

Candle Making

a complete guide



By Lily Johnson : Expert candle maker

Candle Making

Introduction:

Making candles is a great experience for all ages and this booklet explains all the basic principles so you can just dive in! Once mastered, the possibilities of candle making are endless and you can produce all sorts of candles and have a limitless source of light, and beautiful handmade gifts.

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20 Supplies

You will need:

- 1 Paraffin wax
- 2 Wicks, wick suspenders and holders
- 3 Moulds Stearin
- 4 Dyes Candle tak
- 5 Fragrance
- 6 (optional) Gloves
- 7
- 8

Equipment:

- 1 Candle wax pot or double boiler
- 2 Thermometer with a scale reading of up to 100oC
- 3 Heat gun (optional but useful when getting rid of blemishes on your candle)
- 4 Scissors
- 5 Clothes pegs or lollipop sticks



Wax, wicking, additives and dyes

Wax Paraffin wax comes in different grades and therefore each will have a different melting point. Dependent on what type of candle you are making will depend on the wax you will need to use, and what additives may need to be included. You need a lower melt point for container candles; a higher melt point for pillar candles and a high melt point for taper candles and hurricane candles. Our paraffin wax has a melting point of 57°C - 60°C. Beeswax comes in pellets and has a beautiful colour and smell. It has a melting point of approximately 62°C. Soy wax is made from hydrogenated soybean oil and is a reliable wax as it doesn't shrink after it cools, and has a melting point which can vary on the blend it can be as low as 50°C going up to 80°C. Soy wax doesn't allow pigment dyes to dissolve properly, so use liquid dyes to colour, and use a larger diameter wick.

Wicking Prime 'raw' wick by dipping it in melted wax a few times to stiffen it. This helps the wick to burn better and prevents bubbles releasing from the wick into the wax of the candle. Wick should be chosen to suit the diameter of the candle and if you're not too sure, it's advisable to go down a size, apart from when using beeswax as it is more viscous than paraffin wax so you would need to go a size up! As an example, for a candle with a diameter of 76mm, it would be advisable to use a medium wick. Wick sustainers are used to secure the wick in glass containers, or for hand moulded candles. **Additives** Additives such as stearin should be added slowly during the candle making process as they have a much higher melting point than the wax itself. Usually the temperature should be raised to approximately 100°C in order for the stearin to melt sufficiently into the wax. Take great care! **Stearin** Stearic acid, commonly known as stearin, raises the melting point of the wax mixture resulting in a harder and more durable candle. Stearin can be made from vegetable oil or tallow, as a guide it's best to use 10% stearin to 90% wax. The combination of paraffin wax and stearin has many benefits; not only will it give you a candle that won't sag and will burn for a long time, but it is easier to de-mould as the mixture shrinks as it cools. Be on your guard when using stearin with latex or rubber moulds, as stearin can erode these over time.

Stearin is really useful for gorgeous decorative effects as it will give wax a more opaque finish, and offer brighter colours. Try over-dipping a standard candle in a blend of 30% stearin and 70% paraffin wax. It will form a hard outer casing which will extend the life of the candle and also create less mess because as the candle burns, the softer wax inside is consumed rather than dripping away. You can use the over-dipping method to colour just the outside of the candle, or choose a contrasting colour to the internal taper. Increase the glossiness by dipping the candle immediately into cool water to give a beautiful lacquered sheen.

A low percentage of stearin can result in a snowflake effect or a soapy candle, and too much stearin can make a brittle candle although some experts will make a candle from 100% stearin!



Dyes Colour is available in all sorts of formats, and dyes are especially manufactured for candle making. You can get concentrated blocks or sticks which you shave off into the wax. The more dye you use the darker the colour. Always use dyes sparingly – a drop at a time. It's a good idea to master colour blending before purchasing all the colours of the rainbow. Once you've got a handle on colour mixing, you can increase your palette, however initially if you just begin with red, blue and yellow, then you can create five further colours directly, but increasing the amounts of each will allow for a further expanded colour palette. Here's a basic guide to get you started:



If you just add a mix of red and yellow to your wax you'll get orange, but if you dilute it (i.e. add less) then you can obtain a more peachy tint. It's a good time to experiment! A colour wheel can be a helpful piece of kit if you are new to colour mixing, and it's a really useful addition to have with regard to finding out what contrasting colours are.

Testing your colour

You can test your chosen colour by doing a quick test with a small amount of wax. Mix your dye with some hot wax in a suitable receptacle such as an old yoghurt pot (the smaller the better – it's only a test after all). Place this in some cold water taking care that the water does not go into the container. The wax will solidify immediately and give you a guide as to the colour of your chosen dye. The colour of the wax will usually be one or two shades lighter than the finished candle.



Preparing the mould

Always ensure your mould is clean. 1. Cut a length of wicking that will be approximately 10cm longer than the total length of the mould you're using. 2. Thread the wicking through the hole in the bottom of the mould and tie a secure knot. If you find it difficult to get the wick through the hole because of fraying for example, try dipping it in some wax and rolling it to a point so it can be poked through more easily. 3. While keeping the wick in the hole at the base, grab some mould sealer such as Blu-Tack™ and use this to secure the wick on the base. Don't skimp! 4. Then, using a wick holder, secure the wick to the open end of your mould, ensuring the wick is centred. You can buy wick holders, or use an item like a cocktail stick or a clothes peg. Your choice of wick holder will be dependent on the diameter of your candle. Tie your wick to the holder so that it is taut.



Moulds

Moulds come in all shapes and sizes, and there are a lot to choose from, so choose which ones are fit for purpose. Rubber and latex moulds have a limited lifespan. Metal moulds are the most durable, and are the easiest to care for, and can take the heat of all types of wax and additives. By heating a metal mould prior to pouring the wax in, you'll obtain a shiny finish to the candle.

When using plastic moulds, keep the wax temperature below 130° - 140°C and this will keep your moulds in good condition. Using a low melt wax will be ideal. You rarely obtain a shiny finish to your candle in a plastic mould however you can achieve this by using a heat gun gently to your finished candle, then dipping the candle quickly into cold water. Simple! Fragrance or essential oils can erode plastic moulds; stearin, when used at ratios more than 20%, can cause cracks in a plastic mould's surface.

Moulds can be found around the house, for example, use baby food jars for container candles, and galvanised buckets are ideal for outdoor citronella candles. Card milk cartons can be peeled away once the candle is set and the exterior wax can be smoothed to rule out any imperfections. Silicone rubber moulds are incredible as they are completely seamless and you can create your own unique mould – just mould the rubber around your favourite shape.

Preparing wax safely

Treat wax like you would cooking oil. Wax doesn't boil; it gets hotter and hotter. It is likely to be fairly safe below 100°C, but it is likely to catch fire at high temperatures as the wax turns to vapour so don't ever leave it unattended.

Ensure your thermometer is accurate, and always place the thermometer in your wax to monitor the temperature.

Keep your area tidy – cover everywhere with newspaper, and keep some spare to mop up any spills!

Always wear old clothes.

Got wax on your carpet? Scrape off the excess, and then place some newspaper over the rest. Apply a hot iron and the wax will transfer to the paper.

Please don't pour wax down the sink. It will block your pipes. A better idea would be to pour unwanted wax into a baking tray, and cut it into blocks to be used for chunk candles. See Candle Making Projects on pages 12-19.

When things go wrong...

Switch off the heat.

Don't move the pan.

Smother the flames with a damp tea towel or cloth.

Turn off the heat source.

Melting the wax

Whether you use a double boiler or a wax pot, do not leave the wax unattended once you have placed it on the heat source.

Wax Melting Pot

1. Ensure the inner pot is inserted into your wax pot. Pour the wax into the pot. Switch on to the maximum setting. Add a thermometer to monitor the temperature.

2. Add any additives you wish to use, such as Stearin (please refer to page 4 for advice on using additives).

3. Add any dyes you wish to use. Some dyes require melting with the wax whereas others can be added after the wax has melted. Check the instructions on your dyes thoroughly. See page 6 for advice on dyes and colour blending.

Remove the wax from the heat source once it reaches 90°C.

Add fragrance to wax when it is in its molten state.

For ease of pouring, decant the wax from the double boiler or wax pot into a suitable heatproof jug.



Pouring a candle

Once your wax is ready, you'll want to make some candles! In this case, this guide is illustrating how to make a pillar candle.

1. For easy pouring, you should transfer your molten wax into a jug.
2. Tilt the mould slightly and pour the wax down the side of the mould. Tilting the mould prevents air bubbles. Fill your mould until it reaches 1cm from the top. Leave some wax in the jug for the next stage but don't return it to the heat.
3. Allow a skin to form on the surface of the candle. As the wax cools it contracts leaving a 'well'. A good tip at this point is to poke relief holes into the candle in order to deal with the natural shrinkage of the candle as it solidifies. Poke the holes around the wick using an ordinary skewer, and poke to a depth of 4cm less than the depth of the whole candle. This poking may need to be done a couple of times during the cooling process, but when making your first candle just do it once to establish the process.
4. Leave the candle to cool. Once cool, melt the leftover wax from step 2 and heat it to a higher temperature than before, approximately 5°C - 10°C higher than the original pouring temperature. This will help adhesion between the layers, i.e. the new layer will melt to the old layer successfully. Fill your candle to the level just below the first filling. Filling above the level may cause a visible seam once cool, and over filling may cause wax to seep between the existing candle and the mould itself, causing an uneven surface. Again, leave to cool.

Removing the mould

- Ensure the candle is completely cool.
- Remove the mould sealer.
- If rigid, the candle should slide out of the mould easily. If your candle is proving a little obstinate, place it in the fridge for 15 minutes and try again. The cool environment will help the wax shrink and encourage it to separate from the mould.
- If it will not budge, and you are certain that it is completely cool, the only remaining course of action for removal is to pour hot water over the mould. This will melt the wax sticking to the inside of the mould however it will leave your candle with an uneven surface although obviously you can start again.
- Trim the wick at the bottom of the candle (the bottom of the candle is where the wick was attached to the wick holder). Trim the wick at the top of your candle to about 1 – 2cm.
- Trim the top wick to about 6mm

Finishing the candle

- Level the bottom of your candle by rubbing it around the bottom of an empty, warm saucepan.
- Glaze your candle by dipping it into hot water or hot wax (minus stearin) holding the candle by the wick. It's best to do this prior to trimming the wick of the candle so you have a longer "handle".
- If your candle has finger marks on it, rub the surface of it with an old pair of nylon tights!
- Use a heat gun to deal with any minor aesthetic imperfections – just don't concentrate on one area of your candle for any length of time or your candle may melt completely!

Using candles safely!

- Use candle holders for your candles.
- Avoid setting your candle in a draft.
- Do not leave candles unattended.
- Keep candles away from children and pets.

Troubleshooting

FAULT	CAUSE	SOLUTION
Air bubbles and marks on the surface of the candle.	Wax poured too fast. Dust/dirt in the mould.	Pour slowly and not at an angle. Clean mould. Tap mould gently one minute after pouring.
Loss of definition with a layered candle.	First layer of wax not being allowed to cool sufficiently to support the next.	Remelt the wax and use again. Leave each layer to cool until it has a 'rubbery' surface before pouring the next.
Layers not joining.	Wax poured at too low a temperature or first layer allowed to cool for too long.	As above.
Soap-like texture to candle.	Too much stearin added.	Remelt. Check proportion of wax to stearin.
Small bubble line around the candle	Water level in cooling bath too low.	Polish the candle using a soft cloth such as muslin or a nylon stocking.
Candle will not come out of mould	Cooling too slow therefore wax has not contracted sufficiently. Not enough stearin added.	Place mould in refrigerator for 15-20 mins. Alternatively, put it in hot water for a few minutes to melt the candle out of the mould.

Full instructions are included in our kits

Kits which do not include candle moulds or any of the equipment needed to melt the wax, can be bought separately from any good craft outlet, or from our website: www.dryadeducation.co.uk

No products in our packs are suitable for children under the age of 3.

Candle projects...

Container candles

Container candles don't drip and will be able to use a lower melting point wax than their freestanding candle colleagues, so these are ideal to add fragrance to. Make sure your container is flame proof! Melt the wax in your wax pot or double boiler. Put a thermometer in so you can monitor the temperature. 1. Take the object you are going to use as your container. You will need to attach your wick to the bottom of the container before you add your wax. Thread your wick into a wick sustainer and dip it into some melted wax. Once cool, you can attach this to the inner base of your container 2. Using a glue gun, place a drop of glue into the centre of the base of the inside of your container, and place your wick sustainer with the wick in place. Use a stick or pen to poke it in place. The strength of the hot glue from the gun will hold it in place and stick it quickly. 3. Use a clothes peg or dolly peg to keep the wick straight. When your wax is melted, you can add some fragrance, or just leave it as it is and pour it straight into your container. 4. Depending on the size of the container it may take a few hours to dry. It is advisable not to move it! If you find that the wax has dipped once it has dried, you will need to add a little bit more on top. This will need to be heated to a higher temperature in order to seal itself to the previous wax.



Traditional taper candles

Tapers are one of the oldest forms of candles and are easily made once you know how...

Melt your wax and place it in a double boiler. Put a thermometer in to monitor the temperature of the wax which needs to be approximately 74°C

1. Get a piece of soft aluminium wire and bend it to make a hanger for your wick.

You will be making two tapers. Curl the ends of the wire into a coil so that you can hook your wick through each. The wire will then act as a handle so that you can dip your wick.

Cut your length of wick. The length of the wick needs to be twice the length of your taper.

2. To ensure the wick remains taut during the dipping process, secure a weight to each end of your length of wick. You can use anything as a weight as long it is easy to secure and you have two of them. Nuts are a great option as they can be easily knotted on.

3. Now you can begin dipping. The dipping process needs to be continuous and flowing, so don't pause for too long in the wax leaving your tapers submerged. Using your wire handle, dip the weighted wicks into your wax. Allow for cooling between each layer. Repeat until you have the thickness you want.

Always allow the layers to cool in between dipping otherwise the wax will begin to fall off.

Be patient.

4. You can cut your weights off once the tapers have enough stability. In other words, when there is a fairly thick amount of wax on each. After the weights are discarded, continue to dip a few more times, and then hang them up and leave them to cool.

Make them shiny by dipping them into water before hanging them up.



Chunk candles

This is a great way to recycle any old wax that you've got left at the bottom of your wax pot!

1. Melt your wax and pour it into an old baking tray.
2. Once it has set, cut it up into cubes. You can be really precise with your cubes or not – it's up to you what sort of look you want to achieve.
3. Prepare your mould and ensure your wick is centred. If you're using a container then attach the sustainer to the base of the container with a hot glue gun the day before so it has time to dry.
4. Melt some wax in a contrasting colour to your baking tray cubes. Don't add any stearin as this will stop you seeing so much of the cubes in your finished candle. Try a pale colour initially, and once it has melted, allow it to cool until it reaches about 70°C. If you pour it in when it is too hot, it will melt all the cubes.
5. When it hits 70°C, pour it into the mould slowly, and look out for air bubbles. Leave to cool.





Mouldable candle wax

A revolutionary wax that needs no stearin, dyes or melting.

Simply cut, shape and mould in the hand, making it ideal for younger children as it is safe and easy to use.

Colours supplied are intermixable. To apply your wick, you may want to make a small hole through your candle shape using a cocktail stick or needle, and attaching to a wick sustainer.

Fragranced Candles

Once you have mastered the basics of candle making, you can begin to experiment with colour and scent blending.

Make sure you buy an essential oil which is specifically designed for candle making. The oil should contain no water or alcohol in the formulation. If they are standard essential oils, they will not mix well and will result in mottling on the surface of the wax, possibly with an oily residue over the surface of the candle.

Whatever fragrance you use, add it to the melted wax just before pouring so you don't cook the scent.

You can add all sorts of fragrances, dried flowers and crushed herbs. Ground cinnamon can be added to melted wax, and cinnamon sticks look beautiful embedded in a pillar candle. Try adding cloves and dried orange slices, too. Aromatic spices work really well, and can create beautiful, rustic candles with delicious, warm scents. You can also add coffee beans, cinnamon sticks, star anise and chilli peppers to your candles.



Candle Making Supplies

Wax Paraffin Candle Wax: Available in 2kg and 25kg bags
Soya Container Wax Shavings: Available in 2kg bags
Pelleted Beeswax: Available in 1kg, 5kg and 25kg bags
Candle Dyes: In a pack of 5
Stearin: Available in a 225g tub or 3kg bag
Candle Wax Pot: 1L inner melting pot capacity, and will melt wax in approximately 30 minutes.
Inner Melting Pot: 1L capacity for the above wax pot
Candle Wick: Available in thin, medium and thick, 5 metre lengths
Wick Sustainers: In a pack of 10
Simple Candle Mould Pack: Features six geometric shapes, in a pack of 5

Packs and Sets

Mouldable Candle Wax Pack: Featuring six trays of wax containing 150g wax and 5 metres of wick

Candle Making 20 Candle Set: Contains everything you need to make approximately 20 candles in 7 shapes. Excludes candle wax pot and inner melting pot

Candle Making 60 Candle Set: Contains everything you need to make approximately 60 candles in 9 shapes.

Excludes candle wax pot and inner melting pot





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