

## Brewing Tutorial

*Stove-top partial-boil with specialty grains*

### Step 1a:

*(Liquid Yeast Only)*

**3+ hours (preferably 1-2 days) before brewing, break the nutrient pack.**

*Remove from the fridge and watch for swelling. Fresh, healthy yeast should swell within hours. Older yeast may take longer. This proves the yeast is alive. If you forget this step, simply break the nutrient pack before pitching in the final step.*

### Step 1:

**Clean and sanitize.**

*Everything should be clean and free of debris. Equipment that will be boiled (brew-pot, stir paddle, etc.) does not need to be sanitized, the boil will take care of it. Items that are not boiled (fermenter, airlock, etc.) should be sanitized, preferably using a no-rinse sanitizer such as Iodophor or Star-San.*



### Step 2:

**Fill the brew-pot about 2/3 full with water.**

*The more water you can boil the better, but leave room for the malt extract and to control boil-overs. 2.5 gallons of water is generally considered the minimum starting volume.*



### Step 3:

*(Skip if your recipe does not include grains)*

**Heat the water to 155°F, then steep the specialty grains for 20 minutes.**

*Temperature is not critical, but should be kept under 170°F to avoid extracting excess tannins from the grains. Grains should already be crushed. The pot can be covered during this process.*



### Step 4:

**Remove the grains, allow them to drain, then discard.**



### Step 5:

**Add the malt extract while stirring with the heat off.**

*Malt extract, especially liquid extract, can sink to the bottom and burn if you do not turn off the heat and stir.*



## Step 6:

### Bring the wort to a boil.

*The pot can be covered at this time to speed up the process.*

***Watch for boil-overs as the wort approaches boiling!***



## Step 7:

### Uncover the pot, and follow the brew schedule for your particular recipe.

*For most recipes you will be boiling 60 minutes. Add the hops and any other additions at the times specified on the instruction sheet. Hops do not need to be placed in a steeping bag, though some brewers prefer to use one. The pot should **not** be covered during the boil so DMS can evaporate.*



## Step 7a:

*(Dry Yeast Only)*

### Rehydrate the yeast.

*Empty the yeast packet into approximately 4oz. of 95-105°F water. Do not stir. After 15 minutes, stir to dissolve the yeast.*



## Step 8:

### **Cool the wort as quickly as possible.**

*A wort chiller is best, but a cold water & ice bath in the sink also works (or a snowbank if your weather permits). Use only cold water first, then add ice to bring the temperature down further. Stirring will speed the cooling process. Try to cool the wort to the fermentation temperature, typically 68°F for ales.*

*Note: You will be adding more water in Step 9. If you have pre-chilled water to add, that can help bring the temperature down. Refrigerating the top-off water the day before is a good method.*

*Cover during chilling? Once the wort is below 140°F, DMS is no longer being created, and you can cover the pot to reduce chances of contamination. This is only recommended if your cooling process is especially slow. A better method is to keep stirring and replenishing the ice to chill faster.*



## Step 9:

**Transfer the wort to the fermenter, then top off with water to bring the volume to 5.25-5.5 gallons. Stir to ensure an accurate gravity reading.**

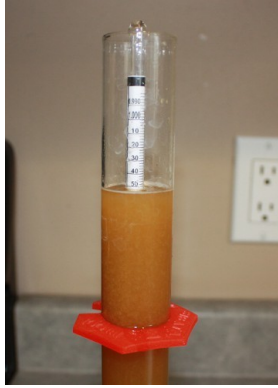
*You can strain the wort at this point if you wish, though it is not necessary. Some brewers use bottled water here, though most find tap water works just fine. Bringing the volume over 5 gallons allows you to leave the trub behind when bottling and still have 5 gallons of beer.*



## Step 10:

### Take a gravity reading.

*Measure the gravity of the wort with a hydrometer. This is the Original Gravity (OG), write it down. It should be close to what the recipe sheet specifies. Don't worry if it's off by a few points. Discard the sample (taste it first!), do not return it to the fermenter. That only increases chance of infection.*



## Step 10a:

*(Liquid Yeast Only)*

### Aerate the wort.

*Liquid yeast needs oxygen for the beginning stages of fermentation. Pour the wort back and forth from the brew pot to the fermenter, cover and shake the fermenter, or stir the wort vigorously to dissolve oxygen. You cannot over-aerate (unless you are injecting pure oxygen from a tank).*

## Step 11:

### Pitch the yeast, cover the fermenter, and install the airlock.

*Yeast does not need to be stirred in. The airlock should be filled to the fill line with water.*



## **Step 12: Fermentation.**

*You should notice activity in the airlock within 48 hours. If you reach day 4 without activity, take a gravity reading with a hydrometer. If it has not changed from the OG, pitch new yeast.*

*Monitor the fermentation temperature. Yeast will create heat and raise the wort temperature by up to 5 degrees. Try to maintain a steady temperature by moving the fermenter to a cooler/warmer part of your house as needed. Temperature control is one of the most important factors in making good beer.*

*Fermentation is typically complete after 5-7 days, but it is wise to keep the beer in the fermenter for at least two weeks, three is better. Yeast are continuing to work cleaning up off-flavors, as well as settling to the bottom to clear the beer. Secondary fermenters are generally no longer recommended for most beers.*

*Take a gravity reading when you feel fermentation is complete. Most beers will finish at 1.010-1.014. Some "bigger" beers will be closer to, or even above 1.020. The important thing is that fermentation is complete. Check the gravity again 3+ days later, if it has not changed, the beer is done.*

## **Step 12a: Dry hopping.**

*If your recipe includes dry hopping, these hops should be added to the beer after fermentation is complete. Add them 5-7 days before you plan on bottling, or for the length of time your recipe specifies. A hop bag is not necessary, but you can use one if you prefer.*

*Please refer to our Bottling guide for instructions on bottling the beer.*