Challah

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This recipe flowchart is adapted from the "Challah I" recipe by Joan Callaway on allrecipes.com. Makes 2 large loaves of challah (approx. 16" long, 6" diameter). If doubling, double everything and make four loaves. If halving, developing the dough is much easier but the final product will be only about 10" long and 4" diameter.

Mixing method: this recipe uses the straight dough method, which is probably the oldest and most common of the mixing methods. The straight dough method creates as much gluten as possible, which results in extremely elastic dough. Fats and salt inhibit the production of gluten, so their use limited in this method. The straight dough method is also used for pizza dough, sourdough, rolls, and innumerable other "loaf" type breads which were the basis of civilization.

Challah is particularly known for using egg yolks to give it a characteristically golden color. It's also cheap, simple, and nearly foolproof because the dough can't be overdeveloped and it will tolerate ovens that run too hot. Challah loses moisture and goes stale within about two days, but this can be an advantage when using it to make French toast because it will absorb extra liquids.

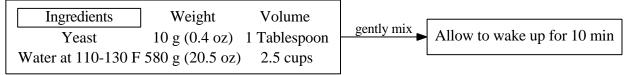
Leavening: yeast is almost always used rather than chemical leavening because a huge amount of carbon dioxide is desired. Given sufficient time, large yeast cultures can be grown to take advantage of the elastic dough, much like blowing bubbles in chewing gum. The completed dough may double before going into the oven and double again during baking.

Special equipment: a stand mixer is very helpful when working the dough due to its elasticity. Using a pizza stone or baker's stone is strongly recommended. A stainless steel pastry scraper is helpful when making measurements and dividing the completed dough.

Special ingredients: High protein ("bread") flour is strongly suggested due to its ability to make extra gluten. All purpose flour can also be used, though the dough should be worked for longer than usual to produce additional gluten. "Self-rising" flour is strongly discouraged because the included chemical leavenings can cause odd flavors and unintended large bubbles.

Bloom the yeast

Not all types of yeast require this additional step, but it can't hurt. If you don't see bubbles and cloudy water after 10 minutes, the yeast is dead and you should discard the rest of the container.



Note: the water needs to be above 110°F for optimum growth and below 130°F or else it will die due to heat shock. Try to avoid adding additional water; instead microwave the bowl for 10 second intervals until the water feels about lukewarm (or check it with a thermometer).

If the yeast isn't blooming, add one crushed vitamin C tablet and wait another 10 min. Vitamin C helps yeast to grow, and it also enhances gluten production and retards the growth of mold on the finished loaves. Excessive amounts of vitamin C will kill the yeast, so don't add too much.

Add the wet ingredients

The following ingredients develop flavors and textures characteristic of challah.

Ingredients	Weight	Volume		
Honey	168 g (6 oz)	1/2 cup		
2 eggs, beaten approx 100 g (3.5 oz)				
Salt, kosher	14.5 g (0.5 oz)	1 Tablespoon**		

If unavailable, the honey can be replaced by an equal weight in white sugar (approx ⁷/₈ cup). Using honey adds additional flavor, but the yeast will eat any type of sugar.

Beat the eggs with a fork in a separate dish before adding them to the watery yeast mixture. Their exact weight isn't important.

The kosher salt can be replaced by an equal weight in any other type of salt. Since kosher salt crystals are twice the size of table salt crystals, use ½ Tablespoon if using table salt. Excessive salt can kill the yeast and disrupt the gluten formation. Whisk together all of these ingredients in a large bowl (4 quart or bigger) or in the stand mixer bowl.

Develop gluten

This is the defining step of the straight dough method. Unlike other loaf breats, it's not really possible to overdevelop the gluten in challah, which makes it a foolproof recipe. If a stand mixer is unavaible, switch between your left and right arms to avoid fatigue.

Ingredients	Weight	Volume
Bread flour	1100 g (38.4 oz)	8 cups
Raisins, small black	k 160 g (5.6 oz)	1 cup

Add the flour one cup at a time to the large bowl and thoroughly mix. After all of the flour is added, continue mixing for at least 15 min in the stand mixer using the dough hook attachment (20 min if manually mixing). The dough should become extremely elastic and pull away from the sides of the bowl. It should become smooth, uniform, and not sticky. You should be able to take a small amount of dough and stretch it without tearing it until it's so thin you can see light coming through, like a cloudy window.

Add the raisins at the end after the dough is completely developed. Poppy seeds are sometimes used instead (approx. 1 Tablespoon). For additional moisture in the raisins, heat them in the microwave with an equal volume of water until they plump up; thoroughly drain before adding them to the dough.

Let the dough rise ("proofing")

The dough needs to rise about $1\frac{1}{2}$ hours or until it's doubled in volume. Cover the bowl with a wet, clean cloth or paper towel. An easy way to approximately measure the growth of the dough is to measure the height with a ruler.

Some bakers punch down the dough, mix it again, and let it rise to double volume again. This is optional; it corresponds to growing more yeast cultures. At some point the yeast will have eaten most of the nearby sugars in the honey, and their growth will slow substantially.

Form into loaves and bake

Put the pizza stone on a rack to the middle of the oven and set the oven to 375°F. Prepare the egg wash:

Ingredients Weight Volume
1 Egg, beaten approx. 50 g
White sugar 10 g (0.4 oz) 1 Tablespoon
Salt, kosher 4.8 g (0.2 oz) 1 teaspoon

Some people just use eggs without sugar or salt. The sugar will make the surface of the challah brown even more, but it's optional. The salt will enhance the flavors and retard the growth of unwanted mold and bacteria on the surface of the challah during storage.

Flour a cutting board or work surface. Dump the challah on the board and work it until all of the outer surfaces are smooth. Lightly coat the dough with flour and divide it in half. Continue working one of the halves into a long cylinder about 1" in diameter. Use the pastry scraper to cut it into thirds. Stretch and roll each third into approx 16" long and then weave them together as if braiding hair. Pinch the ends together. (If using a baker's peel to place the loaves into the oven, lightly flour the bottom of the loaves so it doesn't stick to the peel.) Apply a light layer of the egg wash. Repeat for the other half of the original dough.

Put loaves on the pizza stone and bake at 375°F for 40 minutes. Check the loaves at 30 minutes for browning. Some people reapply the egg wash after 20 minutes of baking to get a firmer, browner outer layer. Stop early if the bottom is turning very dark brown; challah's biggest weakness is being overcooked. Put the finished loaves on a wire rack and cover with a dry towel for at least 30 minutes to finish cooking internally and cool down.