



# MAGICAL FLAME

Students .....

Class ..... Date ..... Group number .....

## MATERIALS

Wax candle, plate, lighter, erlenmeyer flask (conical flask), teaspoon, baking soda, vinegar

## PROCEDURE

- Light and put the candle on the plate.
- Pour about 20 ml of vinegar into the erlenmeyer flask.
- Put into the erlenmeyer flask one teaspoon of baking soda too.
- Tilt the Erlenmeyer flask on the flame without pour the liquid!

## OBSERVATIONS

.....

## CONCLUSIONS

This reaction, already seen in the second lesson, is:



acetic acid (vinegar) + sodium bicarbonate (baking soda) = sodium acetate + water + carbon dioxide

In this reaction one of the products is the carbon dioxide gas (CO<sub>2</sub>).

O<sub>2</sub> allows combustion (the flame is on!).

CO<sub>2</sub>, instead, puts the flame out.

There are fire extinguishers which work with CO<sub>2</sub>!

We can also observe that CO<sub>2</sub> is a gas heavier than the air because it falls on the flame.

*Draw a picture.*