
The Science of Baking

— With Ms. Holmstedt —

Feeding your Sourdough Starter...

Ms. Holmstedt's Notes:

- Wash hands thoroughly; they will be your “mixers”
- If you're using a scale to measure...
 - Mix in equal parts flour and water with mix thoroughly with your hands. (make a “claw”).
 - Ex: if you have 50g of starter, mix in 50g of water and 50g of flour
- If you're using measuring cups, go by this guide:
 - You will be adding more flour than water at each feed.
 - if you have 1 cup of starter, mix in 1 cup flour and 1/2 cup water
- If you plan to use this fed starter, let it sit out (covered) for 2 hours before using in a recipe. If you don't plan to use it, cover and refrigerate.

Step 1



Clean bowl, scale zeroed out

Step 2



495g of starter (time to feed it!)

Step 3



Starter added, scale zeroed out

Step 4



495g of flour added

Step 5



Starter + flour, scale zeroed out

Step 6



495g of warm water added, mix!



Once everything is mixed (and there isn't any dry flour bits...) try to scrape off as much of the starter from your hand back into the bowl.

The consistency should feel like thick pancake batter- it is a **STICKY** (fun) **MESS!**

Use a bowl scraper or spatula to get off the starter from the edges of the bowl. (this will help with bowl cleaning later)

Now, you can go 2 different directions as I previously mentioned:

1- **If you want to use it in a recipe, leave it on the counter (covered) for 2 hours.** This will allow your microorganisms to digest their new food (flour/starch)

OR

2- **Cover w/plastic and refrigerate** (don't need to feed it for about a week)

Fed starter **1 minute** after making it



Fed starter after **2 hours** on the countertop (room temperature)

Bubbles!!!

(aka: yeast farts)



Sourdough Bread Recipe (for beginners)

IMPORTANT...

Will you be using a Dutch Oven (lined with parchment paper?)



Will you be using a loaf pan? (*easiest*)



Will you be creating a round that is placed on a piece of parchment paper & is on a cookie sheet? (*hardest, not explained in this lesson*)



Baking with a Dutch Oven...



I recommend you line your dutch oven with parchment paper before placing your dough inside. (This will prevent your dough from sticking)

Here's a video to show you the steps: <https://youtu.be/eod5cUxAHRM>

Day 1: make the levain and the autolyze (in separate containers)

Also day 1: mix leavain and autolyze together, refrigerate overnight in a bowl (lined with a floured tea towel)

Day 2: Shape your bread on a floured surface, let rest, then bake!

(details on the days 1-2 can be found in the above video)

Here is the recipe he uses in the video: (next slide)

Dutch oven Sourdough Recipe

Link to the video: <https://youtu.be/eod5cUxAHRM>

For the Levain: (start at 9AM)

- 45g mature **starter** Here's a video to show you the steps:
- 45g unbleached all purpose flour
- 45 g stone ground whole wheat flour
- 90g filtered water at room temperature

For the Autolyze: (start at 2:30PM)

- 273g unbleached bread flour (bread flour has extra protein/gluten in it, gives it more stretch)
- 500g unbleached all purpose flour
- 175g stone ground whole wheat (regular whole wheat is ok)
- 660g filtered water @ 90-95 degrees F (tap water is ok)
- 180g mature levain (just use all of your levain splinter that you made separately)
- 18g fine sea salt or kosher salt

Baking with a Loaf Pan



If you have a non-stick loaf pan, you're good to go! (don't line it, flour it, etc...)

Video here: https://youtu.be/ik7EWQJ53_4

Day 1: Mix all the ingredients together (if you don't have some of the "specialty" flour, just use what you've got.

*Also, this recipe is for a 12" loaf pan, typically, households have 9" pans... if you're working with a 9" pan, remove about $\frac{1}{4}$ of the dough and get creative with it. (make a mini loaf...?) Science experiment!

General Directions...

Stretch, let rest for 1-3 hours (covered w/a wet towel)

Score (or not)

Bake for 20 minutes @ 425 °F with steam (in an aluminum baking tray)

Rotate loaf pan after 20 minutes, remove water pan and cook for another 20 minutes, or until nicely browned (when the bread is done, you should hear a *THUMP*/empty sound when you slap it.)

Cool on a cooling rack (for at least 15 minutes) before slicing!

Loaf Pan Sourdough Recipe

Link to the video: https://www.youtube.com/watch?v=ik7EWQJ53_4&feature=youtu.be

- 726g unbleached bread flour (bread flour has extra protein/gluten in it, gives it more stretch)
- 32g Whole Spelt flour
- 16g Whole Rye flour
- 486g Water
- 100g starter
- 17g fine sea salt or kosher salt

Mix, stretch, let rest for 1-3 hours (covered w/a wet towel)

Let's be Real...

Making bread isn't easy, that's why not everyone does it.

If you decide to go through with this process, you will surely have some failures. (I know I DID).

Don't feel like you have to use THESE recipes, use any sourdough recipe that you want!

This process takes some time, don't rush it... treat it like a bread baby and nurture it with as much precision and care as possible.



TAKE A PICTURE OF YOU FINISHED PRODUCT

No matter what it looks like, you made this bread; be proud!

Make a mental note (or written note) and what you want to try next time.

PLEASE, PLEASE, PLEASE send me a picture of your bread (or you eating it) :)

(Nothing would make me happier!)

mholmstedt@srcs.k12.ca.us

