

THE SOURDOUGH FORMULA

Module 1 · Your Starter, From Scratch

Meet your starter

Every loaf you'll ever sell starts here, in a jar on your counter.

A sourdough starter is simply flour and water that has been left to ferment. The flour already carries wild yeasts and lactic acid bacteria on it, and there are more in the air of your kitchen and on your hands. When you mix flour and water and feed it every day, those tiny organisms wake up, multiply, and settle into a stable little community. The yeast makes the gas that lifts your bread. The bacteria make the gentle sour flavor and help the bread keep fresh longer.

You don't buy anything special. You don't need grapes, pineapple juice, or a starter from someone's grandmother (although that's lovely too). You need:

- A clean 1 quart (1 liter) glass jar with a loose lid
- Your digital scale
- Bread flour and whole wheat flour
- Water at about 78–80 °F (26–27 °C), lukewarm to your wrist
- A rubber band or a strip of tape to mark the level
- A spoon or a small spatula

And about five minutes a day.



Day 1 setup: a clean jar, my scale, two flours and a rubber band to mark the level.

The Dolly method in one sentence

Equal weights of starter, flour and water (1:1:1), fed every day at a cozy room temperature, 50/50 bread flour and whole wheat for the first week, then bread flour, until it doubles in 4 to 8 hours.

That's the whole method. Everything below is just the detail of what to expect each day so nothing surprises you.

Why 1:1:1 by weight

Weighing makes every feeding identical, and identical feedings make a predictable starter. If you keep 50 g of starter and add 50 g of flour and 50 g of water, you always have 150 g in the jar and the starter is always 100 % hydration (equal flour and water). That's a medium-thick batter, like a thick pancake batter, which is easy to read: you can see bubbles, you can see the rise, and you can tell when it has peaked.

Why whole wheat at the start

Whole wheat flour still has the bran and the germ, which carry more wild yeast, more bacteria and more minerals than white flour. It gives a brand-new starter a strong head start. Once the community is established (around Day 8), you shift to bread flour so Dolly gets milder, more predictable, and matches the flour in your dough.

Why temperature matters so much

Yeast and bacteria are a lot like us: they're happiest at 72–78 °F (22–26 °C). At 68 °F (20 °C) everything simply takes longer. At 80 °F (27 °C) things move fast. If your kitchen runs cool, don't worry, you'll find easy warm spots in the troubleshooting section below. Use lukewarm water (78–80 °F / 26–27 °C) for every feeding and you'll already be ahead.

Your daily feeding, step by step

This is what «feed» means every day from Day 3 on. Once you've done it twice, it takes two minutes.

1. Put a clean small bowl (or a second jar) on the scale and press «tare» so it reads zero.
2. Spoon in 50 g of starter from your jar. The rest is discard.
3. Add 50 g of flour (the flour mix for that day).
4. Add 50 g of lukewarm water.
5. Stir hard for 20 seconds until there are no dry bits. Scrape down the sides.
6. Move it back into the jar (or simply keep the jar you mixed in), level the top, put the lid on loosely, and slide the rubber band to the top of the mixture.
7. Write the time and the room temperature on your Starter log.

> ***Sarah's tip:*** *I keep a pre-mixed jar of «Dolly food» on the shelf: 1 kg bread flour and 1 kg whole wheat shaken together. During week one I just scoop from it. No measuring two flours every morning.*

The 14 days

Here's the full plan. Most days are one feeding. From Day 8, you feed twice a day, morning and evening, which is still only about five minutes in total.

Day	What you do	What you'll see	Time
1	Mix 25 g bread flour + 25 g whole wheat + 50 g lukewarm water in the jar. Stir well, lid on loosely, mark the level.	A thick, smooth paste. Nothing happens yet, and that's exactly right.	5 min
2	Just stir it once or twice. No feeding.	Maybe a few tiny bubbles on the surface or the sides. It may smell like wet flour.	1 min
3	First feeding: keep 50 g, add 50 g flour mix (50/50) + 50 g water.	Often a sudden burst of bubbles and a big rise, with a funky, cheesy or «old socks» smell. Fun, but this isn't yeast yet.	3 min
4	Feed the same way (50 : 50 : 50, flour mix).	Things often go quiet: fewer bubbles, little rise. This is the famous quiet phase. Totally normal.	3 min
5	Feed the same way.	Still calm. Smells sour, maybe a bit like vinegar. A few small bubbles.	3 min
6	Feed the same way.	Small bubbles return through the whole jar. The smell gets cleaner and tangier.	3 min
7	Feed the same way.	A noticeable rise, about 25–50 % within 12 hours. You're over the hump.	3 min
8	Start feeding twice a day (morning and evening). Flour: 40 g bread + 10 g whole wheat per feeding.	Rises 50–75 % between feedings. Bubbles are bigger and the top starts to dome.	5 min (2 feedings)
9	Twice a day, same flour as Day 8.	The smell shifts toward yogurt and green apple.	5 min
10	Twice a day, same flour.	Close to doubling in 8–12 hours. A web of bubbles on the side of the jar.	5 min
11	Twice a day, now 50 g bread flour only.	A predictable rise and fall. You'll start to «know» when it will peak.	5 min
12	Twice a day, bread flour.	Doubles in about 6–10 hours. The top is domed at peak, then falls slightly and gets streaky lines on the glass.	5 min

Day	What you do	What you'll see	Time
13	Twice a day, bread flour. Try the float test at peak (below).	Doubles in about 5–8 hours. Smells sweet and tangy, like plain yogurt.	5 min
14	Twice a day, bread flour. Check the «ready» signs. Name your starter.	Doubles in 4–8 hours, three feedings in a row. You have a baking starter.	5 min



Day 1: just a thick paste and a rubber band. It doesn't look like much yet, and it doesn't need to.

Days 1 to 3: the wake-up

On Day 1 the mix looks like wallpaper paste. Put it somewhere out of direct sun, ideally where the temperature stays between 72 and 78 °F (22–26 °C). A kitchen shelf away from the window is perfect.

Around Day 2 or 3 many starters puff up dramatically and smell strange, sometimes like cheese, sometimes like a gym bag. This is a group of bacteria (not the yeast you want) that thrive at the very beginning and make a lot of gas. Enjoy the show, keep feeding on schedule, and know that this early burst always calms down as the starter becomes more acidic.



Day 3: lots of bubbles and a surprising rise. Exciting, but it's the early bacteria showing off, not the yeast yet.

Days 4 to 7: the quiet phase

This is where most people panic, and you won't, because you know it's coming.

As the starter gets more acidic, those early bacteria die off and the jar goes quiet. No rise, few bubbles. Under the surface, the acid is creating the perfect home for the wild yeast and the good lactic acid bacteria. They're multiplying, they just aren't loud yet.

Keep feeding once a day, same time if you can, and keep it warm. By Day 6 or 7 you'll see fine bubbles running all through the jar and a real rise starting.



Day 5: the quiet phase. A few small bubbles and almost no rise. Keep going, this is exactly on track.

> ***Sarah's tip:*** *When Dolly was in her quiet phase, I stirred a teaspoon of rye flour into her feeding on Day 5 and Day 6. Rye is a treat for wild yeast. It's optional, but it often makes the quiet phase shorter.*

Days 8 to 14: building strength

From Day 8 you feed twice a day, about 12 hours apart. Morning coffee and after dinner works well. More frequent feeding keeps the starter from getting too hungry and too acidic, which makes the yeast stronger and the starter more reliable.

You also switch over to bread flour, gradually: mostly bread flour on Days 8 to 10, then only bread flour from Day 11. Your starter will look whiter and smell milder and sweeter.

Watch the rubber band. Every day, the starter climbs a little higher and a little faster.



Day 10: nearly doubled overnight, with a lacy web of bubbles on the glass.

What «ready» looks like

Your starter is ready to bake with when it shows all of these signs:

- **It doubles (or more) in 4 to 8 hours** after a 1:1:1 feeding at 72–78 °F (22–26 °C).
- **It does this three feedings in a row.** Consistency is the real test.
- **The top is domed at peak**, not flat or collapsed.
- **It's full of bubbles**: big ones on top, small ones all through, a web of them on the sides of the jar.
- **It smells pleasant**: yogurt, green apple, a little like beer or a fresh bakery. Tangy, never harsh.
- **The texture is airy and stretchy.** When you dip in a spoon and pull it out, it comes up in soft, web-like strands, like a marshmallow.



Ready: more than doubled, a domed top and bubbles all the way up the jar. This is the moment to bake.



A spoonful of starter at peak: light, stretchy and full of air.

The float test (a bonus check)

At peak, drop a small spoonful of starter into a glass of room-temperature water. If it floats, it's full of gas and ready. If it sinks, it may be before or after peak, so check again in an hour or after the next feeding.

Treat the float test as a fun extra, not the final word. Whole-grain and rye starters sometimes sink even when they're perfectly active. The doubling in 4 to 8 hours is the sign that matters most.



The float test: a spoonful of Dolly at peak floating in a glass of water.

What if it isn't ready on Day 14?

Then it will be ready on Day 16, or Day 19. That's completely normal, especially in a cool kitchen or with a different brand of flour. Keep feeding twice a day, keep it warm, and check the signs. A starter that takes three weeks bakes exactly the same bread as one that took ten days.

Naming your starter

Every starter deserves a name. It sounds silly until you do it, and then you'll understand. You're going to feed this little jar every week for years. Customers will ask about it. Mine is

Dolly (yes, after Dolly Parton, because she rises to every occasion).

Some names my students have shared: Clint Yeastwood, Bread Pitt, Doughlores, Sir Loaf-a-Lot, Rise Witherspoon, Princess Crumb, Bubbles, and simply «Grandma», after the person who taught them to bake.

Write your starter's name on the jar with a marker and at the top of your Starter log. When you start selling, it makes a lovely line for your label or your launch post: «Made with Doughlores, my 2-year-old starter.»

Keeping your starter: two schedules

Once your starter is ready, you choose how to keep it. Pick the schedule that matches how often you bake.

Schedule A: counter starter (baking several times a week)

Keep the jar on the counter and feed it 1:1:1 once or twice a day, like Days 11 to 14. This is the easiest way to keep a starter strong, and it's great while you're practicing your first few loaves.

Schedule B: fridge starter (baking once a week, my favorite)

This is how I keep Dolly. She lives in the fridge all week and only needs real attention from Wednesday evening.

1. **Saturday after your bake:** feed your starter 1:1:1 (for example 50 g starter + 50 g flour + 50 g water). Leave it on the counter 1 to 2 hours until you see the first bubbles, then put it in the fridge with the lid on.
2. **During the week:** do nothing. Your starter sleeps at 38–40 °F (3–4 °C). It's perfectly happy.
3. **Wednesday evening (2 days before your Friday mix):** take it out, keep 50 g, and feed 1:1:1 with lukewarm water. Leave it on the counter.
4. **Thursday morning and Thursday evening:** feed 1:1:1. By the Thursday evening feeding it should be doubling again on schedule.
5. **Friday 8 am:** the bake-day feeding. Feed enough to have what your dough needs plus 50 g to keep (see the table below). By 4 pm it's at peak and ready for your Master Loaf.



Dolly's spot in my fridge, with the date of her last feeding written on a strip of tape.

How much to feed on Friday morning

You need 100 g of active starter per Master Loaf, plus a little to keep. Always feed 1:1:1.

Loaves you're baking	Starter you need	Friday 8 am feeding (starter + flour + water)	Total in the jar
1	100 g	50 g + 50 g + 50 g	150 g
2	200 g	85 g + 85 g + 85 g	255 g
4	400 g	150 g + 150 g + 150 g	450 g
8	800 g	300 g + 300 g + 300 g	900 g
12	1,200 g	420 g + 420 g + 420 g	1,260 g

For 8 or 12 loaves, use a bigger container (a 2 to 4 quart tub) so it has room to double. To get 420 g of starter on Friday morning, simply feed a bigger amount on Thursday evening: for example, 150 g starter + 150 g flour + 150 g water.

> ***Sarah's tip:*** *Leave 50 g behind every Friday before you mix. That's next week's Dolly. I learned this the hard way the one Friday I used every last gram in my*

> *dough. (She came back: I scraped the jar, fed the scrapings, and she was bubbling by Sunday.)*

Going away?

A well-fed starter is fine in the fridge for 2 to 3 weeks without a feeding. For longer trips, feed it, let it sit 1 hour, and put it in the back of the fridge. When you're home, it may need two or three feedings on the counter to be fully back. You can also dry a backup: spread a thin layer of active starter on parchment, let it dry completely for a day or two, crumble it into a zip bag and keep it in a cool cupboard. To revive, soak 10 g of flakes in 20 g water, then feed 1:1:1 daily.

Discard: nothing goes to waste

Every time you feed, you remove some starter. That's the discard. During Days 3 to 7 the starter is still a young, wild mix, so put that early discard in the compost or the trash. From Day 8 on, your discard is good, mild, tangy starter, and you can keep it.

Keep a «discard jar» in the fridge. Add to it every time you feed. It keeps for about 2 weeks, and you can stir it whenever you add more.

What to do with it:

- **Sourdough Discard Crackers (Recipe 32).** Thin, crispy, seasoned crackers that sell for $8 a bag. Discard is basically free, so this is the most profitable thing in your whole lineup. It's my zero-waste add-on and customers love adding a bag to their weekly loaf.
- **Pancakes or waffles at home.** Swap about 1 cup of discard into your usual recipe.
- **Pizza night.** A spoonful of discard adds flavor to any dough.
- **Thickening.** A little discard in soups and stews works like a roux.



My discard jar in the fridge. By the end of the week it becomes a tray of crackers.

Troubleshooting your starter

Starters are forgiving. Almost every problem is fixed by one of three things: warmth, more frequent feeding, or a little whole wheat or rye. Here's how to read what you see.

No bubbles, no rise

When it happens: usually Days 4 to 7, the quiet phase, or in a cool kitchen.

What to do:

1. Check the temperature where the jar sits. If it's below 70 °F (21 °C), move it somewhere warmer (see «Cold kitchen fixes» below).
2. Use water at 78–80 °F (26–27 °C) for every feeding.
3. Add a teaspoon of rye or whole wheat to each feeding for a few days.
4. Keep feeding on schedule. Don't skip feedings and don't feed more often while it's quiet in week one: the starter needs acidity to build.
5. Give it time. Some starters wake up on Day 9 or 10.

Hooch (a gray or brown liquid on top)

That liquid is called hooch. It's alcohol made by hungry yeast, and it means your starter has run out of food. It's harmless and very common, especially for fridge starters.

What to do: pour it off (for a milder starter) or stir it in (for a tangier one), then feed. If you see hooch often on the counter, feed a little more often, or feed a bigger ratio such as 1:2:2 (50 g starter + 100 g flour + 100 g water) so the food lasts longer.



A thin layer of hooch on a hungry starter. Pour it off, feed, and it's back to bubbling in a few hours.

Smells like nail polish remover

That sharp, acetone smell is another «I'm hungry» signal. The yeast has eaten everything and is stressed.

What to do: feed twice a day for a day or two, or use a bigger ratio (1:2:2) for a couple of feedings. The smell goes back to yogurt and apples within a day.

Smells cheesy, like socks, or very sour

In the first week, completely normal. After Day 10, it usually means the starter sits too long between feedings or the kitchen is warm. Feed on time, and in warm weather try a 1:2:2 ratio.

Mold or not mold?

This one is simple once you know what to look for.

Not mold, totally fine:

- Gray, brown or clear liquid on top (hooch).
- A dry, crusty skin on top where air got in. Scrape it off and feed.
- Dark streaks from whole wheat or rye flour.
- A flat, thin, white film on the surface (called kahm yeast). Scrape it off with a spoon, take your 50 g from underneath, and feed in a clean jar.

Mold, start a fresh jar:

- Fuzzy, raised spots of any color (white, green, blue, black).
- Pink, orange or red streaks or spots.

If you see real mold, the kindest thing is to compost it, wash the jar in hot soapy water, and start again. You already know the method now, so the second time is faster. To prevent it: always use a clean spoon, wipe the rim of the jar after feeding, and move the starter to a clean jar once a week.

Too runny

A starter that's soupy and won't hold its bubbles is usually too warm, too hungry, or made with a flour that absorbs less water.

What to do: feed with slightly less water for a few days (50 g starter + 50 g flour + 40 g water), or add a spoonful of whole wheat. A thicker starter holds its gas better and shows its rise more clearly.

Rises, then collapses before you notice

That's a strong starter in a warm kitchen. It peaked while you weren't looking. You'll see the streaky «high water mark» on the glass above the current level.

What to do: this is a good problem. Feed a bigger ratio (1:2:2 or even 1:3:3) to slow it down, or use slightly cooler water. On bake day, plan to use it a little earlier.

Cold kitchen fixes

If your kitchen sits below 70 °F (21 °C), especially in winter in Canada, the UK or the northern US, use one of these cozy spots:

- **The oven with only the light on**, door closed. This often holds 78–85 °F (26–29 °C). Check with your thermometer first, and put a sticky note on the oven door so nobody preheats it with Dolly inside.
- **The microwave with a mug of just-boiled water** next to the jar. Swap in fresh hot water every few hours.
- **On top of the fridge** or near (not on) a warm appliance.
- **A small cooler** with the jar and a jar of warm water inside.
- **A seedling heat mat** (about $15) under a towel, with the jar on top. My winter favorite.
- **Warmer water** for feedings: 82–85 °F (28–29 °C).

Too hot (summer kitchens)

In a hot kitchen, above 80 °F (27 °C), your starter peaks fast and goes hungry fast. Feed a bigger ratio (1:3:3) with cool water, or keep it in the coolest corner of the house. In very hot weather you can feed it and put it in the fridge 1 to 2 hours later, then take it out the morning you need it.

Already have a starter? Here's how to skip ahead

If a friend gave you some starter, you bought one, or you've had one sleeping in the fridge, you don't need to start from scratch. Run this 3-day check.

1. **Day 1:** take 50 g of your starter and feed 1:1:1 with bread flour and lukewarm water. Mark the jar. Feed again 12 hours later.
2. **Day 2:** feed twice, 12 hours apart. Note how long it takes to double.
3. **Day 3:** if it doubles in 4 to 8 hours, three feedings in a row, it's ready. Go straight to Module 2.

If it's slower, keep feeding twice a day for a few more days. Starters that have been in the fridge for months just need a little time on the counter to wake up fully.

A dried starter or a starter from a kit: follow the instructions that came with it to rehydrate, then switch to the Dolly feeding (1:1:1, twice a day) until it passes the ready test.

A starter that's a different hydration (for example a stiff starter at 50 % or a liquid one at 125 %): no problem. Just start feeding 1:1:1 by weight. After two or three feedings, it's a 100 % starter and it will work exactly as written in every recipe.

Your Starter log

Print this page and fill in one row per feeding. After 14 days you'll be able to see your starter's personality on paper: how it reacts to warmth, to whole wheat, to a late feeding. It's also the first page of your baking notebook.

My starter's name: _____ Born on: _____

Day	Date	Time fed	Starter : flour : water (g)	Flour used	Water temp	Room temp	Rise (% or mark)	Time to peak	Smell & notes
1									
2									
3									
4									
5									
6									
7									
8 · morning									
8 · evening									
9 · morning									
9 · evening									
10 · morning									
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14 · morning									
14 · evening									

My ready check

- [ ] □ Doubles in 4 to 8 hours after a 1:1:1 feeding
- [ ] □ Did it three feedings in a row
- [ ] □ Domed top at peak
- [ ] □ Bubbles all through and on the sides of the jar

- [ ] □ Smells like yogurt, apple or a fresh bakery
- [ ] □ Airy, stretchy texture on a spoon
- [ ] □ Floats (bonus)
- [ ] □ Has a name, written on the jar

When you can tick these boxes, turn the page. Day 15 is your first loaf.