

The heat of the match used to light the candle melts and vaporizes a small amount of fuel. Once vaporized, the fuel combines with oxygen in the atmosphere to form a flame. This flame provides sufficient heat to keep the candle burning via a self-sustaining chain of events: the heat of the flame melts the top of the mass of solid fuel, the liquefied fuel then moves upward through the wick via capillary action, and the liquefied fuel is then vaporized to burn within the candle's flame.

The burning of the fuel takes place in several distinct regions (as evidenced by the various colors that can be seen within the candle's flame). Within the bluer regions, hydrogen is being separated from the fuel and burned to form water vapor. The brighter, yellow part of the flame is the remaining carbon being oxidized to form carbon dioxide.

As the mass of solid fuel is melted and consumed, the candle grows shorter. Portions of the wick that are not emitting vaporized fuel are consumed in the flame. The incineration of the wick limits the exposed length of the wick, thus maintaining a constant burning temperature and rate of fuel consumption. Some wicks require regular trimming with scissors (or a specialized wick trimmer), usually to about one-quarter inch (~0.7cm), to promote slower, steady burning, and also to prevent smoking. In early times, the wick needed to be trimmed quite frequently, and special candle-scissors, referred to as "snuffers" until the 20th century, were produced for this purpose, often combined with an extinguisher. Nowadays, however, the wick is constructed so that it curves over as it burns, so that the end of the wick protrudes into the hot zone of the flame and is then consumed by fire—a self-trimming wick.

The candle can be made of paraffin (a byproduct of petroleum refining), stearin (now produced almost exclusively from palm waxes), beeswax (a byproduct of honey collection), gel (a mixture of resin and mineral oil), some plant waxes (generally palm, carnauba, bayberry, or soy), tallow, (rarely used since the introduction of affordable and cheap wax alternatives) or spermaceti (extracted from the head of a Sperm Whale). The candle is produced in various colors, shapes, sizes and scents. The size of the flame and corresponding rate of burning is controlled largely by the candle wick.

A candle typically produces about 13 lumens of visible light and 40 watts of heat, although this can vary depending primarily on the characteristics of the candle wick. For comparison, note that a 40 watt incandescent light bulb produces approximately 500 lumens for the same amount of power. The modern SI unit of luminous intensity, the candela, was based on an older unit called the candlepower, which represented the luminous intensity emitted by a candle made to particular specifications (a "standard candle"). The modern unit is defined in a more precise and repeatable way, but was chosen such that a candle's luminous intensity is still about one candela.

Candles made of beeswax burn more cleanly and release fewer chemicals than petroleum-based paraffin waxes. Highly refined paraffin wax, however, can burn as cleanly as natural waxes, creating fewer particulates during combustion than synthetic candles. The type of wick and inclusion of any scents and/or dyes have a much greater impact on the release of compounds, particulates, and smoke, regardless of the base material. The cleanest burning candle will be well-constructed, unscented, undyed, and burn in a draft-free area. Candles will burn well when formulated waxes are blended together (soy, paraffin and other waxes), and fragrance oils and wick selections are balanced properly.

A smoke film can be a concern to those who frequently burn a candle indoors and is also referred to as ghosting, carbon tracking, or carbon tracing. Smoke can be produced when a candle does not burn the wax fuel completely. A scented candle can be a source of candle smoke deposits. Trimming candle wicks to about 6 millimeters (¼ in) or shorter will keep smoking to a minimum. A flickering flame will produce more smoke, therefore a candle should be burned in an area free from drafts.