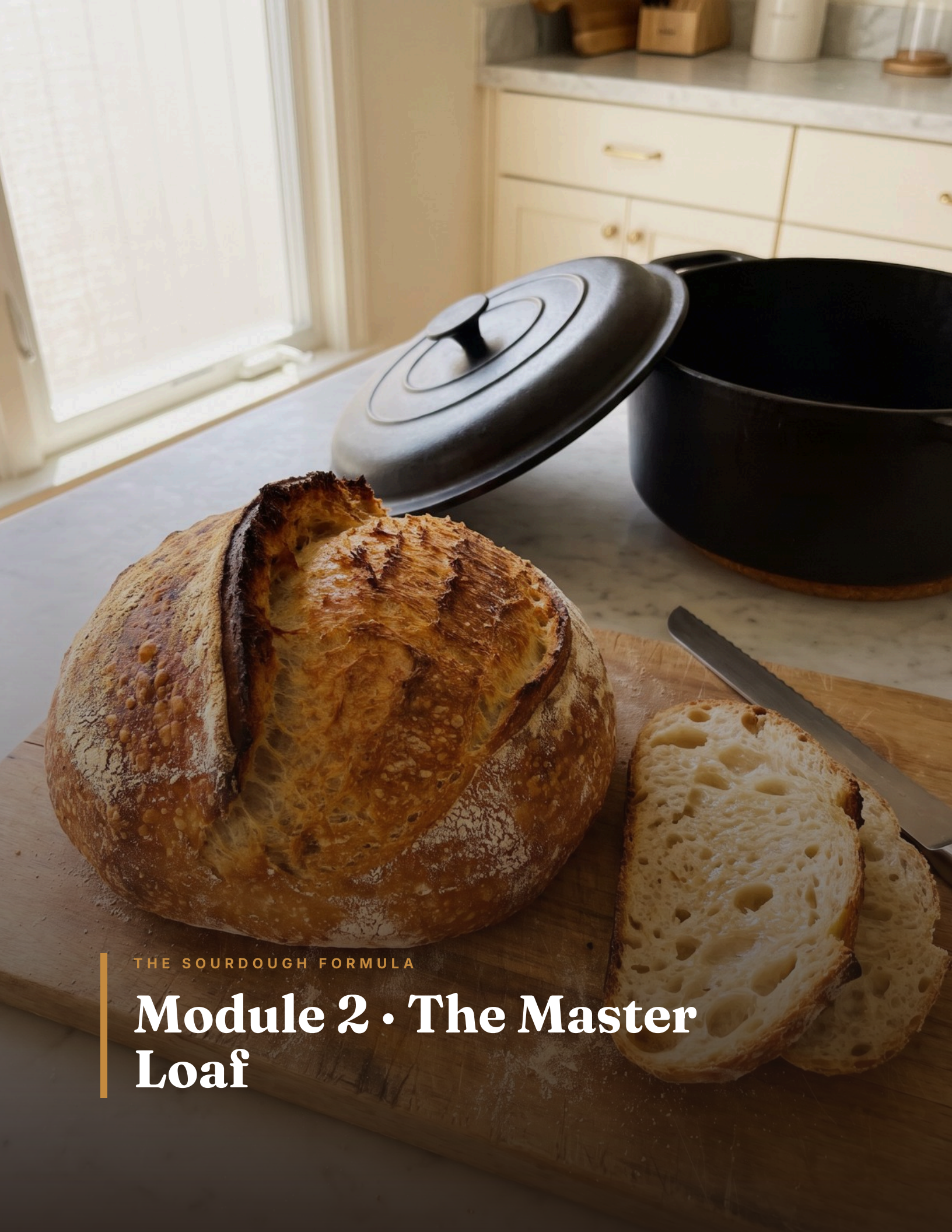


THE SOURDOUGH FORMULA

Module 2 · The Master Loaf

One loaf to learn them all

This is the loaf I've baked more than any other. It's the Classic Country Boule my customers order every week, it's the loaf in my photos, and it's the base of every recipe in this course. When a recipe later says «follow Master Loaf steps 1–9», this is where it sends you.

The Master Loaf has four ingredients. It needs about 15 minutes of your hands, spread across an afternoon and evening, plus 45 minutes on Saturday morning. The rest of the time the dough is working on its own.

Bake it three times before you sell it. The first loaf teaches you the steps. The second teaches you to read the dough. By the third, you'll know your kitchen, your oven and your starter, and that's when the loaves start coming out the same every time.

The master formula

Here it is, in grams, in cups, and in baker's percentages.

Ingredient	Baker's %	Grams	Cups and spoons (approximate)
Bread flour (or 450 g bread flour + 50 g whole wheat)	100 %	500 g	4 cups + 2 Tbsp, spooned and leveled
Water, lukewarm	70 %	350 g	1½ cups
Active starter, at peak	20 %	100 g	a scant ½ cup
Fine sea salt	2 %	10 g	1¾ tsp
Total dough	**192 %**	**960 g (about 2 lb)**	

About the cups: I give them so you can picture the amounts, but please bake by weight. A cup of flour can weigh anywhere from 115 to 150 g depending on how you scoop it, and that difference alone can turn a 70 % dough into a 60 % or an 80 % one. Your $15 scale is the best baking teacher you'll ever own.

About hydration: the water is 70 % of the flour. Your starter adds another 50 g of flour and 50 g of water, so the real total hydration is 400 g water ÷ 550 g flour, about 73 %. That's a soft, slightly sticky dough that's very manageable by hand and bakes up with a beautiful, open, glossy crumb.

About the whole wheat option: swapping 50 g of the bread flour for whole wheat adds a nutty flavor and a slightly darker crumb. It drinks a little more water, so you can add 5 to 10 g more if the dough feels stiff. My bestseller uses this 450 + 50 version.

Cost per loaf: about $0.30 in bread flour, $0.04 in whole wheat, $0.01 in salt, and a few cents to feed your starter. Round up for the occasional dusting flour and you're at **$1.40 per loaf, ingredients included.** It sells for **$11**. You'll see the full Cost & Price table in Recipe 1.

The overnight schedule (Friday → Saturday)

This is my real weekly rhythm. The dough rises Friday evening, sleeps in the fridge overnight, and bakes first thing Saturday. Fresh bread on the porch by lunch.

The times below are for a kitchen at 75–78 °F (24–26 °C). In a cooler kitchen, bulk fermentation simply runs longer: shape later Friday night, or bake later Saturday morning. The cold proof is flexible, anywhere from 10 to 16 hours is perfect.

Time	Step	Hands-on time
Fri 8:00 am	Feed your starter 1:1:1 (see Module 1 for how much).	2 min
Fri 3:45 pm	Check that your starter is at peak: doubled, domed, bubbly.	1 min
Fri 4:00 pm	**Step 1 · Mix** flour + water. Cover. Autolyse 30 minutes.	3 min
Fri 4:30 pm	**Step 2 · Add** starter, then salt. Squeeze and fold until combined. Bulk fermentation starts now.	4 min
Fri 5:00 pm	**Step 3 · Fold set 1**	1 min
Fri 5:30 pm	Fold set 2 (add inclusions here for specialty loaves)	1 min
Fri 6:00 pm	Fold set 3	1 min
Fri 6:30 pm	Fold set 4. Then leave it alone, covered.	1 min
Fri 6:30 – 8:30 pm	**Step 4 · Bulk** continues. Check the rise now and then.	0 min
Fri ~8:30 pm	Dough is up +50–75 %. **Step 5 · Pre-shape.** Bench rest 20 min.	2 min
Fri ~8:50 pm	**Step 6 · Final shape.** Into the banneton.	3 min
Fri ~9:00 pm	**Step 7 · Cold proof.** Covered, in the fridge.	1 min
Sat 6:00 am	Dutch oven into the oven. Preheat to 500 °F (260 °C) for 45–60 min.	1 min
Sat 7:00 am	**Step 8 · Score and bake.** Lid on 20 min at 475 °F (245 °C).	3 min
Sat 7:20 am	Lid off. 20–25 min at 450 °F (230 °C).	1 min
Sat ~7:45 am	Out of the oven. Check 205–210 °F (96–99 °C) inside.	1 min
Sat 7:45 – 9:45 am	**Step 9 · Cool** at least 2 hours before slicing or bagging.	0 min

If your week looks different

- **Weekday baking:** feed your starter before work at 7 am, mix when you get home around 3 to 5 pm, and bake the next morning before work.
- **Daytime schedule:** feed the starter at 10 pm, mix at 8 am, shape by 2 pm, cold proof, and bake the next morning.

- **Bake later Saturday:** totally fine. Leave the dough in the fridge until 9 or 10 am. Just stay within about 16 hours.

Before you start: aim for a warm dough

The most useful number in bread baking that nobody talks about is the temperature of the dough itself. Aim for a dough temperature of **76–78 °F (24–26 °C)** right after mixing. Warm dough ferments at a predictable speed, and a predictable speed means your schedule works.

You control it with the water:

Your kitchen	Water temperature to use
Cool, 65–70 °F (18–21 °C)	85–90 °F (29–32 °C)
Comfortable, 70–75 °F (21–24 °C)	80–85 °F (27–29 °C)
Warm, 76–80 °F (24–27 °C)	75 °F (24 °C)
Hot, above 80 °F (27 °C)	65–70 °F (18–21 °C), cool from the tap

Stick your thermometer in the dough after Step 2 and write the number on your bake sheet. After three bakes you'll know exactly what water temperature your kitchen needs.

The 9 steps

Step 1 · Mix (and autolyse)

1. Put a large bowl or a clear, straight-sided container on your scale and press tare.
2. Weigh in 350 g of water at the right temperature (see the table above). Set aside about 20 g of it in a small cup. You'll use it in Step 2 to help the salt dissolve.
3. Add 500 g of flour (or 450 g bread + 50 g whole wheat).
4. Mix with one hand, a stiff spatula, or a Danish dough whisk until there are no dry patches. It will look shaggy and rough. That's right.
5. Cover with a plate, a shower cap or a damp towel. Rest 30 minutes.

That rest is the autolyse. While you do nothing, the flour fully absorbs the water and the gluten starts to link up on its own. When you come back, the dough will be smoother, stretchier, and much easier to work with.



After the 30 minute autolyse: the shaggy mix has turned smooth and stretchy all by itself.

Step 2 · Add the starter, then the salt

1. Check that your starter is at peak: doubled, domed, bubbly.
2. Weigh 100 g of starter straight onto the dough.
3. With a wet hand, dimple the starter into the dough with your fingertips, then squeeze the dough through your fingers like you're squishing play dough. Fold it over itself a few times. About 2 minutes, until the starter has disappeared.
4. Sprinkle the 10 g of salt over the dough and drizzle the 20 g of water you saved on top.
5. Squeeze and fold again for 2 to 3 minutes until you can't feel any grains of salt. The dough will tear and look messy at first, then come back together smoother and stronger.
6. Check the dough temperature. Write it down. Cover.

Bulk fermentation starts now. Note the time.

> ***Sarah's tip:*** *Keep a bowl of water next to you. Wet hands are the secret to handling sticky dough without adding extra flour. Dip, shake off the drips, and the dough slides right off your fingers.*



Sprinkling the salt with a splash of the reserved water, then squeezing it in until the dough feels smooth again.

Step 3 · Stretch and folds

Four sets, 30 minutes apart. Each set takes about one minute. This is how you build strength without ever kneading.

How to do one set:

1. Wet your hand.
2. Slide your fingers under one side of the dough, grab it, and gently stretch it up until you feel resistance. Don't tear it.
3. Fold it over the top of the dough to the other side.
4. Turn the bowl a quarter turn. Repeat. Do all four sides: that's one set.
5. Cover.

What you'll notice from set to set:

- **Set 1:** slack, sticky, stretches a long way. It barely holds a shape.
- **Set 2:** already smoother. It resists a little sooner. This is when you add inclusions for specialty loaves (cheese, olives, fruit, nuts, chocolate).
- **Set 3:** smooth, springy, holds a rounded shape for a while after folding.
- **Set 4:** strong, elastic, a little puffy, with a few bubbles on top. You only need a gentle stretch now.



One stretch and fold: lift one side with a wet hand, stretch it up until it resists, and fold it over the top.

Coil folds (an alternative). If the dough feels very wet, or you'd rather not tug at it, use coil folds instead. Wet both hands, slide them under the middle of the dough, lift it straight up so the ends hang and stretch down, then let it fold underneath itself as you lower it. Turn the container a quarter turn and repeat once. Coil folds are gentler, keep more gas in the dough, and work beautifully in a rectangular container.

Step 4 · Bulk fermentation: reading «+50–75 %»

After the fourth set, leave the dough covered and let it rise. This is bulk fermentation, and it's where your bread gets its flavor, its lift and its open crumb.

Here's the single most important rule in this course: bulk fermentation ends when the dough looks ready, not when the clock says so. The clock gives you an estimate. The dough gives you the answer.

You're looking for a rise of **+50 to 75 %** from the moment you added the starter. Not doubled. A loaf that doubles in bulk is usually over-fermented by the time it bakes.



Right after the last fold: a piece of tape marks the starting level on my straight-sided container.

How to read bulk fermentation (the most important skill)

Use a clear, straight-sided container and put a piece of tape (or a rubber band) at the level of the dough right after Step 2. Now it's easy: when the dough has risen halfway to three-quarters of its height again, you're there. If you're using a bowl, take a photo from the side after mixing and compare.

Then check these signs. When you see most of them, bulk is done.

- **Volume:** up 50–75 % from the tape mark.
- **Dome:** the top is rounded and slightly domed where it meets the container, not flat or sunken.
- **Bubbles on top:** a few medium and small bubbles on the surface.
- **Bubbles on the sides and bottom:** you can see bubbles of different sizes through the container.
- **Jiggle:** give the container a little shake. The dough wobbles like set jelly, all in one piece.

- **Feel:** it's airy and soft, it pulls away cleanly from the sides when you tilt the container, and it smells pleasantly tangy and a bit like beer.
- **Edges:** when you tip the container, the dough moves as one airy mass and the edges are domed, not ragged and stringy.



Bulk is done: up about 60 % from the tape, domed edges, bubbles along the sides, and it jiggles as one.

Under-fermented dough (not ready yet) is dense, heavy, tight, with few bubbles, and has barely risen. Give it more time and check every 30 minutes.

Over-fermented dough has more than doubled, looks flat or sunken on top, is very sticky and slack, has big, collapsing bubbles, smells sharply sour or boozy, and tears when you shape it. It still makes good bread. Read «If you went too far» in the troubleshooting tree.

Adjusting to your kitchen temperature

Your kitchen temperature changes the bulk time more than anything else. Use this table as your starting estimate, counted from Step 2 (adding the starter), with a dough temperature in the same range.

Kitchen / dough temperature	Expected bulk time	Rise to aim for
65 °F (18 °C)	9–12 hours	75 % (up to nearly double)
68 °F (20 °C)	7–9 hours	75 %
70 °F (21 °C)	6–8 hours	70–75 %
72 °F (22 °C)	5–7 hours	60–75 %
75 °F (24 °C)	4–6 hours	50–75 %
78 °F (26 °C)	3½–5 hours	50–60 %
80 °F (27 °C) and up	3–4 hours	50 %

Why aim for a smaller rise when it's warm? Because a warm dough keeps fermenting for a while once it's shaped and in the fridge, so it «finishes» on its own. A cool dough slows down quickly, so you let it go a little further on the counter.

> ***Sarah's tip:*** *In a San Diego summer my bulk can be done in under 4 hours. In winter I put the container in the oven with only the light on and the door cracked open, and it holds a perfect 76 °F. Find your warm spot and your bake days get predictable.*

Step 5 · Pre-shape and bench rest

1. Lightly flour your counter, just a thin dusting where the dough will land.
2. Tip the container upside down and let the dough slide out on its own. Help it with a wet hand or your bench scraper. The floured side is now the bottom, the smooth top of the dough is facing the counter.
3. Fold the edges of the dough loosely toward the center, like closing an envelope.
4. Flip it over so the seam is down.
5. Using your bench scraper with one hand and your cupped other hand, push and drag the dough toward you a few times in short strokes. The bottom grips the counter and the top tightens into a smooth round.
6. Leave it uncovered (or loosely covered) for 20 minutes. That's the bench rest.

The round will relax and spread a little. That's exactly what you want: it should slump gently but still hold a soft dome. If it spreads into a flat puddle, pre-shape it once more and rest

another 15 minutes.



The pre-shape: a loose, smooth round made with the bench scraper, resting 20 minutes on the counter.

Step 6 · Final shape

Get your banneton ready first: dust it generously with rice flour (or a 50/50 mix of rice flour and bread flour), especially the bottom and the sides. If you use a bowl and towel, dust the towel just as well.

Round loaf (boule)

1. Lightly flour the top of the rested round, then flip it over with your scraper so the floured side is down and the sticky side faces up.
2. Gently stretch it into a rough circle, about 10 inches (25 cm) across. Don't press out all the air.
3. Fold the bottom edge up to the center. Then fold in the right side, then the left side, then the top. You now have a little package. Press each fold lightly to stick.
4. Starting from the top, roll the package toward you, pulling it gently so the surface tightens.
5. Flip it seam-side down. Cup your hands around the far side and pull the dough toward you across the bare counter, turning it a little each time. Three or four pulls. The surface should be smooth and taut, like a balloon.

6. Pick it up with your scraper and your hand, and lay it top-side down (seam up) in the banneton.
7. Pinch the seam closed if it looks open.



Shaping the boule: dragging the round toward me across the counter to build a smooth, tight skin.

Oval loaf (batard)

Use an oval banneton, about 10 inches (25 cm) long, or an oval dish with a floured towel.

1. Flip the rested round so the sticky side faces up.
2. Gently stretch it into a rectangle, a little taller than it is wide.
3. Fold the left side over the middle, then the right side over, slightly overlapping, like folding a letter. Now it's a tall narrow strip.
4. Starting at the top, roll it toward you, pressing lightly with your thumbs after each roll to tuck it in tight. The «stitching»: at each roll, pull a little dough from the sides and cross it over the middle, which builds tension.
5. Finish seam-side down. Roll it gently back and forth to even out the shape.
6. Lift it into the oval banneton seam-side up.



Rolling up the batard tight from the top, tucking it in with my thumbs as I go.

How tight is tight enough? Poke the shaped loaf gently. The surface should feel smooth and taut, and you should see a few small bubbles just under the skin. If the dough tears, you've gone a bit too far. Just leave it, it'll still bake beautifully.

Step 7 · Cold proof in the fridge

1. Sprinkle a little rice flour over the exposed seam.
2. Cover the banneton completely: slide it into a plastic produce bag, a shower cap, or a reusable bowl cover. The dough must not dry out.
3. Put it in the fridge, ideally at 38–40 °F (3–4 °C), for 10 to 16 hours.

The cold slows the yeast almost to a stop while the bacteria keep making flavor. You get a deeper, more complex taste, a blistered crust, and a firm, cool dough that's easy to score. You also get to sleep through the final rise.



Tucked into the banneton seam-side up, ready for its overnight sleep in the fridge.

Step 8 · Score and bake

Preheat (Saturday 6 am)

Put the Dutch oven, lid on, on a rack in the lower third of the oven. Turn the oven to 500 °F (260 °C) and let it heat for a full 45 to 60 minutes. The pot needs to be screaming hot all the way through: that heat is what makes the loaf leap up in the first minutes.

Turn out and score

1. Cut a piece of parchment a little bigger than your loaf (or use a reusable sling).
2. Take the banneton straight from the fridge. Don't let it warm up.
3. Place the parchment on top of the banneton, put a plate or a pizza peel on top, and flip everything over in one confident move. Lift the banneton off.
4. Brush away any extra flour. Dust the top lightly with flour if you'd like a contrast pattern.
5. Score: hold your lame or razor at a low angle, about 30 to 45 degrees to the surface, and make one smooth, decisive cut about ¼ to ½ inch (0.5–1 cm) deep. Confident and quick is better than slow and careful.



One long, confident cut at a low angle: that's what lifts into an ear in the oven.

Scoring patterns

Start with the single ear. Once it feels easy, play.

- **Single ear (my everyday score).** One long, slightly curved cut, off-center, from end to end, at a low angle (about 30 degrees). On a batard, run it along the length. On a boule, cut a gentle curve across the top. This is the one that gives you that big crunchy ear.
- **Cross.** Two cuts in an X across the top of a boule, more upright (about 60 degrees) and about ½ inch deep. The loaf opens into four petals. Very classic and forgiving.
- **Wheat stalk.** One shallow straight line down the middle of a batard (the stem), then short angled cuts on both sides, like leaves on a stalk, about 1½ inches (4 cm) long. Make a deeper, curved main cut on one side so the loaf still has somewhere to open.
- **Leaf.** One curved main cut, then small, shallow, angled cuts branching from it like the veins of a leaf. Lovely on a boule, and customers adore it.

For any decorative pattern, always include one deeper «expansion» cut. That's where the loaf opens up. The shallow decorative cuts are just for looks.



Four loaves, four scores: single ear, cross, wheat stalk and leaf.

Bake

1. Take the hot Dutch oven out with good oven mitts. Take off the lid.
2. Use the parchment as a sling to lower the loaf into the pot. Put the lid back on.
3. Return the pot to the oven and **lower the temperature to 475 °F (245 °C). Bake 20 minutes with the lid on.** The lid traps the steam from the dough, so the crust stays soft and the loaf can rise to its full height.
4. **Take the lid off. Lower to 450 °F (230 °C). Bake 20 to 25 minutes more**, until the crust is deep golden brown with darker edges along the ear. Don't be shy: a well-baked, dark crust is where the flavor is.



Lid off after 20 minutes: the loaf has sprung up and the ear is open. Now it goes back in to turn golden.

How to know it's done

- **Internal temperature: 205–210 °F (96–99 °C)** in the very center. Slide your thermometer in from the side or the bottom so you don't leave a hole on top. This is the one sure sign.
- **Color:** deep golden to mahogany all over, including the sides.
- **Sound:** tap the bottom. It sounds hollow, like knocking on a door.
- **Weight:** it feels light for its size. A well-baked Master Loaf weighs about 1.6 lb (about 720–760 g) as it cools, a bit less than the 960 g of dough.

If you're unsure, give it 5 more minutes. A slightly underbaked loaf turns gummy, a few extra minutes only makes the crust better.



Checking the center: 207 °F. Done.

Baking without a Dutch oven

No pot yet, or baking more loaves than you have pots? Use a baking steel or a pizza stone plus steam.

1. Put the steel or stone on the middle rack and a cast iron skillet, a sturdy metal baking pan, or a loaf pan filled with lava rocks or clean stones on the rack below.
2. Preheat to 500 °F (260 °C) for a full hour.
3. Bring a kettle of water to a boil just before baking.
4. Slide the scored loaf onto the steel with a peel or a flat cookie sheet (on parchment).
5. Carefully pour 1 cup (240 ml) of boiling water into the pan below and close the door right away. Keep your hand and arm out of the steam.
6. Lower to 475 °F (245 °C) and bake 20 minutes with the steam.
7. Carefully remove the steam pan. Lower to 450 °F (230 °C) and bake another 20 to 25 minutes until deep golden and 205–210 °F (96–99 °C) inside.

Another easy option: bake on the steel and cover the loaf with a large stainless steel bowl or a disposable roasting pan for the first 20 minutes. It traps steam just like a Dutch oven lid.



Open baking on a steel with a steam pan underneath. This is how I bake two extra loaves on busy Saturdays.

Step 9 · Cool

This is the hardest step of all: waiting.

Set the loaf on a wire rack and let it cool for **at least 2 hours** before you cut it or bag it. The inside is still cooking as it cools, and the steam inside needs to escape. Cut it hot and the crumb turns gummy and sticky. Bag it warm and the crust goes soft and the bag fogs up.

You'll hear it «sing»: the crust crackles quietly as it cools. That's one of the best sounds in any kitchen.



Cooling on the rack. Two hours minimum. Listen for the crust crackling.

Slicing and storing

Slicing: use a long serrated bread knife and saw gently. Start from the side, not the top, so the knife doesn't squash the loaf. For sandwiches, cut the boule in half first, then slice each half from the cut side.



The inside of the Master Loaf: a glossy, open, even crumb with a crackly crust. This is the loaf you're aiming for.

Storing at home:

- **Day 1 to 2:** on the counter, cut side down on a board. The crust stays crisp.
- **Day 3 to 4:** in a paper bag inside a bread box or a cloth bag. Sourdough keeps longer than yeasted bread thanks to its natural acidity.
- **Longer:** slice it, put the slices in a freezer bag, and freeze. Toast them straight from the freezer.
- **Not the fridge:** the fridge makes bread stale faster.
- **Refresh a day-old loaf:** run it quickly under the tap, then 8 to 10 minutes in a 375 °F (190 °C) oven. It comes out crackly like it was just baked.

Tell your customers these tips. They're the perfect little card to tuck into each bag.

The Troubleshooting Tree

Every loaf tells you a story. When something doesn't look right, don't change five things at once. Walk down the steps below for your symptom, stop at the first «yes», make that one change, and bake again. That's how you go from guessing to knowing.

Before you start: grab your bake notes. Starter peak time, dough temperature, bulk time, rise percentage and oven times answer most questions on their own.

Flat or spreading loaf

Step 1. Was your starter at peak when you mixed?

- No (it hadn't doubled, or it had collapsed) → **Cause:** weak starter. **Fix:** make sure it doubles in 4–8 hours three feedings in a row before baking. Use it at peak, domed and bubbly.
- Yes → go to Step 2.

Step 2. Did the dough rise +50–75 % in bulk, with a domed top and bubbles on the sides?

- It barely rose, felt dense → **Cause:** under-fermented. **Fix:** give bulk more time, use warmer water, or find a warmer spot. Go by the signs, not the clock.
- It more than doubled, was slack, very sticky and sunken → **Cause:** over-fermented. **Fix:** end bulk earlier next time, aim for 50 % in a warm kitchen, and use cooler water.
- It looked right → go to Step 3.

Step 3. Did the dough feel strong after the fourth set of folds?

- No, still slack and sticky → **Cause:** not enough strength. **Fix:** add one or two extra sets of folds, and make sure you're stretching until you feel resistance.
- Yes → go to Step 4.

Step 4. After shaping, was the surface smooth and taut?

- No, it was loose and slumped → **Cause:** shaping without tension. **Fix:** drag the loaf toward you across a bare (unfloured) spot of counter so it grips and tightens. Use less dusting flour.
- Yes → go to Step 5.

Step 5. Was the Dutch oven preheated for 45–60 minutes, and was the lid on for the first 20 minutes?

- No → **Cause:** not enough heat or steam. **Fix:** full preheat, lid on 20 minutes.
- Yes → **Cause:** your flour may absorb less water. **Fix:** drop the water to 330 g (66 %) for the next bake and build up again from there.

Dense, tight crumb

Step 1. Did the dough rise at least 50 % in bulk?

- No → **Cause:** under-fermented (the most common cause by far). **Fix:** longer bulk, warmer dough (76–78 °F / 24–26 °C), and wait for the signs.
- Yes → go to Step 2.

Step 2. Is your starter strong and used at peak?

- Not sure → **Fix:** run the ready check from Module 1 before your next bake.
- Yes → go to Step 3.

Step 3. Did you add extra flour while shaping, or squash the dough when shaping?

- Yes → **Cause:** knocked out the gas, or stiffened the dough. **Fix:** use wet hands and the bench scraper instead of extra flour, and shape gently, keeping the bubbles inside.
- No → go to Step 4.

Step 4. Did you use more than 20 % whole grain or a low-protein flour?

- Yes → **Cause:** whole grains and all-purpose flour make a naturally tighter crumb. **Fix:** go back to bread flour, or add 5–10 % more water when using whole wheat.

Gummy inside

Step 1. Did you cut it before it cooled for 2 hours?

- Yes → **Cause:** the crumb was still setting. **Fix:** 2 hours minimum on a rack. This alone fixes most gummy loaves.
- No → go to Step 2.

Step 2. Did the center reach 205–210 °F (96–99 °C)?

- No, or you didn't check → **Cause:** underbaked. **Fix:** bake 5–10 minutes longer with the lid off and check the temperature. Use an oven thermometer: many home ovens run 25 °F cooler than the dial.
- Yes → go to Step 3.

Step 3. Was the dough under-fermented (small rise, dense)?

- Yes → **Cause:** under-fermented dough holds too much water and bakes up gummy. **Fix:** longer bulk, warmer spot.

- No → go to Step 4.

Step 4. Was the dough very sticky and soupy?

- Yes → **Cause:** too much water for your flour, or over-fermentation. **Fix:** reduce water to 330 g and end bulk on time.

Huge holes under the crust (fool's crumb)

That's when you get one big tunnel right under the top crust and a tighter crumb below it. It looks dramatic, but it's not «open crumb».

Step 1. Did the dough rise less than 50 % in bulk?

- Yes → **Cause:** under-fermented. Most of the gas rose to the top and got trapped there. **Fix:** let bulk go longer, to a clear +50–75 % with bubbles on the sides and bottom.
- No → go to Step 2.

Step 2. Was the shaped loaf loose, with big bubbles near the surface?

- Yes → **Cause:** a big air pocket trapped during shaping. **Fix:** pop big surface bubbles with your fingertip before shaping, and shape a little tighter.
- No → go to Step 3.

Step 3. Did you score shallowly, or barely?

- Yes → **Cause:** the crust set before the loaf could open. **Fix:** score ¼ to ½ inch (0.5–1 cm) deep in one confident stroke.

Pale crust

Step 1. Was the lid on for more than 20 minutes?

- Yes → **Fix:** lid off at 20 minutes, then a full 20–25 minutes uncovered.
- No → go to Step 2.

Step 2. Did the loaf bake long enough with the lid off?

- Not sure → **Fix:** bake until deep golden brown, even mahogany at the edges. Add 5 minutes. Darker crust means more flavor.
- Yes → go to Step 3.

Step 3. Was the dough over-fermented (very slack, very sour)?

- Yes → **Cause:** the yeast and bacteria ate most of the sugars that brown the crust. **Fix:** shorten bulk or the cold proof.
- No → go to Step 4.

Step 4. Is your oven actually reaching temperature?

- Not sure → **Fix:** an oven thermometer ($7) tells you the truth. Many ovens run cool. Adjust the dial to match.

Burnt bottom

Step 1. Is the Dutch oven on the lowest rack?

- Yes → **Fix:** move it up to the lower-middle rack.
- No → go to Step 2.

Step 2. Still too dark?

- Yes → **Fix:** for the lid-off part, slide a baking sheet on the rack under the pot as a heat shield. Or put a thin layer of coarse cornmeal or a sprinkle of semolina under the parchment.
- Still dark → **Fix:** take the loaf out of the pot for the last 10 minutes and bake it directly on the oven rack.

No ear

Step 1. Was your score at a low angle (about 30 degrees)?

- No, more upright → **Cause:** a vertical cut opens flat instead of lifting a flap. **Fix:** hold the blade almost flat, like you're shaving a thin slice off the top.
- Yes → go to Step 2.

Step 2. Was the score deep enough and done in one stroke?

- No → **Fix:** ¼ to ½ inch deep, one confident, quick stroke from end to end.
- Yes → go to Step 3.

Step 3. Was the loaf shaped tight, with good surface tension?

- No → **Cause:** a loose skin doesn't have the tension to peel back. **Fix:** tighter final shape.
- Yes → go to Step 4.

Step 4. Did you bake the loaf straight from the fridge, with the lid on for 20 minutes?

- No → **Fix:** score and bake cold, and keep the lid on. Steam keeps the crust soft so the ear can lift.
- Yes → **Cause:** likely fermentation. Under- and over-fermented loaves both struggle to make an ear. Read your bulk signs.

Too sour, or not sour enough

Too sour for your taste:

- Feed your starter more often, or at 1:2:2, so it's younger and milder.
- Use the starter right at peak, not after it collapses.
- Shorten the cold proof toward 10 hours.
- Use less whole wheat in the starter and the dough.
- Pour off the hooch instead of stirring it in.

Not sour enough (you want more tang):

- Lengthen the cold proof to 14–16 hours.
- Use your starter slightly past peak.
- Add 50 g whole wheat or rye to the dough.
- Keep a slightly stiffer starter (50 g starter + 50 g flour + 40 g water).

> ***Sarah's tip:*** *My customers are split about half and half. I bake the Master Loaf medium-tangy (12-hour cold proof) and tell anyone who wants it extra sour that the Rustic Light Rye is their loaf.*

Sticky dough, impossible to shape

Step 1. Did you weigh the water and flour?

- No, used cups → **Fix:** weigh. Cups can easily add 15 % more water than the recipe asks for.
- Yes → go to Step 2.

Step 2. Did the dough get stronger with each set of folds?

- No → **Cause:** not enough strength built. **Fix:** do 5 or 6 sets instead of 4, with a firm stretch each time.
- Yes → go to Step 3.

Step 3. Did bulk go past +75 %, or did the dough turn soupy?

- Yes → **Cause:** over-fermented. The acids weaken the gluten. **Fix:** end bulk earlier. For this dough, see «If you went too far» below.
- No → go to Step 4.

Step 4. Are you shaping with wet hands and a scraper?

- No → **Fix:** wet hands for handling, a light dusting of flour only on the top of the dough before you flip it, and the bench scraper for moving it. A cold dough is also easier: you can chill it 20 minutes before final shaping.
- Yes → **Fix:** lower the water to 330 g (66 %) for a few bakes, then build back up as your hands get faster.

If you went too far (over-fermented dough): don't throw it out. Shape it gently, put it straight into the fridge, and bake it the next morning. Or skip the shaping, press it into an oiled 9×13 pan, and bake it as a focaccia (Recipe 17). Over-fermented dough makes wonderful focaccia.

Cracked or burst on the side

Step 1. Did the loaf burst in a spot you didn't score?

- Yes → go to Step 2.

Step 2. Was the score shallow or short?

- Yes → **Cause:** the loaf couldn't expand through the score, so it found its own way out. **Fix:** score deeper and longer, end to end.
- No → go to Step 3.

Step 3. Was the dough under-proofed (tight and springy, poke springs back instantly)?

- Yes → **Cause:** too much energy left for the oven, so it bursts. **Fix:** a longer bulk, or a longer cold proof.
- No → go to Step 4.

Step 4. Was the seam on the bottom, closed?

- No → **Cause:** an open seam is a weak spot that splits. **Fix:** pinch the seam closed before the cold proof, and bake seam-side down (it's seam-side up in the banneton, so it'll be on the bottom once you flip it out).

Your consistency checklist

Loaf twelve should look just like loaf one. That's what makes customers stay on your Friday list for years. Print this, put it in a sheet protector, and tick it off every bake with a dry-erase marker.

Friday

- [ ] Starter fed at 8 am with the right amount for today's loaves
- [ ] 50 g of starter set aside for next week
- [ ] Starter at peak before mixing: doubled, domed, bubbly
- [ ] Every ingredient weighed in grams, scale tared each time
- [ ] Water at the right temperature for today's kitchen
- [ ] Dough temperature after mixing written down (target 76–78 °F / 24–26 °C)
- [ ] Bulk start time written down, tape on the container
- [ ] 4 sets of stretch and folds, 30 minutes apart
- [ ] Inclusions (if any) added during the 2nd set
- [ ] Bulk ended on the signs: +50–75 %, domed, bubbles on the sides, jiggles
- [ ] Bulk end time and rise percentage written down
- [ ] Pre-shape and 20 minute bench rest
- [ ] Banneton well dusted with rice flour
- [ ] Final shape tight and smooth, seam pinched
- [ ] Covered and in the fridge, time written down

Saturday

- [ ] Dutch oven preheated at 500 °F (260 °C) for 45–60 minutes
- [ ] Loaf straight from the fridge onto parchment
- [ ] Score: low angle, ¼ to ½ inch deep, one stroke
- [ ] 20 minutes lid on at 475 °F (245 °C)
- [ ] 20–25 minutes lid off at 450 °F (230 °C)
- [ ] Center at 205–210 °F (96–99 °C)
- [ ] Cooled at least 2 hours on a rack before bagging or slicing
- [ ] Photo of the loaf and the crumb in my baking notebook

- [ ] □ One note for next time: what I'll keep, what I'll change

My bake notes

Date	Kitchen temp	Water temp	Dough temp	Bulk start	Bulk end	Rise %	Fridge hours	Oven times	Result & one change

When your notes show three loaves in a row you're proud of, you're ready for your first Saturday. Turn the page: the recipes are waiting, starting with Recipe 1, the Classic Country Boule.