



# A Bread Baking Kickstart

DANIEL H STEINBERG



Making Dough at Home  
in Your Spare Time

Editors Cut

# A Bread Baking Kickstart

Making Dough At Home

In Your Spare Time

by Daniel H Steinberg

Editors Cut

## Copyright

"A Bread Baking Kickstart", by Daniel H Steinberg

Copyright © 2022 Dim Sum Thinking, Inc. All rights reserved.

ISBN-13: 978-1-944994-03-7

## Book Version

This is version 0.5 released March 2022.

## Recommended Settings

The ePub is best viewed in scrolling mode on an iPad. On smaller devices I also choose landscape. For some reason that I don't understand, scrolling mode is supported by Apple's Books app on the iPad but not on the Mac. If you view this book in Apple's Books app, turn off "Full Justification" in Preferences > Reading > Reading Options.

## Submit Errata

Submit your [errata here](#) for the book by selecting New Issue. Please provide the book version listed above, chapter, section, and page number in your issue so that I can find it and, if possible, resolve it quickly.

## Legal

Every precaution was taken in the preparation of this book. The publisher and author assume no responsibility for errors and omissions, or for damages resulting from the use of the information contained herein and in the accompanying code downloads.

The Editor's Cut name and logo are registered trademarks of Dim Sum Thinking, Inc.

# Table Of Contents

## Copyright and Legal

- Copyright
- Book Version
- Recommended Settings
- Submit Errata
- Official Links
- Legal

## Chapter 6: Up and Out

- Sourdough Rye Breads
- Whole Wheat Breads

## CHAPTER 6

---

# Up And Out

Sections:      [Sourdough Rye Breads](#)  
                    [Whole Wheat Breads](#)

At the end of Roald Dahl's "Charlie and the Chocolate Factory", Willy Wonka invites Charlie and his grandfather into the great glass elevator they've used to explore magical worlds one last time and he presses a button labeled "Up and Out".

That's where we are at this point.

We're ready to go up and out.

We've experimented with different breads and are now ready to make the bread we bake our own.

We'll start by making some sourdough rye and some whole wheat breads to solidify the lessons we've learned and then we'll introduce a framework that makes it easy to see how the pieces fit together. We'll use this framework to take one last look at the breads we've baked already and suggest paths for experimentation - including a few we haven't discussed before.

The framework for this baking and experimentation is a dough I call 1 2 3 4.

It is four parts flour, three parts water, two parts poolish or sourdough, and one part accent flour.

There's nothing special about this formula except that  $1 + 2 + 3 + 4 = 10$  so the total dough weight will be approximately ten parts.

I say "approximately" because I'm not accounting for the salt, yeast, or other possible additions.

We are going to use this base to make every sort of bread we made in the past few chapters as well as many more. We also will make bread with seeds and other mixins, whole wheat breads, and rustic breads.

Throughout the chapter we'll adapt the formula to use and highlight different preferments, different hydration levels, and different techniques to review and synthesize all that we've learned about baking bread.

Hopefully, you'll see that you have a handful of very simple levers in front of you that you can move this way or that to get very different results.

We begin with a deli rye.

## Sourdough Rye Breads

A year before Kim died, she encouraged me to take a rye bread class I'd been looking at.

One of the many things we did for each other was notice what the other person really wanted to do or purchase but couldn't convince themselves to do. Sometimes we need another person to give us the permission to treat ourself well. We shouldn't need that - but we do.

Anyway I went to Brookline, MA and took a class from Abe Faber at Clear Flour Bread & Bakery. This was the neighborhood I used to visit with my family to see my grandparents and great grandparents. Abe's wife Christy Timon had founded the bakery after my family had left the area but it felt like it had always been a part of it.

The bakery has since changed hands but any time you have an opportunity to learn from Abe or Christy you should take it.

As you'll soon see, rye flour behaves much differently than wheat flour. It doesn't have the strength of wheat flour and so the dough feels different and the resulting bread is very different.

As the percentage of rye flour increases in the recipe, the doughs become harder to work with. Some bakers use a type of flour called



first clear or vital wheat gluten to add strength to the bread.

A bread baked with a high percentage of rye flour shouldn't be eaten for several days after baking - it's not ready yet. At the class we mixed up one of these breads and left it to proof overnight. The next morning we baked it off. At our lunch break Abe produced loaves of the same bread that he'd baked a week earlier so they'd be ready for us to sample.

As a side note, I talked to Abe about how formulas are presented in the tables in bread recipes. He was very instrumental in working on standardizing the format for sharing the ingredients and process for recipes.

We're going to start with a simple deli rye that has a low percentage of rye flour in it. If you like it, consider it your entry point to rye breads and pick up a book that digs deeper into the topic.

## The Levain for all of our ryes

If you have a rye sourdough starter, use it.

If you don't, then use your wheat starter. Put the amount of starter specified in the formula in a clean container and refresh it with rye instead of wheat. Repeat this twice a day for two days before baking.

A couple of notes on the levain. Use 125% hydration for all but the final refresh where you should use a 100% hydration as specified in the formula. I also continue to use 100g of rye flour and 125g of

water until the final refresh where I use the amounts called for in the recipe. Actually, I often use more than the amounts called for in the recipe as I want it to have an appropriate level of activity and I worry with very small amounts if I'll get that.

I baked the bread both ways - starting with a rye starter and with a wheat starter refreshed with rye - and can't detect a difference.

## Deli Rye Bread

Let's bake a 900g loaf. This is two pounds of dough and works nicely in a 9" x 5" loaf pan.

I want 1/6 of the flour or about 17% of it to be rye flour. I'm using a medium rye here because it's easier to find. The remaining 83% is either an all purpose flour or you can use a higher protein bread flour.

Flour is weakened in the preferment and rye is already a weaker flour so, as noted above, we'll ferment all of our rye flour and none of our wheat flour so we retain the strength of the wheat flour.

Many recipes list the caraway seeds as optional and I suppose they are but they give the bread the smell, taste, and chew that I associate with a deli rye.

Formula:

Total Formula	Amount	Baker's %
AP or Bread Flour	426g	83
Medium Rye Flour	87g	17
Water	344g	67
Salt	10g	2
Yeast	3g	0.5
Caraway Seeds	15g	3
Starter	15g	3
<hr/>		
Total	900g	175.5

**Sourdough Refresh  
Formula**

Total Prefermented Flour =  
17%

Total Prefermented AP = 0%

Total Prefermented Rye =  
100%

	Amount	Baker's %
Medium Rye Flour	87g	100
Water	87g	100
Starter	15g	17
<hr/>		
Total	189g	217

Final Dough	Amount
AP or Bread Flour	426g
Water	257g
Salt	10g
Yeast	3g
Levain	189g
Caraway Seeds	15g
<hr/>	
Total	900g

## Process:

The steps in the process are familiar by now but let's list them in order.

- Even with the striking resemblance to the previous formula, you will notice differences to the dough from the start.
- The levain will feel much thicker when we use rye instead of wheat to refresh it.
- Twelve hours later when we mix our final dough, let's mix all of the ingredients together except the salt and caraway seeds.
- After a twenty minute rest, add the salt and seeds and mix thoroughly. Turn the dough out on a floured board and knead it

until it is smooth. It will feel stickier than our wheat dough and less developed.

- Let it bulk ferment for three hours with folds after each hour.
- Preheat the oven to 460 degrees F / 240 degrees C and shape the dough into an oval loaf. If I'm going to use this bread for sandwiches, I often bake it in a loaf pan so that I get uniform slices, but this bakes fine as a free form loaf.
- Slash the dough three times perpendicular to the long axis of the oval and put it in the oven with steam.
- Check after fifteen minutes and make adjustments to the temperature. Bake for another fifteen minutes or so. If I used a loaf pan, once the bread is firm enough, I often carefully tip it out of the pan and let it bake on a stone or a steel.
- When the bread has cooled you should get a nice soft interior and a bread that tastes of rye and caraway. That combination is what reminds me of a deli rye.



I love this bread toasted in the morning for breakfast or covered in mustard as the basis of a sandwich for lunch or dinner.

## 80% Rye

The blogger/YouTuber FoodGeek experimented with different amounts of rye flour. He made four batches with an identical starter and identical hydration of 80%. The differences were that the first was 20% rye flour, the others were 40%, 60%, and 80%.

He ran the experiment twice. Once he used a whole rye or pumpernickel flour and the other time he used a light rye. In both cases he preferred the 20% and 80% to the others.

Although this recipe doesn't call for it, you can add caraway seeds to this recipe as we did for the deli rye.

We're using a medium rye, but we could easily calculate what we would need for an 80% rye flour. Note that this dough will be much harder to work with and won't rise nearly as much. You may want to bake it in a loaf pan. Finally, you should also reduce the temperature and give it a longer bake on a low temperature.

Again we bake a 900g / two pound loaf.

Formula:

Total Formula	Amount	Baker's %
Medium Rye Flour	388g	80
AP or Bread Flour	97g	20
Water	388g	80
Salt	10g	2
Yeast	3g	0.5
Starter	14g	3
Total	900g	185.5

**Sourdough Refresh  
Formula**

Total Prefermented Flour =  
17%

Total Prefermented AP = 0%

Total Prefermented Rye =  
21.25%

	Amount	Baker's %
Medium Rye Flour	82g	100
Water	82g	100
Starter	14g	17
<hr/>		
Total	178g	217

**Final Dough**

Amount

Medium Rye	306g
AP or Bread Flour	97g
Water	306g
Salt	10g
Yeast	3g
Levain	178g
<hr/>	
Total	900g



Process:

Same as above though you should use a loaf pan and reduce the temperature to 420 degrees F / 215 degrees C after the initial 15 minutes.

Remember to let this bread should improve over time. Wait a day or so to cut into it.

## 20% Rye

Professional bakers will often use a clear flour to add strength to the rye. Clear flour is 15% protein.

It is difficult to find clear flour in the US. You can mail order it from King Arthur. My friend Kevin gets great rye breads using it.

I've been experimenting with a 20% rye that uses either bread flour or a white whole wheat to add strength using an 80% hydration. The results are really nice. You may want to try this or your own variation.

I have to admit that I came on this by mistake. My goal was to experiment with the deli rye using a stronger wheat dough and I accidentally reached into the bag of rye flour when I started to mix the final dough. The result was a 20% rye where I had prefermented 75% of the rye and I liked its taste and loved how it toasted up.

The difference between this and the deli rye is tiny.

This is what I want you to do as you become more confident as a baker. Make little changes and note what you like better and aim to replicate that.

Formula:

Total Formula	Amount	Baker's %
AP or Bread Flour	382g	80
Medium Rye Flour	96g	20
Water	382g	80
Salt	9g	2
Yeast	3g	0.5
Caraway Seeds	14g	3
Starter	14g	3
Total	900g	188.5

**Sourdough Refresh  
Formula**

Total Prefermented Flour =  
15%

Total Prefermented AP = 0%

Total Prefermented Rye =  
75%

	Amount	Baker's %
Medium Rye Flour	72g	100
Water	72g	100
Starter	14g	19
<hr/>		
Total	158g	219

**Final Dough**

	Amount	
AP or Bread Flour	382g	
Medium Rye	24g	
Water	310g	
Salt	9g	
Yeast	3g	
Levain	158g	
Caraway Seeds	14g	3
<hr/>		
Total	900g	

Process:

Bake this as you baked the deli rye. The increased amount of rye and hydration will make it slightly harder to handle.

Let's continue to explore what adding whole grains can do to our loaves. In the next section we look at whole wheat sourdough breads.

## Whole Wheat

We used Whole Wheat as an accent flour in our whole wheat sourdough loaf in the previous chapter.

In this section we start with a bread that is constructed similarly to the deli rye loaf in the previous section except that we use a poolish instead of sourdough.

Whole wheat flour might not have the strength of white flour but it is stronger than rye bread.

After this loaf with 17% whole wheat we'll make two others that use progressively more whole wheat and less white flour.

Note that whole wheat flour is more absorbent than white flour.

For each of these, let's make 1000g of dough. We'll form it into two oval loaves or a single large round loaf.

### Light whole wheat

This bread is the basis for our seed bread. On its own it is a nice wheat bread that toasts up very nicely.

Formula:

Total Formula	Amount	Baker's %
AP Flour	490g	83
Whole Wheat Flour	100g	17
Water	395g	67
Salt	12g	2
Yeast	3g	0.5
Total	1000g	169.5

### Poolish

Total Prefermented Flour = 17%

Total Prefermented AP = 0%

Total Prefermented Whole Wheat =  
100%

	Amount	Baker's %
Whole Wheat Flour	100g	100
Water	100g	100
Yeast	Pinch (about 0.2g)	0.2%
Total	200.2g	200.2

Final Dough	Amount
AP Flour	490g
Water	295g
Salt	12g
Yeast	2.8g
Poolish	200.2g
<hr/>	
Total	1000g

I don't include the starter amount in the total dough which is why we get the additional 13g in the final dough.

### Process:

- Mix the poolish about twelve hours before you intend on mixing the dough.
- Mix the final dough until strong, smooth, and not very sticky.
- Bulk ferment two hours with a single fold after the first hour.
- Shape into a round loaf and let proof an hour.
- Bake with steam at 460 degrees F / 240 degrees C for fifteen minutes then with no steam for an additional twenty minutes.

## 50% Whole Wheat with Biga

Some recipes call for a high extraction flour. This is a compromise between white flour and whole wheat flour. Whole wheat is what you get when you grind the grain. White flour is what you get when you remove all of the bran and wheat germ and just use the endosperm. In between is high extraction or brown flour.

Some millers use a percentage to indicate the level of extraction. For example, you can find high extraction that specifies that it uses around 85% of the grain. Other millers don't specify the level of extraction but they do specify the ash content of the resulting flour.

It's difficult to get high extraction flour in small amounts. You won't tend to find it at your local grocery store and I can't justify buying a fifty pound bag. I buy mine directly from millers who sell both grain and flour.

You can grind your own flour - which is a lot of fun and yields delicious results. Fresh ground flour is whole wheat. You then use one or more sieves with specific mesh sizes to extract the amount you'd like.

Although it is not precisely what we're looking for, you can fake a high extraction flour by mixing whole wheat flour and AP or bread flour half and half.

Tartine has recipes that use high extraction flour. Poilane's basic recipe uses essentially half AP and half whole wheat in her basic



sourdough bread. I recommended refreshing our sourdough with a half and half mix of AP and whole wheat.

We'll use the half and half approach and use a biga to support a stronger final dough. Feel free to adjust this formula to make this as a straight dough or use a poolish or sourdough instead.

I made my biga using only the whole wheat flour but it would also be fine to make it half and half with the AP flour and use 75g of each in the biga and 225g of each in the final dough.

Process:

Total Formula	Amount	Baker's %
AP Flour	295g	50
Whole Wheat Flour	295g	50
Water	395g	67
Salt	12g	2
Yeast	3g	0.5
Total	1000g	169.5

**Biga**

Total Prefermented Flour = 17%

Total Prefermented AP = 0%

Total Prefermented Whole Wheat =  
34%

	Amount	Baker's %
Whole Wheat Flour	100g	100
Water	50g	50
Yeast	Pinch (about 0.2g)	0.2%
<hr/>		
Total	150.2g	150.2

**Final Dough**

	Amount
AP Flour	295g
Whole wheat Flour	195g
Water	345g
Salt	12g
Yeast	2.8g
Biga	150.2g
<hr/>	
Total	1000g

## The Process

- Mix the biga about twelve hours before you intend on mixing the dough.
- Mix the final dough until strong, smooth, and not very sticky.
- Bulk ferment two hours with a single fold after the first hour.
- Shape into a single round loaf or two oval loaves and let proof an hour.
- Bake with steam at 460 degrees F / 240 degrees C for fifteen minutes then with no steam for an additional twenty minutes. With the large loaf you'll need to reduce the heat after fifteen minutes and may need to bake longer.

## High Hydration Whole Wheat

As I mentioned earlier, whole wheat flour often wants more hydration than white flour. I call this high hydration but we'll work with downright wet loaves later in this chapter.

This dough is harder to handle and harder to give structure to.

If you have a machine, it is easier to mix this dough. I hold back some of the water and use a bassinage to add the water after some of the gluten development has begun.

You will need to handle this dough quickly and it needs to know that you're in charge.

You will need to wet your hands when folding it and it will need at least one additional fold during the bulk ferment and possibly more. It will also likely need more time.

You'll need to do some of the shaping with a bench scraper to work it into a round. Your hands, the bench, and your bench scraper may require water to keep the dough from sticking.

I made this dough with our regular sourdough starter but refreshed it with whole wheat flour the night before using 100% hydration. Feel free to use a poolish or to adjust the formula to use a biga.

I also use high protein bread flour as the accent flour because I want the extra strength that it brings.

The yeast is, of course, optional but you'll have to allow for a slower rise without it.

Formula:

Total Formula	Amount	Baker's %
Whole Wheat Flour	440g	83
Bread Flour	90g	17
Water	440g	83
Salt	11g	2
Yeast	3g	0.5

Total Formula	Amount	Baker's %
Sourdough Starter	16g	3
Total	1000g	188.5

## Levain

Total Prefermented Flour = 17%

Total Prefermented AP = 0%

Total Prefermented Whole Wheat =  
20.7%

	Amount	Baker's %
Whole Wheat Flour	92g	100
Water	92g	100
Sourdough Starter	16g	17
Total	200g	217

## Final Dough

	Amount
Whole wheat Flour	348g
Bread Flour	90g
Water	348g

Final Dough	Amount
Salt	11g
Yeast	3g
Levain	200g
<hr/>	
Total	1000g

### Process:

- Mix the levain eight to twelve hours before you intend on mixing the dough.
- Mix the final dough until strong, smooth, and not very sticky.
- Bulk ferment three hours with a fold after each hour.
- Shape into a round loaf or two oval loaves and let proof an hour.
- Bake with steam at 460 degrees F / 240 degrees C for fifteen minutes then reduce the heat and bake with no steam for an additional twenty to forty minutes.

## The Approachable Loaf

We can push the amount of whole wheat to 100%.

Often this results in a dense loaf but the [Breadlab Collective](#) decided it was important to create a whole grain loaf that is "approachable, accessible, and affordable." Bakeries that self a loaf derived from what they call the Approachable Loaf, commit to creating a loaf that is "tin-baked and sliced, contains no more than seven ingredients and no non-food. It is at least 60-100% whole wheat and priced under \$6/loaf depending on regionality."

The following formula was developed by Jeff Yankellow in 2018. It makes a great whole wheat bread and is an important idea. You can follow the link above and donate to their efforts.

This loaf uses a whole wheat levain. You can start two days before baking this loaf by refreshing the sourdough starter with 100% whole wheat instead of the half and half mix we've been using. I refresh it using a 125% hydration and only move to the 100% hydration called for in the recipe on the last refresh before baking.

This recipe makes 2000g of dough. That's a lot of dough. You may want to cut it in half to make a single loaf.

I've made two very small adjustments so that the numbers work out.

The process is a bit different. We completely develop the dough while kneading, have a fairly short bulk ferment, and use a longer rise in the loaf pans before baking.

Formula:

Total Formula	Amount	Baker's %
Whole Wheat Flour	993g	100
Water	864g	87
Salt	19g	1.9
Honey	69g	7
Olive Oil	52g	5.2
Starter	3g	0.03
<hr/>		
Total	2000g	201.13

<b>Levain</b>	Total Prefermented Flour = 12%	
	Amount	Baker's %
Whole Wheat Flour	119g	100
Water	119g	100
Sourdough Starter	3g	2.5
<hr/>		
Total	241g	202.5

<b>Final Dough</b>	Amount
Whole wheat Flour	874g
Water	745g
Salt	19g



Final Dough	Amount
Honey	69g
Olive Oil	52g
Levain	241g
<hr/>	
Total	2000g

### Process:

- Mix the levain twelve to fifteen hours before you intend on mixing the dough.
- Hold 10% of the water back. Mix the final dough until strong and smooth. The dough should be developed. The instructions for spiral mixers is three minutes on first speed and 4-6 minutes on second speed. During the higher speed mix add the water you held back after the dough has begun to develop. The desired dough temperature is 75 - 80 degrees F / 24 - 27 degrees C.
- Bulk ferment one hour with a fold after a half hour.
- Divide into 1000g pieces for a 9" x 5" pan. Let rest a half hour then shape into a log and place in a greased loaf pan. Proof for an hour to an hour and a half in the pan.
- Preheat the oven to 425 degrees F / 218 degrees C. As soon as you load the bread drop the temperature to 375 degrees F /

190 degrees C for forty to forty-five minutes. If the loaf is baking too quickly reduce the heat to 350 degrees F / 177 degrees C.

Next, I want to introduce you to a framework for adding accent doughs to a flexible base formula that is very easy to work with.