STRETCHLEARN · WORKBOOK

Bread Baking Fundamentals — Workbook

This workbook turns the Bread Baking Fundamentals course into real bakes. Each section follows a course module, giving you the exercises, worksheets, and checklists to activate yeast, calculate a formula, develop and proof dough, then shape and bake sandwich loaves, enriched dough, rolls, and pizza. Fill it in as you go, and the editable templates become your reusable formula calculator, proofing log, and bake record for every loaf that follows.

Yeast, Ingredients, and the Baker's Formula

Activate the right yeast, understand your ingredients, and convert a formula to baker's percentages.

Checklist: Yeast Activation Checklist

[ ] Identify which yeast you have: active dry, instant, or fresh
[ ] For active dry, dissolve in warm water at about 38 to 43 degrees Celsius with a pinch of sugar
[ ] Confirm a foamy, bubbly head appears within 5 to 10 minutes before committing the flour
[ ] For instant yeast, add it straight to the flour and skip the proofing step
[ ] Check water temperature with a thermometer and keep it well below 50 degrees Celsius so it does not kill the yeast
[ ] If nothing foams after 15 minutes, discard and start over with fresh yeast
[ ] Note the packet weight (a standard packet is about 7 grams, raising roughly 500 grams of flour)

Exercise: Substitute One Yeast for Another

Practise converting between yeast forms by weight using the course ratios, so you are never blocked by having the wrong type on hand.

• Your recipe calls for 7 grams of active dry yeast but you only have instant; how much instant do you use (about 0.75 times)?

• Your recipe calls for instant but you have active dry; how much active dry do you use (about 1.25 times), and do you need to proof it first?

• If a recipe is written for fresh yeast and you have active dry, how do you scale it (fresh is roughly three times the weight of active dry)?

• Why does water above about 50 to 55 degrees Celsius risk killing the yeast, and how will you check temperature next time?

Exercise: Lean or Enriched: Read the Recipe

Before mixing, decide which dough family your recipe belongs to and predict how it will behave, using the course guidance on flour, salt, sugar, and fat.

• Does your recipe contain sugar, fat, milk, or eggs, making it enriched, or is it just flour, water, salt, and yeast, making it lean?

• Given the protein content, which flour fits best (bread flour around 12.7 percent for chew, all-purpose around 11.7 percent for tenderness)?

• Is the salt about 2 percent of flour weight, and will you weigh it rather than measure by spoon?

• If it is enriched, do you expect it to proof slower and need more yeast than a lean dough, and why?

Worksheet: Baker's Percentage Calculator Worksheet

Convert your target dough weight into ingredient grams. Set flour to 100 percent, choose your other percentages, sum them, then divide and multiply as the course shows. Leave the gram results to compute yourself.

Target finished dough weight (g)

Hydration (water as percent of flour)

Salt (percent of flour, around 2)

Instant yeast (percent of flour)

Sugar (percent of flour, if enriched)

Fat (percent of flour, if enriched)

Sum of all percentages (100 + water + salt + yeast + sugar + fat)

Flour weight (target dough weight divided by the percentage sum as a decimal)

Water weight (flour weight times hydration percent)

Each remaining ingredient weight (flour weight times its percent)

Developing Dough: Kneading and No-Knead Methods

Build gluten by kneading or by time, and proof to the right point using feel and the poke test.

Checklist: Knead to the Windowpane Checklist

- [ ] Mix the ingredients until no dry flour remains, then turn onto a lightly floured counter
- [ ] Knead by pushing the dough away, folding it back, and turning a quarter turn in a rhythm
- [ ] Continue 8 to 12 minutes by hand, or 5 to 8 minutes with a dough hook on medium-low
- [ ] Add only the smallest dusting of flour if the dough truly sticks; keep it slightly tacky
- [ ] For enriched dough, build the gluten first then add softened butter a little at a time
- [ ] Run the windowpane test: a small piece should stretch thin and translucent without tearing
- [ ] Stop when the dough is smooth, elastic, and springs back when poked

Exercise: Try the No-Knead Overnight Method

Bake one loaf without kneading to feel how time replaces muscle, then compare it to a kneaded loaf, using the course no-knead recipe as a guide.

• What hydration and how little yeast will you use (the course suggests about 75 percent water and a quarter teaspoon of yeast for one loaf)?

• How long will you ferment at room temperature, and what surface bubbling and rise tell you it is ready (12 to 18 hours, roughly doubled and dotted with bubbles)?

• How will you handle the slack dough gently to keep the gas in, and why does it need a Dutch oven to hold its shape?

• How does the no-knead crumb and flavour compare to your kneaded loaf, and which method suits your schedule?

Worksheet: Dough Temperature and First Rise Log

Make your proofing repeatable by tracking dough temperature and the bulk rise. Use a straight-sided container marked at the start and record growth over time. Leave any calculated figures for you to fill in.

Target dough temperature (the course suggests about 24 to 26 degrees Celsius)

Flour temperature and room temperature at mixing

Mixing water temperature used (warmer or cooler to hit the target)

Actual dough temperature after mixing

Bulk start time and marked dough level

Hourly volume estimate (percent above the start line)

Texture and surface bubbles observed over time

Bulk end time and total bulk duration

Checklist: Poke Test for the Final Proof

[ ] Lightly flour a fingertip so it does not stick
[ ] Gently press about one centimetre into the side or top of the shaped loaf
[ ] Ready: the dent springs back slowly and leaves a faint mark
[ ] Underproofed: the dent springs back instantly and fully, so give it more time
[ ] Overproofed: the dent stays put and the dough feels deflated, so bake now or reshape gently
[ ] Cross-check with percent rise (most shaped loaves grow about 50 to 75 percent)
[ ] Record the result so you learn your kitchen's proofing speed

Loaves and Enriched Doughs

Shape and bake a tall sandwich loaf and a tender enriched dough, controlling oven spring and crust.

Checklist: Sandwich Loaf Shape and Bake Checklist

[ ] Gently press the bulk-fermented dough into a rectangle about the length of your tin
[ ] Roll it up snugly into a tight log and pinch the seam closed for surface tension
[ ] Place it seam-side down in a greased tin (about 23 by 13 centimetres for 500 grams of flour)
[ ] Proof until the dough domes one to two centimetres above the rim and passes the poke test
[ ] Bake at about 190 to 200 degrees Celsius until deep golden
[ ] Confirm doneness by internal temperature (about 88 to 93 degrees Celsius for an enriched loaf)
[ ] Turn out immediately, brush with butter for a soft crust, and cool fully before slicing

Exercise: Handle an Enriched Dough

Bake one enriched dough such as brioche, challah, or milk bread, and practise the technique that makes a sticky, buttery dough manageable, using the course guidance.

• Will you build the gluten first and add butter gradually, and what does the dough look like as the butter goes in before it comes back together?

• Will you chill the dough before shaping, and how does cold handling make a buttery dough easier to work?

• Will you use the tangzhong method (cooking about 5 to 10 percent of the flour with milk into a paste) for extra softness, and why does it keep bread fresh longer?

• At what temperature will you bake (around 175 to 190 degrees Celsius) so the sugar and egg do not brown before the inside cooks?

Worksheet: Oven Spring and Crust Worksheet

Plan and record how you set up oven spring and control the crust for one loaf, so you can repeat a good result or adjust a poor one.

Preheat temperature and preheat duration (30 to 45 minutes recommended)

Steam method for crusty loaves (covered Dutch oven, tray of boiling water, or none)

When steam was vented or the lid removed

Scoring done (yes or no), angle, and depth

Oven spring observed (low, moderate, strong)

Crust colour at the end (pale, golden, deep brown)

Internal temperature at removal

One change to try next time for better spring or crust

Checklist: Crust Style Decision Checklist

[ ] Decide the crust you want before baking: crisp and blistered, or soft and golden
[ ] For a crisp crust, bake hot with early steam and vent it to dry and colour the crust
[ ] For a soft crust, skip steam and brush with melted butter out of the oven
[ ] Use a sharp lame and a confident single slash on lean loaves for a good ear
[ ] Brush enriched loaves with egg wash for a deep, shiny golden crust
[ ] Lower the temperature for enriched dough so it does not brown before the centre bakes
[ ] Always cool on a rack so the crust stays as intended and the crumb finishes setting

Rolls, Pizza, and Troubleshooting

Shape soft rolls and a crisp pizza base, then read the crumb and crust to fix the next bake.

Worksheet: Even Dinner Roll Division Worksheet

Get even rolls by dividing the dough by weight. Record the total and your target so each piece matches. Leave the per-piece weight for you to calculate and weigh out.

Total bulk-fermented dough weight (g)

Number of rolls wanted

Target weight per roll (total divided by number of rolls)

Actual weight of each piece as portioned (g)

Shaping method (tight ball, knot, log)

Pan arrangement (touching for soft, spaced for crusty)

Finish before baking (egg wash, milk, or bare)

Internal temperature at doneness (about 88 to 90 degrees Celsius)

Checklist: Pizza Dough and Hot Bake Checklist

- [ ] Mix a lean dough of about 60 to 65 percent hydration with strong bread or 00 flour
- [ ] Divide into dough balls of about 250 to 280 grams for individual pizzas
- [ ] Cold ferment the balls 24 to 72 hours for flavour, then warm an hour before baking
- [ ] Preheat a pizza steel or stone for 45 to 60 minutes at the oven's maximum
- [ ] Stretch each ball by hand from the centre out, leaving a puffy rim; never use a rolling pin
- [ ] Bake at the oven's highest setting (often 250 to 290 degrees Celsius) for 6 to 10 minutes
- [ ] Pull when the crust is blistered and the cheese bubbles

Exercise: Diagnose a Loaf from the Crumb

Slice a cooled bread, photograph the crumb and crust, and trace any fault back to a specific earlier step using the course troubleshooting guide.

• Is the crumb dense and gummy (pointing to underproofing, weak or dead yeast, or slicing too hot)?

• Did the loaf bake flat with a coarse crumb and pale crust (pointing to overproofing or under-shaping)?

• Is there a doughy raw centre under a dark crust (pointing to too hot an oven or pulling it too early)?

• Which single variable will you change on the next bake, and what specific result do you expect?

Checklist: Bake Log Habit Checklist

- [ ] Record the flour blend and hydration for every bake
- [ ] Note the dough temperature and the actual proof times, not just the recipe's
- [ ] Write down the oven temperature, steam method, and bake time
- [ ] Capture the crumb and crust result and a quick photo

[ ] Change only one variable per bake so the cause of any change is clear
[ ] Review the log for patterns, such as a cold kitchen needing longer proofs
[ ] Carry the single best change forward into the next bake

Your Action Plan

1. Identify and activate your yeast, proving it foams in warm sweetened water before committing a batch of flour
2. Choose your flour and decide whether the bread is lean or enriched, then write the formula in baker's percentages
3. Scale the formula to your target dough weight and weigh every ingredient on a 1 gram scale
4. Develop the dough to the windowpane by kneading, or mix a high-hydration dough and ferment it overnight no-knead
5. Target a dough temperature near 24 to 26 degrees Celsius and judge the bulk rise by percent growth, not the clock
6. Shape tightly for surface tension and confirm the final proof with the poke test
7. Set up oven spring with a fully preheated oven and early steam for crusty loaves, then vent to colour the crust
8. Bake to a measured internal temperature, about 88 to 93 degrees Celsius for soft loaves and 96 to 99 for crusty ones
9. Cool every bread fully on a rack before slicing so the crumb finishes setting
10. Slice, read the crumb and crust, log the bake, and change one variable to improve the next loaf