candlemaking

Dipping tapers.

what is it?

It's making a light source on a wick surrounded by combustible material (usually solid wax). The symbolic properties of light also mean that candles have traditionally played an important part in ceremonies and festivals around the world.
When a candle wick is lit, the flame melts the wax near to it, which travels up the wick via capillary action and is vaporised by the flame, mixes with oxygen and becomes the fuel for the flame to continue burning. As the wax is used up and the candle shrinks, the wick becomes shorter too, as more of it is exposed, and the wax doesn't reach the top, so it is burnt down a little bit. The process continues until the candle is gone.
The three main types of candle are:

- Container: melted wax is poured around a wick in a glass or other container and allowed to set.
- Pillar: melted wax is poured into a mould, which is removed after the was has set.
- Taper: a wick is dipped in melted wax and allowed to cool; the process is repeated until the desired thickness of wax is reached.

History: early candles were made from rush or papyrus soaked in animal fat, without the wick of true candles. Different cultures experimented with adding wicks to combustible materials and by the Middle Ages tallow (rendered animal fat) was the most common material for candles in Europe. The introduction of beeswax – from bee-keeping monasteries – was an improvement over the smelly, sooty tallow, but they were only affordable by the church or the wealthy. The development of stearin wax (from animal fat), paraffin wax (from petroleum) and braided wicks in the 19th century marked the high point of industrial production, but candle making declined with the advent of electric lighting. Today, apart from power cut, candles are mostly used for decorative or therapeutic purposes and 'natural' waxes are preferred over paraffin wax by small producers. Essential oils can be added for fragrance.

what are the benefits?

Candles are a way of providing light without electricity – beneficial from an environmental perspective, but also useful in case of power cuts, or in remote areas away from the power grid. With minimal equipment and outlay you can make your own candles which can be used for decoration and relaxation, or as a beautiful gift. If you buy materials in bulk, making candles is cost-effective, and cheaper than buying them from a craft shop.
As with any craft, it's fun and deeply satisfying to learn how to make candles. It's a very low-tech, therapeutic process as it just can't be rushed. With beeswax candles, it can take several hours to make a batch, so patience is essential.
Wax and wicks are one-use-only but you can recycle containers as many times as you like. They can even be returned to their original use after a wash with hot soapy water if using natural, non-chemical waxes that leave no residue.

Materials: while material use doesn't differ much from mass production, natural waxes are preferred by some craftspeople as being more sustainable than paraffin. They certainly give off a gentler, subtler fragrance and have the advantage of not being a petroleum derivative in terms of production. There's also research that found churches burning paraffin candles contained particulates 20 times above safe levels.
However, waxes like soy and palm may come from plantations responsible for deforestation in some of the most vulnerable parts of the world. If you keep your own bees, or can get beeswax locally, it's the most sustainable material to use.
For smallholders with livestock, tallow / animal fat candles will be the cheapest and most sustainable, and some people who make and use them say that the smell is not bad; but if you think it is, you can add a little beeswax to increase hardness and reduce odour.

Candles have often been the lighting of choice for both romantic and spiritual occasions, and it's not hard to see why.

what can I do?

Cover surfaces or use an old table; clean wax spills with a hairdryer and soft cloth. Take care with fragrance / essential oils around children or pregnant women and use materials approved for use in candlemaking and are safe for burning.

Attend a course or watch online tutorials. Practice makes perfect, and experience will help you deal with common problems like bubbles in the wax.

Materials and equipment can be found locally or online at craft / candlemaking suppliers. The basics are: wax – in flakes or pellets depending on the type; pan or bain-marie for melting on the hob; dipping tin (for beeswax candles); thermometer; set of scales; suitable containers or moulds (pillar candles) plus stand; wick for the type of candle you're making; glue gun; coloured wax if using (tends to be paraffin-wax based); essential or fragrance oils if using; safety gloves and apron

Container candles: use any suitable heat-proof receptacle, that can be found around the home or in charity shops and jumble sales.

- Calculate volume of container by weighing it empty and filling with water, then weighing it again to find the weight of water it contains.
- Weigh out the same amount of wax (wax will weigh more-or-less the same as water), but leave room for fragrance oils / colour if using, and melt in the pan / bain-marie at 60°C max.
- Add essential or fragrance oils and colour if using - up to 10% of volume. More will affect solidity. Natural waxes don't take as much colour as paraffin so you tend to end up with gentle rather than strong colours. Don't add too much colour as this can affect the burning properties of the candle.

Six container candles and three pillar candles.

- Wicks usually come with a little metal disc on the end that you glue to the bottom of the container. Trim the wick to the desired size, i.e. not so long that it flops over into the wax.
- Pour in melted wax at c. 55°C for metal containers; 40-44°C for glass or ceramic.
- Leave to cool. Buy or make wick holders (from chopsticks or skewers) – to keep wick upright during cooling (if you pour at the correct temperature this shouldn't be an issue anyway).

Pillar candles: wax is harder as it needs to support itself and can only take 2-3% essential oils. You need special moulds, from cheap, straight-sided aluminium to more elaborate shapes in plastic and latex.

- Weighing, measuring and melting is the same as for containers.
- Thread wick through hole in end of mould and seal with Blu-tac or similar to prevent leakage.
- Grease mould with vegetable oil, place upside down in the stand and add wax at 55°C.
- Leave to cool. Once almost solid, make a hole either side of the wick to check for air holes and top up with melted wax.
- Put in freezer for 10 minutes. They will contract on cooling so be ready to top up with more wax.
- Once cool, pull them out of the mould by the wick and trim the bottom off neatly.

Tapers: more time-consuming, but beeswax tapers look and smell nice and are clean-burning.

- Melt wax pellets in a heat-proof, wide-aperture dipping can (you can use stainless steel utensil holders or clean tin cans) in a bain-marie.
- Dunk cotton wick in wax, let air bubbles escape and remove wick. Pull on ends to straighten it.
- Leave to cool hanging from a slit in a card.
- Repeat until you achieve the desired thickness.
- Dip candle in cold water to cool. Trim the bottom and the wick as required.

resources

- lowimpact.org/candlemaking for more information, links & books, including:
- Rebecca Ittner, *Candlemaking the Natural Way*
- Richard Taylor, *Beeswax Candlemaking*
- Gloria Nicol, *Complete Book of Candlemaking*
- letsmakecandles.com, lots of information
- eca-candles.com, European Candle Assoc.
- britishcandles.org, British Candlemakers Fed.