

Do White Candles Burn Faster Than Colored Candles?

Student's Name

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Have you ever entertained the ideas like **“Do white candles burn faster than colored?”** Whether you thought of it or not, the **“Do white candles burn faster than colored candles?”**-**hypothesis** is often used for the school science projects as it allows performing an easy yet interesting experiment. Some students would say that the white candles burn faster. Other would argue that, in contrast, the colored candles burn faster.

So, where is the truth and how can you find the correct answer to the question? The burning speed of candles depends on several factors, and the experiments performed by several researchers confirm that colored candles, on average, burn faster. In fact, every element of the candle influences the speed of burning. The amount of the added dye, the thickness, and material of the candle wicks and the quality of the wax are the factors that make a difference.

The amount of the added dye plays some role in burning, but its effect is mostly insignificant. In order to reach the bright and vivid colors of the candle, little amount of the dye is needed. Thus, it makes no difference. However, sometimes a great amount of the dye can make a candle burn hotter which results in faster burning of the colored candle. The results of the **“Which candle burns the fastest?” science project** performed by a student Lindsay De Leeuw (The National Student Research Center, 1997) shows that, when all other components were equal, the yellow candle burned faster than the white, red, purple, and blue candles. The difference could be explained by the amount or quality of the dye added to the yellow candle.

The experiment on the topic, **“Do white candles burn faster than colored”** as performed by other students who compared the white and red candles showed that the white candle burnt faster. Even though the initial student’s **“Do white candles burn faster than colored candles?” hypothesis** was the belief that red candle burns faster because of the added

chemicals, the hypothesis was not confirmed in the course of the experiment. This result tells us that the dye can affect the burning speed in both ways depending on the chemicals used as a dye.

The candle wick plays a significant role in the speed of candle's burn, as well. The thicker or wider wick burns faster while the thinner wick lasts longer. However, not only the thickness of the wick matters. The material of the wick is also an important constituent as the cotton thread and the synthetics wick will burn at different speeds.

Different types of candle wax may also influence the candle burning speed. The explanation of the phenomenon is quite simple. The melting temperature of different types of wax is different. For example, soy wax is softer, so it melts and burns faster. The beeswax and paraffin are firmer, so the burning temperature is higher, and the candle made of beeswax or paraffin burns slower.

In addition to the above- mentioned factors, there are less influential yet still essential factors that may influence the burning time of a candle. These factors include the additives, over-scenting, the date of manufacture and drafty premises, among other conditions. Such additives as a wax hardener or scenting ingredient in the wax may influence the burning time, as well. The old candles may dry out, and even if you compare the recently manufactured candle and the old one of the same color, you may detect the difference in their burning speeds. What is more, when students perform the **“Which candle burns faster” science project**, they assume that the manufacturer used the same wax, wick, and additives for the two candles of the different colors. This assumption is often wrong. That is why the results of the **“Which candle burns faster” science project** may be contradictory.

In conclusion, it is significant to say that there is no correct answer to the question **“Do white candles burn faster than colored?”** In fact, the role of the color may influence the

burning speed if there is too much dye in the candle which is rarely the case. Wax type and structure, wick material and thickness, wax additives, and the age of the candle are more important factors that make the difference when it comes to the burning **procedure**.

Reference

The National Student Research Center. (1997). What color candle burns the fastest? *E-Journal of Student Research: Science*, 5(4). Retrieved from http://www.all-science-fair-projects.com/science_fair_projects/38/274/dd52f1e2f0bc5d690136dc3ce0356a9b.html#anchor597603