

# Candles: paraffin wax candle essay



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A. Background of the Study Today, candles are made not only for lighting purposes but for many other uses such as home décor, novelty collections, as fixtures for big occasions (weddings, baptisms, etc.), and as scented varieties for aromatherapy. Candles are made from different types of waxes and oils.

Cooking oil is a major kitchen item in Filipino households. It is also used substantially in fast-food outlets, where it is used in different stages of food preparations. Ordinarily, used cooking oil is discarded. This waste oil pollutes and clogs canals and sewerage systems .

In our country today more ways are now made to utilize common things in order to make products easier and cheaper. In this research study, used cooking oil is used as an alternative for paraffin wax in candle making.

In the field of Science, this study contributes a lot for the reason that we can find alternative for paraffin wax as main component in candle making, besides paraffin was derived from petroleum and the later is much expensive. This study contributes knowledge to the researchers and also to the community in the sense of finding an alternative way to utilize used cooking oil that may pollute and clog canals and sewerage systems if not recycled in essential ways, instead of chemically synthesized sources. It also improves the human condition physically through minimizing the waste oil that pollutes our country.

B. Statement of the Problem

The study aims to produce a low-priced, high-quality candle by using used cooking oil as a major component. The following candle compositions were used: 100 percent paraffin wax; 90 percent paraffin and 10 percent oil; 80 percent paraffin and 20 percent oil; 70 percent paraffin and 30 percent oil; 60 percent paraffin and 40 percent oil; 50 percent paraffin and 50 percent oil. The firmness, texture, and light intensity of the candles were tested and compared.

Results of the tests showed that the candle made from 100 percent paraffin wax had the lowest melting rate, lowest amount of melted candle, and a light intensity of 100 candelas (cd). The 90: 10 preparation had the next lowest melting rate and amount of melted candle. The other preparations ranked according to the proportion of used cooking oil in the candle, with the 50: 50 preparation performing least comparably with the 100 percent paraffin wax candle.

### C. Scope and Delimitation

Upon conducting the experimentation process, the researcher had found out some limitations within the project and these are the following: The researcher did not include the measurement of the amount of light given off by each candle because the instrument used to measure was not available in the surroundings. Upon testing the candle's quality, the researcher only include the following parameters: lifespan of the candles , type of the flame produce by the candles

### D. Definition of Terms

candle – a stick of solid wax with an embedded wick burned for light  
hydrocarbon – are compounds that can produce light to candle stearic acid –  
serves as the hardener in candle making paraffin wax – a white, waxy  
substance consisting of a mixture of hydrocarbons, distilled from petroleum  
and used for making candles, sealing jars, etc. used cooking oil – is purified  
fat of plant or animal origin but not that “ fresh” like the unused one. Liquid  
at room temperature.

### Review of Related Literature

Candles used to be largely made up of solid combustible waxes of fatty  
substance formed around a wick. It is a source of light. Beeswax candles  
were used in Egypt and Crete as early as 3000 B. C. Much later, candles  
were made by pouring molten wax or tallow into molds, containing wicks.  
Next came the paraffin wax, which is crystallized from petroleum. Today,  
commercially available candles are approximately made up of 65 percent  
paraffin wax and 35 percent stearic acid.

Waxes comprises a broad group of opaque, water repellent, essentially  
solid materials having varied chemical composition and many diverse  
applications. Its name applied originally to naturally occurring esters of fatty  
acids and monohydric alcohols but not refers to both natural and  
manufactured products resembling these esters. They soften gradually on  
heating, going through a soft, malleable state before ultimately forming a  
liquid.

Oils are greasy, generally combustible liquid of vegetables, animals or  
mineral origin which is insoluble in alcohol and always in Ether. Oils are used

as food, for lubricating, illuminating and as fuel. It is also used in the manufacture of soap, candles, cosmetics, perfumery, etc. Wick were made up of cotton or linen woven and braided in such a way that it will burn i n one direction, curling so as to texture its end into oxidizing zone of the candles flame for complete combustion.

Procedure First create the wick holder by wrapping a thin wire (1 mm or less in diameter) several times around a matchstick to create a spiral shape. Gradually increase the size of the spirals so that the last spiral fits tightly within the container’s diameter. This large, bottom spiral will hold the wick holder in place. Then fit a cotton wick or cotton ball through the spirals. If a cotton ball is used, the bulk of the cotton ball should be in the widest part of the spirals, with some cotton protruding through the top, narrow spirals for a wick. Fit the largest spiral of the wick holder into the base of the candle container. Then strain the cooking oil to remove any bits of food or other contaminants. Then add a few drops of food coloring or fragrance if desired. Pour the oil into the candle container. Lastly, set fire to the top of the cotton ball wick to light the candle.