is not going to be cooked.

#### DID YOU KNOW?

Butter is high in vitamin A, D, E and calcium. Vitamin A is good for your eyes, Vitamine D is vital for bone growth and health, vitamin E is good for your skin and calcium strengthens bones!

- 2 Fill the jar halfway with heavy whipping cream.
- 3 Drop a marble or two into the cream.
- 4 Add a pinch or two of salt to taste (if desired).
- 5 Tighten the lid to ensure it doesn't leak.

- 6 Now, get your muscles ready: Shake vigorously for 15-20 minutes or until butter forms.

#### DID YOU KNOW?

Butter is made by churning , or shaking, the cream. During the process, the butterfat (solid) is separated from the buttermilk (liquid). Commercially, milk and cream are separated by a process called centrifugation in which milk is put in a spinning machine, and that spinning process separates the milk solids and liquids. But we're doing it the old-fashioned way!

- 7 Drain the buttermilk. You may gently rinse the formed butter under cold water to remove excess buttermilk.

#### DID YOU KNOW?

You can drink the buttermilk! Buttermilk is a product sold in stores and, while it may not be as popular as it once was, lots of people still drink it.

- 8 Now comes the delicious part: Enjoy your creamy, tasty butter!

**Note:** the butter will stay good for 3-5 days at room temperature, about 7-10 days if refrigerated. Homemade butter is best when eaten fresh!



# Test Your Knowledge

## QUESTION 1

Butter is made from \_\_\_\_\_

- a. Milk
- b. Cream
- c. The cream found in milk
- d. All of the above

## QUESTION 2

When churning milk into butter, what is the liquid called that is separated from the solid?

- a. Milk
- b. Fat
- c. Butter
- d. Buttermilk

## QUESTION 3

True or false? You can not drink buttermilk.

- a. True
- b. False

## QUESTION 4

Butter is high in which of these vitamins and elements?

- a. Vitamin A
- b. Vitamin D
- c. Vitamin E
- d. Calcium
- e. All of the above

## QUESTION 5

Commercially, milk and cream are separated by a process called \_\_\_\_\_

- a. Centripetal force
- b. Centrifugation
- c. Circumnavigation
- d. Circumference

## Reflection Questions

Bonus questions to inspire wonder.

- How did your homemade butter look and taste compared to store bought butter?
- What other products do we get from milk?
- Look at the dairy containers in your refrigerator. How far did they travel to get to your home?





# Investigate & Explore

Take what you've learned to the next level to learn more and explore the possibilities.

Drinking milk from cows and other animals is **relatively new** to humans — we've been around for 300,000 years, and only started drinking animal milk about 10,000 years ago. It's not something that all cultures in the world do, but it is very common in Europe and the U.S.

Butter and cheese are just two of many food products that can be produced from milk. It's easy to make your own cheese (**we have an activity where you can do that here**), and it's also pretty easy – and really fun to make your own ice cream (**we have an activity where you can do that, here**).

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