Playing with candles

WHAT IS THE AIM OF THIS PRACTICAL?

You will learn what the chemical reaction that is undergoing when you light a candle and when you put it out.

WHAT DO YOU NEED?

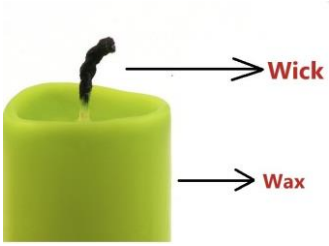
Materials:

candle	Glass jar	A match	A spoon	A glass
				

Chemicals: baking soda and vinegar

A BIT OF THEORY

One important chemical reaction you know well is combustion. It happens when we light a candle. In order to do it, we need something from the air. When this substance is used up, a candle can´t keep going. We can also put out a flame by pouring some substance over a flame. That's what we do when we blow on the candles of our birthday's cake!!



WHAT DO YOU HAVE TO DO?

1. Light the candle.

2. Watch the candle flame start out small and get bigger. Observe what happens.

3. Place a glass jar over the candle and leave it there.

4. Light the candle.

5. Place about two teaspoons of baking soda in the jar.

6. Pour about two tablespoons of vinegar in a glass.

7. When you are ready, carefully pour all the vinegar from the glass into the jar with the baking soda.

8. Hold your hand gently over the top to keep most of the carbon dioxide in the jar.

9. Carefully pour the carbon dioxide gas onto the flame. Be sure no liquid comes out – just the gas.

10. Observe what happens.

QUESTIONS

1. What is happening when you see some liquid over the candle near the wick? Is is a change of state? What's its name?

2. As the flame burns, the wax from the candle is reacting with something else to make the flame. What do you think it might be?

3. Why does the flame go out when the jar is covering it? Complete the text below:
   The substance that reacts with the candle wax is_____. It comes from the air. Putting the jar over the candle keeps _____ from outside the jar from getting in. The reaction can only use the oxygen that is already in the jar. So, when that oxygen is used up, the reaction can't keep going. Running out of oxygen makes the _____go out.
4. Why does the flame go out when carbon dioxide is poured on it? Complete the text below:
   Carbon dioxide molecules are heavier than air. Because of this, they push the oxygen and other molecules in the air out of the way as they sink down over

the flame and candle. When _____ is pushed away from the _____, it can't react with the _____ anymore. This makes the flame go out.

5. Why do you think blowing on a candle flame makes it go out?

FEED-BACK

Evaluate the difficulty of this practical. Circle the number that suits the level of difficulty you found while going through this practical:

Very Easy 1 2 3 4 5 *Very Difficult*

Did you enjoy going through this practical? Circle the number that suits your choice

Not at all 1 2 3 4 5 *Very much*