



Daily Dose of Science Challenge: Get Cultured

Question: What are some ways bacteria can be beneficial to us?

Background: Bacteria get a bad rep, since we usually thinking about them making us sick. But there are lots of ways bacteria can benefit us as well. The most common good bacteria are called “probiotics” and can help with gut health as well as keeping bad bacteria out of our body.

Activity: Make your own sourdough starter!

Suggested materials:

- 2 mason jar or other large glass containers
- Flour
- Water
- Coffee filter or cheese cloth
- Food scale or measuring cups

Vocabulary to incorporate into this lesson:

- Fermentation
- Probiotic

Procedure: Adapted from *Artisan Sourdough Made Simple*.

- Day 1: Mix 60g (about ½ cup) of flour with 60 g (about ¼ cup) of water in a large jar. Cover loosely and let it rest in a warm spot for 24 hours.
- Day 2: Check your starter for little bubbles (they may look like black dots). This is a sign of fermentation! Don't worry if you don't see them. Let the starter rest for another 24 hours.
- Day 3: Time to feed! Remove about half of your starter, then add another 60 g (about ½ cup) of flour and 60 g (about ¼ cup) of water. Mix until smooth. Cover loosely and rest for 24 hours.
- Day 4-6: Repeat feeding process above.
- Day 7: Your starter should have lots of big and small bubbles and should have a texture similar to toasted marshmallows. Smell should be pleasant and not astringent. If these conditions are met, your starter is ready to use and can be transferred to a clean container. If conditions are not met, keep feeding until they are.
- Feeding your sourdough: If your starter no longer is fluffy and bubbly, it's time to feed. If you notice a yellowish liquid, this is called hooch and is another indication your starter needs to be fed. Pour off the hooch if possible and feed your starter.
- Store your starter in the fridge when not using. Before baking, pull it out, feed it, and let it sit at room temperature for 24 hours.

Explain:

Use your starter to make bread, waffles, cinnamon rolls, bagels....

Here's an easy bread recipe: <https://alexandracoops.com/2017/10/24/artisan-sourdough-made-simple-sourdough-bread-demystified-a-beginners-guide-to-sourdough-baking/>





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Compare sourdough recipes to conventional bread recipes. What are some differences? You'll see that most sourdough recipes don't require adding commercial yeast to the dough. That's because your starter already has an active yeast culture!

Compare the taste of your sourdough bread to conventional bread? What causes that sour/tangy taste? That's a culture of bacteria, similar to what gives yogurt and sour cream its tangy flavor.

Extension:

There are a lot of other methods of making a sourdough starter—try a few and see if you notice any differences. Wild yeast strains are different depending on where you live—even if you and a friend use the same method, your sourdough might taste different from different strains of yeast!

What are some other sources of good bacteria?

Connect with us:

What's your favorite sourdough recipe? Share it with us in the comments!

Additional resources:

DIY Yogurt: <https://www.thekitchn.com/how-to-make-yogurt-at-home-cooking-lessons-from-the-kitchn-125070>

DIY Kombucha: <https://www.thekitchn.com/how-to-make-kombucha-tea-at-home-cooking-lessons-from-the-kitchn-173858>

130 year old sourdough starter in Newcastle, WY: <https://kingfm.com/129-year-old-sourdough-starter-is-still-growing-in-newcastle-wyoming/>
https://trib.com/news/state-and-regional/newcastle-woman-maintains--year-old-sourdough-starter/article_000fcb17-5a5a-5590-84c2-3b55bb1d80fa.html

More things to ferment: <https://www.thekitchn.com/pickles-preserves-brews-9-diy-157299>

