

PRE-LAB DISCUSSION

Compounds are matter, that have two or more kinds of atoms and they are pure substances. Unlike mixtures compounds have constant melting point and boiling point.

If you draw Temperature - Time graph for compounds you can obtain 2 constant lines. One of them is for melting and the other one is for boiling.

But for mixtures you can obtain more than two lines. The number of lines depends on the number of compound in the mixture. Because melting point and boiling point of each compound are different.

PURPOSE

To explain constant boiling point of compounds and to understand uncertainty of boiling point of mixtures.

EQUIPMENT

burner	wire gauze	iron ring	beaker
thermometer	timer	ring stand	

MATERIALS

distilled water	alcohol
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PROCEDURE

PART A:

1. Take 100 ml. of distilled water.
2. Heat the water by looking at temperature of water and time, write temperature of water for one minute until the temperature becomes 102°C. And draw temperature vs. time graph.

PART B:

1. Mix 50 ml. of pure alcohol and 50 ml. of distilled water.
2. Heat the mixture by looking at temperature and time, write temperature of water for one minute until the temperature becomes 102 °C. And draw temperature vs. time graph.

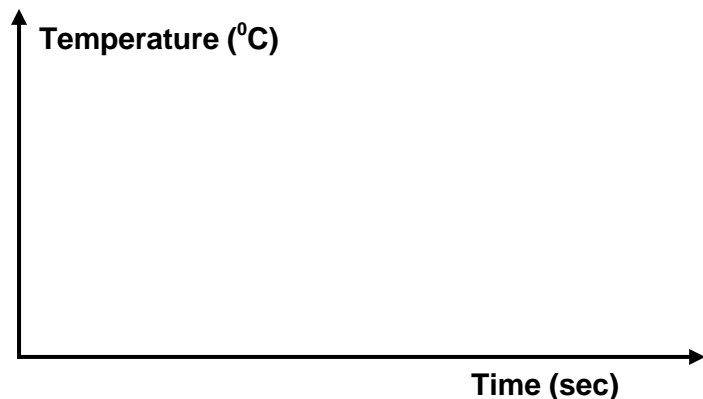
(NOTICE THE DIFFERENCES BETWEEN TWO GRAPHS)

TO THE TEACHER: Direct the students to be careful in part B when the temperature is about 33 and 37 °C.

OBSERVATIONS AND GRAPHS

PART A: Boiling point graph for compounds.

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Part B: Boiling point graph for mixtures

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