When the fats have melted, take the pot off the stove.

- Beeswax will be the last thing to melt. When it dissolves, your fats will be at a temperature of around 145º to 150º.
- Try not to overheat your oils. Cosmetics never benefit from too much heat!
- Give it all a good stir, get your molds, fragrance, botanicals and colorants ready to go, and read a good bee book while the fats cool.
Temperature is Critical

100° - 120° is a good range to combine the fats and lye-water,
When to combine the fats and the lye water?

• We always start our fats melting and then combine the lye and the water. By the time the fats have cooled to around 120º, the lye water is also cool enough. This can take a couple of hours for a 20 pound batch.

• We combine at 120º unless we are making a marbleized soap. Then we combine at 125º.

• The “book” suggests ranges of 80 to 130º, but middle ranges above 100º are best for soap with beeswax or the soap will trace too quickly.

• You must experiment to find the best temperature for your particular recipe.

• Combining too hot can cause soap to seize or separate!
Smoothly pour the lye water into the melted fats

- Be sure everything is ready in advance. You will not have time to get goggles, gloves, spatula at the last minute, especially if you are marbleizing or layering your soap.
- Add your botanicals, if any.
- Add your colorant, if any.
- Add your essential oil or fragrance oil.
- Smoothly pour the lye water into the melted fats.
- Stir. Don’t splash!
- You can stir by hand but a cordless drill works well for larger batches. You can use a stick blender for a small batch of a few pounds.
Continue stirring until the soap traces

• The time to trace depends on the temperature, the fragrance or essential oil, the size of the batch, the amount of water used, and the percentage of saturated/unsaturated fats in the recipe.
• Soaps containing beeswax tend to trace very quickly... sometimes TOO quickly!
• Thorough stirring is very, very important!
Pour the soap in the molds

- A good commercial soap mold has a liner—silicone, plastic, or foam. If using a wooden mold, be sure to line it with freezer paper. Fold to fit. Wrinkles will show.
- Be careful not to splash.
- You can and should get all the soap out of the pot with a silicone spatula.
Level and cover with wax paper or freezer paper

- You can gently pat the surface of the soap down after the wax paper is in place to level the surface. The soap tends to be higher in the middle if it is poured at thick trace.
- Wax paper helps prevent formation of a harmless white powdery substance called soda ash which forms as a result of exposure to the air.
- You can also use a spoon to create “waves” and interesting patterns on the surface. In this case, spray with rubbing alcohol to minimize soda ash.
Putting the soap “to bed”

• Some soapers actually wrap the mold in a blanket!
• Keeping the soap warm is more important for small batches that don’t retain heat as well as larger batches.
• Keeping the soap warm helps it to gel
The Gel Phase

• As saponification progresses, the soap heats up so much it becomes transparent, then cools down again.

• A soap that gels will saponify more completely and cure faster.
Leave the soap in the molds for 24 hours

- Soap should be completely cooled before unmolding and cutting into bars.
- It should have the texture of cheese when you cut it: firm but easy to cut.
- Unmold the soap to a slab, cut the slab into logs. Cut the logs into bars.
Cutting the Soap into Bars
Curing the Soap

• Soap must cure completely before it is ready to use.
• During curing, saponification continues and the water evaporates from the soap.
• The soap becomes harder and more mild.
• Some recipes cure very quickly, some take several months.
• Soap shrinks as it cures, so don’t wrap it too soon!
What Went Wrong??

• Soap is chemistry. Accurate measurement is essential in avoiding problems.
• Some fragrances can cause soap to do weird things.
• Be sure to let the lye water and fats cool adequately before combining them.
• Soap can: separate, seize, curdle, get lye or oil pockets in bars
• ALWAYS, ALWAYS, test new recipes or fragrances in small batches!
Fancy Stuff: Marbleized Soap
Several Methods

• The KEY is to work at “thin” trace. Marbleizing takes a little time and the soap, especially with beeswax, tends to set too fast.

• All methods involve getting several colors in the mold and then running a knife or other thin spatula through the soap to draw the colors together in interesting patterns without actually mixing them.

• Anyone who has ever made a marbleized cake knows the basic principles of this method.

• It can help to have an assistant, as speed is vital.
Other Fancy Stuff to Try

• Layering colors: do at medium trace, very carefully spooning each layer onto the one below so the colors do not blend. The interface need not be perfectly straight. Work fast.

• Re-batching: This is a technique that involves cutting up soap and melting it down again, usually adding more fragrance, and putting it in a mold. Re-batched soap is also known as “milled” soap.

• “Confetti” soap: Add chunks or cubes of cured soap to your mix.
Resources

• “The Soapmaker’s Companion,” Cavitch, Susan Miller. This is an excellent reference and should be on every soapmaker’s bookshelf.
• “Scientific Soapmaking,” Dunn, Kevin M. For those who want a more in-depth treatment of the chemistry of making soap.
• Suppliers:
Bonus Knowledge: Using Propolis
Propolis: the Bees’ Exterior Immune System

• Propolis is a very powerful antimicrobial. It kills bacteria, viruses and fungi

• You can collect, clean, and add propolis to your value-added products to enhance their antimicrobial properties.

• You can also sell cleaned propolis as-is, or make propolis tincture.
Collecting Propolis

- Propolis traps are a great way to collect propolis that you do not later have to clean.
- Hive and frame scrapings will get you a lot of propolis but they must be cleaned of bits of wood or paint, or bee parts before use.
- We get most of our propolis by scraping and collecting it from...
Cleaning Propolis

• Fill a 1 pound clean metal coffee can about 1/3 full of collected propolis and add about the same amount of hot water.
• Set in a 200º oven for about 2 hours. Stir occasionally.
• Remove, let cool, and pour off the dirty water.
• Scrape off any bits of wood or gunk that might be adhering to the surface of the propolis blob at the bottom of the can.
• Freeze the can with the propolis in it.
• Chip out the clean propolis with hammer and chisel.
Cleaned Propolis
Preparing Propolis to Use

- You can weigh out the cleaned propolis into small jars and sell it as-is.
- If you want to use it in your products or make a tincture, it helps to grind it into a powder first.
- Be sure the propolis is cold, which makes it brittle.
- Use a clean electric coffee grinder to powder the propolis. Sift out any chunks.
Using Propolis Powder

• Your powdered propolis can be used in lip balms, creams and lotions, or in soap.

• Be sure the propolis powder is at room temperature before combining it with the melted fats in your product.

• Have the melted fats as cool as possible or the propolis will clump together in a blob at the top of the container.
Making Propolis Tincture

• Ask any eastern European beekeeper about this and they will rave about it!
• This is a great product and really works.
• Be very, very careful how you label it. Remember, we cannot make any medical claims for any of our products!!
• You can sell an ounce for $15 to $20.
The smaller the propolis particles, the greater the surface area in contact with the alcohol, and the more powerful the tincture (extract)
Chip the cleaned propolis out of your container

And then smash it to bits!

(You can use powdered propolis, too, but this is faster!)
Put it in a container and add grain alcohol

One part propolis to three parts alcohol works fine.

Let sit 3 weeks and then bottle.
Thank you!