

Cheesemaking and Fermentation

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Val's Classroom Kraut recipe

Outcome. Each student will make a one-quart jar of fermented sauerkraut.

Materials & inputs:

1. **One medium-large head of cabbage.** It can be purple or green. I always use a local organic cabbage supplier since it is sure to not have been sprayed so therefore it is likely to have a good population of fermenting microbes on the cabbage leaves. If you are using store-bought, conventional cabbage be sure to rinse it well to rid the cabbage of any pesticide residue. Help students understand that a few bug holes in the outer leaves of cabbage are normal and will not hurt anything. Remove one or two layers of outer leave from the head of the cabbage. Save a clean out leaf piece about the size of the jar opening.

2. One or two teaspoons of **no-iodine salt.**

2. **Canning Jar and lid.** Clean glass jars (with both lids and rims) are required. We are not actually going through the canning process, but these jars work well for fermentation. Some people use “burping” lids for fermentation and you may want to pick up a pack just to show students. They are too expensive though to give out. Wide-mouth or narrow, jar opening size does not matter.



3. **Knife, cutting mat, large bowl.** Each student should have a somewhat sharp large knife, a surface on which to cut, and a large plastic or metal bowl, somewhat flat bottomed if possible. No glass bowls since we will be pounding cabbage in the bowl.

4. **Small Ziplock baggy or a small, cleaned rock.** We will use these to weigh down the cabbage and keep it submerged in its own liquid. If you use a rock, wash it with soap and water, rinse well and place it on top of the small saved cabbage leaf submerged in the liquid. Alternatively, use a Ziplock bag filled with water and placed on top of the cabbage to submerge it.



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Methods/steps for making small batch sauerkraut

Before starting wash your cabbage and remove any yucky outer leaves. Usually this is just one layer of leaves, but sometimes, two or three layers are damaged.

1. Cut the cabbage in halves then quarters. Slice into pieces about a quarter inch wide and an inch or two long (about the size of your pinky finger).

2. Put all the cut cabbage material into the large bowl.

3. Add one teaspoon of salt to the bowl of cabbage.

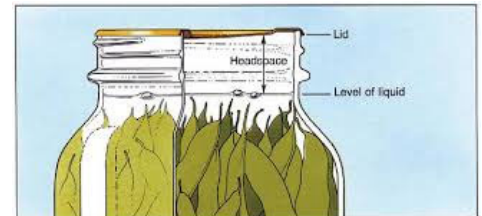
3. Fill the quart jar with water. Use the jar as a mallet to pound and smash the cabbage. Remember, it is glass and can break if you get too crazy. But it should be OK and not break.



4. Pound that cabbage! Keep at it for about 10 minutes. You are breaking the plant cell walls and releasing the liquid from them. Sometimes cabbages release water easily if they are fresh and lush. Sometimes, it takes 20-30 minutes to get enough juice if the cabbage has been in storage and dried out a bit.

5. Taste the cabbage and liquid mixture. If it tastes salty enough for you, and if you are releasing enough liquid by pounding, then great. If it's not salty enough, or not releasing enough liquid, try adding another half teaspoon of salt. Taste again to make sure you are not oversalting.

6. When you have at least enough liquid to cover all the cabbage in the bowl you are ready to transfer it all to the jar (empty it of water) Check with your instructor first to make sure you have enough liquid.



7. Fill your jar to the bottom of the rim area. This is about an inch from the top or brim of the jar. Do not fall below into the 'shoulder' area of the jar, as this invites oxygen into the jar.

8. After transferring, push all the cabbage material down in the jar so that it is covered by the juice.

9. Use a clean cabbage leaf to cover all the cabbage material at the surface of the jar.

10. Seal off and keep the cabbage submerged below the liquid and the 'leaf cover' by placing a small, clean, rock on the leaf. Alternatively, place a small baggie filled with water on top of the leaf to hold all the cabbage under the surface of the liquid. Screw the lid and band on the jar.

11. Ferment the cabbage on a warm kitchen counter-top for 3-4 weeks. Try to keep the temperature at about 70 degrees, plus or minus a few degrees. The warmer it is, the faster the ferment will happen. Naturally occurring bacteria on the cabbage leaf surfaces inoculated your cabbage and ferment it. The cabbage may bubble and froth.

12. Burp the cabbage every few days to release CO₂ that may have built up. After it no longer bubbles its good to eat. Store in your refrigerator and eat it all within 3-4 months. For longer storage actually water-bath can the cabbage with a heat/kill step.