



- ☐ Brew Kettle (5 Gallon or greater)
- ☐ Large Stainless Steel or Plastic Spoon
- ☐ Hydrometer and Test Jar
- ☐ Thermometer
- ☐ Timer
- ☐ Ice or Wort Chiller
- ☐ Cleaner and Sanitizer
- ☐ Fermenting Bucket or Carboy
- ☐ Siphon/Tubing or Funnel
- ☐ Airlock
- ☐ Large muslin bag (if your recipe includes specialty grains)



°C	°F	Delta G (ΔG)
15.6	60	60
18.3	65	65
21.1	70	70
23.9	75	75
26.7	80	80
29.4	85	85
32.2	90	90
35.0	95	95
37.8	100	100
40.6	105	105
43.3	110	110
46.1	115	115
Temp Conversion °C = (°F - 32) * 5/9 °F = (°C * 9/5) + 32		

If the  $SQ$  of your sample is 1.052 at  $73^{\circ}\text{F}$ , then the  $\Delta G$  is 0.002, and the corrected  $SQ$  is 1.054.

## Before Brewing

- At the beginning of your brewday, take your yeast out of the fridge and allow it to rise to room temperature.
- If you opted for a Wyeast "Smack Pack," activate your yeast by following the instructions on the back of the package.
- If you made a yeast starter, turn off the stir plate and allow the yeast to settle out to the bottom of your flask.

## Brewing

### Preparation

- Do a personal inventory check of all of your equipment and ingredients
- Make sure your brew equipment is clean and ready for brewing.
- If your kit includes liquid malt extract (LME), soak the canister(s) in warm water before adding to the boil kettle. This will make the extract less viscous and easier to pour.

### Mashing\*

Only if your recipe includes specialty grains! If you don't have specialty grains, you may skip to the next step, "Boiling."

- Add 2.5 gallons of water to your 5-gallon brew kettle. This is known as your strike water.
- Pour the specialty grains to your large muslin bag, and gently place them into the strike water. This is now called the mash.
- Begin heating the mash to around 170°F/76°C. After you have reached your target temperature, turn off the heat and let the grains steep for another 10-15 minutes. Remove the bag, allowing it to drain any excess into the kettle, and then dispose.

### Boiling

- The liquid in your kettle is now called wort, which is the brewing term for unfermented sugar water that will be turned into beer. (Think sweet tea).
- Bring the wort up to a rolling boil. Once it's boiling, turn off your burner and remove the kettle from the heat source. Add the first half of your malt extract (liquid or dry). Be sure to stir well to prevent scorching! Be careful during this step, as boil-overs are extremely common!
- Place the kettle back onto the burner. Once a boil is reached, set a timer for 60 minutes, and add your first hop addition according to the schedule above. Using the timer, complete the remainder of the hop schedule additions.
- If you are using an immersion wort chiller, sterilize it by placing it in the boiling wort when about 10 minutes remain on the timer.
- When your timer goes off, turn off the heat and remove the kettle from the heat source.

### Cooling and Transferring

**WARNING: Everything that touches the wort from now on needs to be cleaned AND sanitized!!!**

- You'll want to cool down your wort as fast as possible to prevent infection from outside yeast and/or bacteria. The best way to do this is with a wort chiller, but a cold ice bath works just as well.
- To create an ice bath, plug a large sink and carefully place the hot kettle in the middle. Then add ice around the sides of the kettle. Continue to top off with ice until the wort has cooled sufficiently.
- Make sure your thermometer is sanitized with every use!
- After you have cooled your wort down to at least 80°F/26°C, use a sanitized siphon or funnel to transfer it to your primary fermenter.
- Top off the fermenter to the 5 gallon mark with cold, clean drinking water. Vigorously rock the vessel back and forth to create bubbles for several minutes. This adds oxygen to promote yeast health.
- Using a sanitized wine/beer thief, take a sample of the wort and place it in your test jar with your hydrometer. Record the specific gravity for later reference. You will do this again after fermentation to determine the ABV of your finished beer.

## Fermenting

### Pitching the yeast

- Dry yeast - Though ready to pitch straight from the package, some brewers like to rehydrate the yeast before adding it to the fermenter.
- To Rehydrate: Simply add the dry yeast to a small, sanitized jar of boiled water that has been cooled to at least 90°F/32°C. Allow the yeast to rehydrate and rest for at least 5 minutes before mixing.
- Liquid yeast - If using Wyeast Smack Pack, follow instructions on the package. If using White Labs or other liquid yeast, give the package a steady shake to suspend any settled yeast fully into the mixture. Liquid yeast is preferred by many brewers to achieve beer styles that are not possible using a dry yeast.
- Soak the yeast package in sanitizer for a couple minutes before pitching. Using sanitized scissors, cut one corner of the packet off, and immediately pitch (pour) your yeast into the fermenter.
- Give the stopper and airlock a quick sanitizer bath, and return to the carboy or fermenting bucket to fully seal the fermenter.
- If your recipe calls for a yeast starter, visit <http://www.homebrew-supply.com/learn/how-to-make-a-yeast-starter.html> for detailed instructions.

### Fermentation Tips

- Keep your fermenting beer in a dark, cool environment between 65 and 70°F. Sunlight can cause "skunky" flavors in your finished beer.
- Always keep a couple dry yeast packages on hand just in case you get a stuck fermentation or yeast that doesn't work. We recommend Safale US-05 for American Style Ales and S-04 for English Style Ales. We also replace any unviable yeast packets as a part of our dedication to customer service.

### Cold Crashing (Optional)

- If you want to clear up your beer for aesthetic or style guideline purposes, a great way to do that is to cold crash your beer. A few days before bottling/kegging, simply place your carboy in a refrigerator, temperature-controlled freezer, or ice bath at around 35°F to cool rapidly. This sudden decrease in temperature causes leftover yeast, proteins, or hop material to drop out and fall to the bottom of the carboy, leaving a clearer final beer.

## Bottling

- Before bottling, make sure all equipment (siphon, tubing, bottles, caps, etc.) is clean to the eye and sanitized with a no-rinse sanitizer.
- Add an ounce of corn sugar (dextrose, priming sugar) per gallon of beer to bottled to 2 cups of water in a small pot. Boil the solution for 5-10 minutes and then let it cool for another 5 to 10 minutes.
- Carefully add the sugar-water solution to your sanitized bottling bucket, then gently transfer your fermented beer to the bucket via a sanitized siphon/tubing. While transferring, the beer will self mix with the sugar solution.
- Using your sanitized bottle filler/tubing, attach the hose end to the spigot and fill each bottle with the beer, leaving about an inch of headspace. When using a bottling wand/filler, press the wand to the bottom of the bottle and fill until just below the very top. Once the wand is removed, the ideal amount of headspace will remain.
- Use your bottle capper to crimp your sanitized bottle caps onto the each bottle.
- Store your beer bottles in a dark environment around room temperature for 2 weeks. Refrigerate and serve, or age the bottles for longer, depending on the style of beer.