

TIPS, TRICKS, & INSTRUCTIONS POURED SOY WAX CANDLES

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#### What's candle making all about?

Candles have been lighting our nights and illuminating our celebrations for over 5,000 years. Though no longer a nighttime necessity, they still have a habit of weaving themselves into memorable moments. A birthday candle about to be blown out; a candlelit dinner with someone you love; a soft, welcome glow in the darkness of a storm; or a candle crackling by your bedside as you read yourself to sleep. Transformed from a daily essential; candles are now a comfort, a sign of a special occasion, a deliberate act of hygge and self-care.

If you're reading this, you don't need to be sold on the magic of candles. You may already be a candle connoisseur, with a collection that's almost complete – just missing one that's handmade by you. Or you might be pouring a candle to gift to someone special - something warm and crackly to adorn their shelves and cozy up their evenings. Whatever your plan, we know that you'll enjoy the process almost as much as the finished product. From bathing in fragrance, to the meditation of pouring, and the satisfaction as the wax shifts from translucent to opaque – crafting a candle feels like capturing a bit of cheer and light for the future. You're not sure when it'll be burned, exactly – but it's got potential. And in the meantime, it doesn't look half bad on the shelves of your collection, or in the hands of someone you love.







#### Supplies in your kit

Your kit includes all the fundamentals for pouring a candle. There is so much variation out there in terms of vessels, wicks, fragrances, colors, waxes, and more – but the ones that we've included are carefully tested, chosen after years of experience in candle-making.

To that end, we've included a stainless steel pouring pitcher, which we'll use to melt and pour the wax. This pot is usable on electric, gas, or induction stovetops, and can also be used as a double-boiler, by placing the pitcher inside a larger pot of gently simmering water. Keep in mind that the handle is made of metal as well – this makes cleanup a breeze, but requires an oven mitt or kitchen towel for safe handling. Inside the pitcher is a bag of 100% soy wax in flake form— our very favorite wax for candle-making. Make sure to save the linen bag for other projects!

To the left of your pitcher is a bottle of pre-measured fragrance. These fragrances are carefully blended for a gender-neutral, nature-forward scent, and are portioned perfectly for the amount of wax that you've received. Again, make sure to save the bottle for future projects.



# Supplies in your kit (continued)

To the right of your pitcher is the vessel itself – a **ceramic vessel** with a matching **bamboo lid**. A *vessel* in candle-making is simply the term for the container that holds our wick & wax. Glass and metal are common vessel types, but ceramic and concrete vessels are gaining in popularity. We love ceramic for its luxurious weight and feel, as well as the even way ceramic candles burn. Inside the vessel is a **vial of wooden matches**, which can be struck against the sticker on the bottom of the vial for lighting.

To the far right of the kit box you'll find a bundle containing a bamboo spoon for stirring, an analog thermometer for measuring temperature, a specialized popsicle stick for setting your wick, and the star of the show – our clean-burning cotton wick. Make sure to hold on to your bamboo spoon and thermometer for future projects.

Lastly, you'll find an optional candle label, which you can apply to your ceramic vessel - or not - before you've poured your candle or after it's had a chance to cool.



#### Preparing yourself & your workspace

Candle making has the potential to be a bit messy - between the wax, the fragrance oil, and the possibility of spills. But with proper preparation, messes can be minimized and cleanup can be made easy-breezy.

It's a good idea to set up your workspace as close to your stovetop as you can - then cover work surface with craft paper, newspaper, or cardboard to protect it from wax or fragrance oil spillage. If you have carpet or delicate floors underneath, it may be a good idea to lay down some protective paper or cardboard near your workspace as well - just to be on the safe side!

Since we'll be working with warm wax and a hot metal pot, make sure to set yourself up for safe handling by keeping an oven mitt or kitchen towel on hand for holding the pot. A trivet or something to rest the hot metal pitcher on is also helpful.

Last, but certainly not least, wear the right clothing! An apron or old tee shirt is recommended to keep yourself and your clothes protected from wax and fragrance oils. If you have long hair, tie it back to keep it safe. Shoes that cover & protect your feet but can withstand a spill are ideal - for example, rain boots or an old pair of sneakers. We want you to be safe from head-to-toe!





#### Waxes, waxes, and more waxes

As mentioned earlier, our favorite wax type – and the one included in your kit – is 100% soy wax. But there are many choices for waxes out there, and you might be surprised to learn how different they are from one another. As you experiment with future candles, you might want to give a few other waxes a try – either in their pure form, or as a blend with another wax.

Before diving into the differences, it's important to define a couple of candle-making terms. One is melting point, which is fairly simple and just as it sounds – the temperature at which a wax is fully melted. With waxes, we want to consider something called hot throw as well. Hot throw is the ability of the wax to release fragrance when heated – and some waxes are better suited for this than others.

In this section, we'll look at five of the most popular types of waxes, and comment on a few of each type's core attributes, including:

- Its derivation and eco-friendliness
- Its best use (i.e. container candles, taper candles, molded candles)
  - The way it burns, including hot throw & soot
    - Its color when solid and melted
  - Its ability to accept dyes for colored candles



#### Soy Wax Clean, Versatile, Eco-Friendly

Soy wax is an excellent starter wax for candle-making – it's easy to melt and pour, has a wonderful hot throw, and is generally one of the most eco-conscious of wax options. It also burns cleanly in the home, producing less soot & maintaining indoor air quality. The wax that we use in our kits & classes is derived from Americangrown soybeans, and is 100% soy – keep an eye out for where your soy is grown, as some soy production contributes to deforestation.

Soy is one of the most popular waxes for blending, and you can find it blended with any of the waxes below in candle stores near you. Soy can be used for molded candles, taper candles, or container candles, but is most often used for container candles, like the ones in our kit. Soy wax can accept dyes, but not as readily as some other types of waxes. Soy wax is a soft ivory in its solid form, and a golden yellow when melted.

The temperatures and fragrance ratios that you'll find in the rest of this guide are specific to soy wax & container candles - please keep that in mind as you begin experimenting with other types of wax & other types of candle-making. As with chemistry or baking, temperatures, timing, and ratios are very important to a polished finished product - and each wax type or method will need a different "recipe," so to speak.





#### Beeswax Classic, Golden, Eco-Friendly

Beeswax has been used for centuries for candle making, and is very eco-friendly. Without any additional fragrance, beeswax has a beautiful scent - like a blend of sweet honey & winter spices. Unlike soy, it can be challenging to capture pure scents or a strong hot throw with beeswax - but conversely, it's longer-burning than soy, with fewer drips as it burns. Those attributes make beeswax a popular choice for molded, pillar, & taper candles. Beeswax can be colored with dyes, but all colors will be influenced by its innate yellow color. Beeswax is gold in its solid form, and a deep amber when melted.

#### Coconut Wax: Velvety, Clean, Eco-Friendly

Coconut is another eco-friendly favorite - though it can be tricky to find wax that is certified as fair-trade, depending on where you're sourcing from. Coconut wax carries none of the tropical scent that you might be expecting. Its scent is almost as neutral as soy wax, with a more buttery and velvety feel. It carries scent well, and is clean-burning in the home.

Coconut wax is best used for container candles, where its generous melt can be safely kept in check. Coconut wax is pure white in its solid form, and light yellow when melted.







#### Paraffin Wax Versatile, Colorful, Petroleum-Based

We'd recommend avoiding paraffin wax, for two main reasons: one, it's a petroleum product, and thus contributes to climate change; and two, it has a tendency to create soot when burned, which can discolor your vessel and impact your indoor air quality. Paraffin wax is effective for creating colored candles, as it holds dyes very well. It's also useful for creating molded candles or tapers – you can almost think of it like a plastic, which can be dyed and molded into almost any shape with ease. It carries fragrance well and has no real scent of its own. Paraffin wax is pure white in its solid form, and very light yellow when melted.

#### Palm Wax Versatile, eco-friendly, easy-to-use

For an eco-friendly alternative to paraffin for molds and pillars, look no further than palm wax. As with coconut & soy wax, it's important to do your research – paying attention both to how it's grown and how it's harvested. With that said, we love palm wax because it holds color and scent well, and makes an excellent base for any molded candles. Like soy wax, it also blends well with other waxes and burns cleanly, with a strong hot throw.

Palm wax is a soft ivory in its solid form, and a golden yellow when melted.

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#### Fragrances & scent blends

The fragrance blend in your kit is a mix of natural and synthetic scents, combined into an oil that is specialized for candle making optimized for the high temperature of the melted wax. While we adore essential oils, we try to avoid using them in their pure form in candle making, for one important reason - they're delicate.

A bit of terminology - a **flash point** is the temperature at which any fragrance oil will begin to lose its fragrance. If you heat a fragrance above that temperature, you can destroy it entirely, leaving nothing lovely to smell as your candle burns. Essential oils tend to have a very low flash point as compared to specialized candle oils - around  $115^{\circ}\,\text{F}/45^{\circ}\,\text{C}$  versus  $175^{\circ}\,\text{F}/80^{\circ}\,\text{C}$ . Unfortunately candles are usually poured at a higher temperature than the flash point of essential oils allow. That doesn't mean that it's impossible to use them, of course just that it's very tricky, and needs to be very precise.

In this kit you're given a pre-blended fragrance, so you might not think too much about fragrance blending at first. Nonetheless, it's helpful to be able to *describe* scents - whether or not you're planning on continuing with your candle practice or creating your own custom scent blends.

In this section, we'll explore the world of fragrances - how to describe them, how to name them, and how to blend them.



## Fragrances & scent blends (continued)

When we're describing, naming, or mixing fragrances, we want to pay attention to the notes of each scent. Within a fragrance, a note is a singular element which has a distinctive character - one that can be detected even within a complex fragrance blend. For example, if we were to blend lemon and basil together, you might pick up on both notes within the blended scent.

In describing notes within a fragrance, we rely on several terms - top, middle, and base, which describe how the scents relate to one another; and amber, woody, fresh, and floral, which are categories of scents. On the following pages, we'll use the "Fragrance Pyramid" to visualize the notes of a fragrance, and the "Fragrance Wheel" to visualize the ways that different scent categories blend into one another.

A top note is the lightest and most volatile scent in a blend - think of citrusy scents like bergamot or lemongrass. A middle note forms the main character of the fragrance, and forms a bridge between the top and bottom - think of assertive, longer-lasting smells such as florals, spices, greens, and fruits. A base note lingers longest, and should marry with the top and middle notes. Think of amber, vanilla, or cedar.







#### The Fragrance Triangle

Featuring three notes of fragrance: base (or bottom), middle (or heart), and top (or nose)

Citrus & Aromatics Lemon, bergamot, lavender, lemon grass, anise, etc.



Initial impact or spark

Florals, Greens, Fruits, Spices Rose, jasmine, grass, stone, pear, clove, nutmeg, cinnamon, etc.



Middle



Truest nature; lasts the lifetime of the fragrance

Woods & Amber Cedar, patchouli, sandalwood, vanilla, amber, musk, etc.



Longest lasting; supports the top  $\ensuremath{\mathcal{E}}$  middle by rounding or balancing

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# Fragrances & scent blends (continued)

The categories of scents - amber, woody, fresh, and floral - help us to group together scents that are part of the same family, or share similar characteristics. Generally speaking, scents within the same family will blend well. Lemon & grapefruit, for example, are both fresh, citrusy scents, and smell good together. On our "Fragrance Wheel," we place fresh scents next to woody scents - and indeed, lemon and rosemary, a woodier scent, are a classic blend.

While the "Fragrance Wheel" can be helpful in describing different scents and matching up coordinating scents, it's only a basic roadmap. Many of the most complex and delightful fragrances borrow scents from all four categories of scent for their top, middle, and base notes. It's all about proportion and experimentation.

On that note - fragrances are deeply personal and tied to memory. What smells incredible to one person may spark an unpleasant memory in another; what reads as too sharp to one nose can be a perfect blend to another. So focus on you - what smells good to you, what scent categories you most enjoy, what top, middle, and base notes you can find in your favorite perfumes or colognes. And keep experimenting!

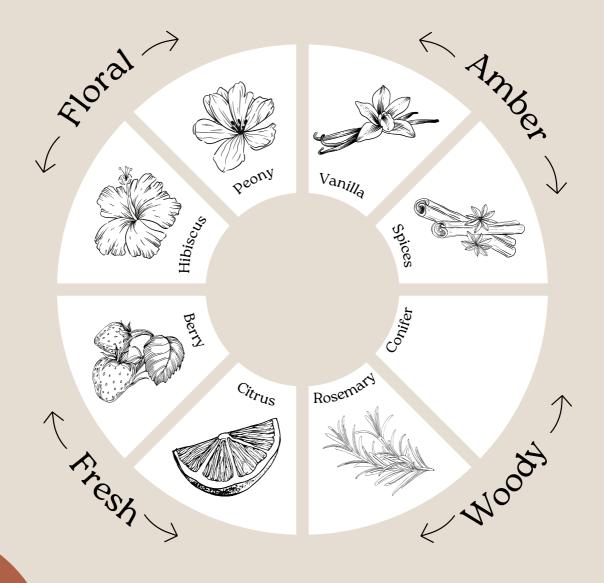






#### The Fragrance Wheel

Featuring four main fragrance types: amber, woody, floral, and fresh



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#### Wicks & vessels

In addition to wax type and fragrance, every candlemaker must also choose the right type of wick for their project. If they're making a container candle - as we are - they must also consider the vessel that they're using. Each choice needs to be made in harmony with one another - that is, the right wax for the right container, the right wick for the right wax, the right container for the right wick.

#### Which wick is which?

There are two main types of wicks that we use in candle-making: cotton wicks (of various types) and wooden wicks. Cotton wicks come in many types and configurations, but are typically made of braided strands of cotton, and either sold on spools or as individual wicks, often with a metal "tab" at the bottom to hold it in place. Spooled wick is more common for molded or taper candles, while tabbed wicks are common for container candles. The wick in your kit is a cored, pre-tabbed cotton wick.

Wooden wicks are the new kid on the block, and have a lovely, crackly sound. Unfortunately through our testing, we've found them to be aesthetically pleasing but inconsistent in their results for beginner candlemakers - especially versus the trusty cotton wick! Wooden wicks tend to be best suited for soy, coconut, or palm waxes -they're not as easy a choice for beeswax or paraffin.



#### Wicks & vessels (continued)

With cotton wicks, we can get more specific depending on the way that it was braided. There are flat wicks, which are most commonly used in taper and pillar candles - these are typically flat-plaited or knitted from three bundles of fiber. We're using cored wicks, which are braided around a cotton core to keep them straight and upright while burning (other cores include paper, zinc, or tin). And finally, there are square wicks, which are a middle ground between the other two, and the preferred wick for all types of beeswax candles.

#### Sizing your wick

Choosing the right-sized wick for your candle's diameter is essential to ensuring a safe burn and a long-lasting candle. With too small a wick, you're likely to experience **tunneling** in your container candles -caused by the heat of the flame not reaching the edges of the candle, and leading to an incomplete **melt pool** or burn. Conversely, if your wick is too large for the diameter of your container, your candle's wick may flare, sputter, and throw up soot.

Our recommendation is to always use a calculator! For cotton wicks, we'd recommend this <u>calculator</u> from Candlescience, which will take into account both the type of wax that you're using and the diameter of your vessel. For wooden wicks, we recommend this <u>calculator</u> from Makesy.



#### Wicks & vessels (continued)

There are countless vessel options out there-from specialty containers that you can find at crafting or candle stores, to the world of secondhand china and vintage glassware at a thrift store or flea market. And of course, there's always the option to reuse a vessel-you may have several almost-empty candles in your home that can be given new life with a fresh pour of wax and a new wick.

When selecting a vessel for a container candle from somewhere other than a specialty store, we just need to make sure that it's safe to use. It must be able to withstand the heat of a candle flame and the heat of the hot poured wax; it shouldn't toss off toxic fumes when exposed to heat (no leaded glass or plastic coatings); and it should be able to safely contain the flame. As a general rule, if your vessel wouldn't be able to withstand boiling water being poured in it, it's probably not suited for a candle. If you're unsure as to whether your vessel meets these specifications, it's always better to be safe than sorry!

Reusing an old vessel is easier than you think! Place your almost empty in a large bowl, and cover it with boiling water, until it's just covered. Let it sit until the wax has melted and the water has cooled (the wax will float to the top). Remove the mostly solidified wax and discard. Pour out any remaining wax, then clean the vessel with soap and water. Now it's ready for reuse!



#### Prepping your candle vessel

Okay! You know the basics about vessels, wicks, waxes, and scents now on to the pouring process! Before we begin heating our wax to temperature, we want to make sure that our candle vessel has been prepped with a wick and is ready to receive the warm wax. We also want to make sure that our work station is ready to go, and that we have all of our supplies at-hand. Think of it like cooking - we want our mise en place before we begin.

For our cotton wicks, we'll begin by removing the lid of our vessel. Peel back the white paper on the bottom tab of your wick, to reveal a glue dot underneath. This glue dot will help us stick the wick dead center at the bottom of our candle jar. Press it into place using your fingers or the bamboo spoon. Once it's nice and stuck on there, you'll notice that it wants to flop over to the side. The popsicle stick will help keep our wick centered as the candle is cooling. Thread the top of your wax through the hole in the center, and then rest the popsicle stick across the mouth of your candle vessel. Now your wick will stay in place.

If your kitchen is especially cold, it can be helpful to gently heat your candle vessel with a hair dryer or by warming it in your oven at the lowest setting for a couple of minutes until it's warm - but not hot - to the touch. This will help ensure that the wax bonds to the candle evenly, rather than sticking to the cold sides first.



#### Heating & pouring the wax

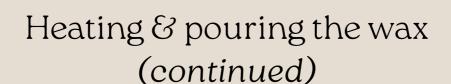
Uncap your thermometer and attach it to your pitcher with the clip so that the probe is measuring the inside of the pitcher. Then open your linen bag of wax and add as much as you can into the pitcher (feel free to compress it down). The flake form it is in will help it melt quickly and quickly compress down - as it melts, you can top off your pitcher with the remaining unmelted wax to get it all melted in one batch.

Time to add heat! Before putting on the flame, try placing your pitcher on the burner. Does it stay still? Is it unbalanced? Each burner is different. We have success with these pitchers on most gas, electric, and induction stovetops, but if the pitcher feels unsteady on the grates of your burner, we'll use the double-boiler method instead. For that, we'll use a secondary pot or saucepan from your kitchen and add a few inches of water. We'll heat that pot directly on the stovetop, then place our candle pitcher in the center of that pot to allow the hot water and indirect heat to melt the wax.

Two things to remember as we go - one, that the pitcher is metal, and will be hot to the touch. Make sure to use an oven mitt or kitchen towel as you handle it! Two, the thermometer we're using is analog, and takes time to arrive at the proper reading. We want to heat our wax as slowly and gently as we can - so keep an eye on that thermometer, and remember that it's not an instant-read.

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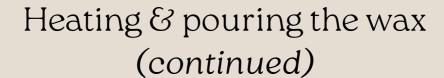
Time to turn on the stove at its lowest setting. Low and slow is the name of the game! Keep a close eye on that thermometer, and keep stirring with the bamboo spoon and adding more soy wax as it begins to melt down. Below are a few key temperatures to pay attention to.

180°F / 82°C: This is the first temperature we're aiming for - but we don't want to overshoot it, if possible. At this temperature, the wax should be uniformly transformed from a flake state into a liquid state. We need the wax to be the same temperature throughout so that the liquid can cool & cure into a uniform solid. As soon as we near this temperature, it's time to take the pitcher off the heat. Keep stirring, nice and gently - trying not to whisk or introduce air.

160°F / 71°C: We'll continue to stir the wax off the heat, aiming to uniformly cool the wax down to 160°F / 71°C. This is the temperature at which it's safe to add in our fragrance oils without overheating them beyond their flash point. We recommend adding in the whole bottle of fragrance (it's important for the candle to burn properly), but you can add in a bit less if you prefer a less strongly-scented candle. Keep stirring, slowly and gently, as you add in the fragrance.







140°F / 60°C: When we reach this temperature, we are ready to pour the wax from our vessel into our container. This temperature is just right for an even cure - not so hot that the wax will shock and pull away from the sides of the vessel, but not so cool that it pours unevenly or begins to turn back to opaque.

Pour your candle into the vessel from the pouring spout of the pitche, doing your best to avoid splashing wax on the wick or the sides of the vessel. Pour slowly and consistently to reduce splashing and expose all the candle wax to the same amount of air.

Once you have poured your candles, you may notice that your wick has drifted slightly - you can just move it back into place gently if so. Set your candle aside somewhere where it will not be bothered or jostled, and without the lid. It's best if this place is not too hot or not too cold. Sometimes folks want to place their candle in the fridge to speed up the cooling process, but try to avoid that urge! We've gone to great lengths to be gentle with our candle, and a rapid cooldown in the fridge is likely to undo that careful work.

Depending on the ambient temperature of your room and the humidity of your environment, your candle should become fully opaque and firm within 30 minutes to 1.5 hours.







#### Cooling, finishing, and perfecting

When your candle has cooled, you may notice some imperfections on the surface - perhaps some small holes or bubbles. This can occur from a variety of factors, from ambient temperature and humidity to the speed at which the wax was heated and cooled back down. Try not to take it personally - it's a regular part of the candle process even for professional chandlers.

To smooth out the top of your candle and get a perfect finish, you can do what the pros do, and heat the top of the candle with a hair dryer or heat gun to gently gently gently melt the top layer of wax. Let that layer cool again, and voila - a perfect smooth surface!

After you're done with that process, it's time to let your candle cure for 24 hours. During this time, the fragrance oil has a chance to evenly disperse within the candle, creating the best scent throw. This also gives your candle a chance to become really, truly set.

After 24 hours, you can trim the top of your wick and put the lid on. We recommend aiming for a length of about ¼ inch. It's always best practice to re-trim the wick in between burning, to ensure the happiest candle and the cleanest burn. If you're having trouble getting scissors in there (and you don't have a wick trimmer), we recommend nail trimmers! They're small & perfect for a quick trim.

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## Cooling, finishing, and perfecting (continued)

The first time you burn your candle, make sure you have enough time to allow the wax to melt all the way across the surface - typically this means burning it for at least 1-2 hours. Doing this on the first burn will prevent your candle from tunneling. Keep the wick trimmed between burns, as mentioned, and allow the surface to melt entirely at least every 3rd time you burn your candle. If you do this, your candle will have a great long life.

In between burnings, remember to put the lid back on your candle. This will prevent dust, pet hair, etc. from landing on your candle (keeping it looking & burning nicely), and will also help keep those volatile fragrance oils from being exposed to excess heat or light. Think of the lid as a protective tool, as well as an aesthetically pleasing one!

Last touch - if you'd like, you can add on a candle label! We include one in your kit that you can draw on using a permanent marker - perhaps adding a name to your scent, or a quick drawing. If you spilled any wax or fragrance during the pouring process, just ive the outside of the vessel a quick wipe with a paper towel before applying the label to make sure that it adheres properly.

And just like that, you're done with your first candle!







#### Calculations for future projects

As mentioned earlier, we like to use all sorts of vessels for candle making! We shared our favorite calculators for determining the right wick, but how do you determine the amount of wax or fragrance for a vessel?

To measure the volume of a vessel, you will need a kitchen scale - we usually use ounces when working with candles. Place your empty vessel on the scale and zero it out. Pour water into your vessel until its filled to the level that your candle wax will sit (usually around ½ inch or so from the top of the vessel). Now we have an approximate volume for our wax.

For most fragrances, the ideal ratio is about 5-8% of fragrance over the total volume of the vessel.

Total Volume x.06 = Fragrance Volume

Total Volume - Fragrance Volume = Wax Volume

So, for a 10 oz candle using a 5% ratio of fragrance, we'll be looking at  $10oz \times .05$  (5%) = 0.5oz of fragrance. Since the total volume is 10 oz, we'll aim for 9.5 oz of wax and 0.5 oz of fragrance.







#### Other project ideas

One question we often get about candles is whether it's safe to top them with fun things like dried flowers, glitter, or confetti. As a rule of thumb, we try to avoid topping our candles with anything that could be flammable - just to be on the safe side. We don't want to put anything on or in our candle that isn't safe to burn.

But that doesn't mean that all topping are out! One of our favorite ways to add pizzazz to a finished candle is by adding in a crystal or crystal chips. Simply wait for your finished candle to cool completely, and then re-heat the top layer of wax using a hair dryer or heat guns. Sprinkle on your crystal chips or add in your crystals (we love selenite, rose quartz, or fluorite for this) and let them cool in place. When your candle is done, you can clean the crystals using the same method that we specify for cleaning jars.

And if you love flowers, try adding them to the interior of a clear glass container! You can add on clear Mod Podge to the interior of your vessel, then add on a pressed flower or leaf. Let the first layer dry, and then carefully dab the leaf or flower again with Mod Podge to create a second sealed layer. Pour your candle as you normally would, and marvel at the colorful creation! We love the way that the candle light shines through the flowers - almost like stained glass.



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#### Conclusion & contact information

And that's all there is to it! At least all there is for getting started. Keep practicing and experimenting, and you'll be amazed at the things you'll create.

For more information, troubleshooting, or any questions about sourcing or materials, please get in touch using any of the methods below - and feel free to tag us on Instagram - we'd love to feature your artwork!

We can't wait to see what you create!



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