

Burning Candle Mole Lab

Name: _____

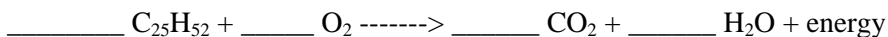
PURPOSE to burn candle wax and to determine the number of moles and molecules used during the reaction.

PROCEDURE

1. Obtain the exact mass of a watchglass.
2. Obtain the exact mass of a candle.
3. Place the candle on the watchglass.
4. Light the candle and allow it to burn 3 minutes. Do not play with the wax this will effect your results.
5. After 3 minutes, blow out the candle.
6. Reweigh the candle and plate without losing any melted wax
7. Calculate the new mass of the candle by itself.
8. Calculate the mass of the candle that “disappeared” in 3 minutes.
9. Repeat Steps 4-8 and use an average of your results to complete the Questions and Calculations section.
10. Be sure to include a chart of your data in your report.

QUESTIONS AND CALCULATIONS

Wax is a mixture of hydrocarbons. $C_{25}H_{52}$ can be used as a representative hydrocarbon in the mixture. The burning of wax is shown below:



1. Show the balanced equation. Ignore Energy.
2. What is the molar mass of wax?
3. How many moles of wax were in the candle before it burned?
4. How many moles of wax were used up during the burning?
5. What volume of oxygen was required to react with the wax in the reaction?
6. What volume of carbon dioxide was produced during the reaction?