

Name: _____

Period: _____

Oxygen chemical reactions

There are four basic chemical reactions that involve atmospheric oxygen. You will investigate 3 of these reactions in this lab.

materials:

2- 400 mL beakers

Plastic spoon

Salt

Candle

nail

Bromothymol Blue Solution

straw

Procedures:

Rust:

- Fill at 400 mL beaker to 100 mL of water. Add salt and stir until no more salt will dissolve.
- Place your nail in the salt water and let it sit for at least 10 minutes.

---while your experiment is sitting, complete the following experiments---

Combustion:

- Raise your hand and ask your teacher to light your candle
- Watch the candle for 1 minute.
- Cover the candle with the beaker.

Watch what happens and record: _____

Cellular Respiration:

- Fill a beaker with 50 mL tap water.
- Add a dropper full of Bromothymol Blue solution.
- Blow into the water solution with a straw for about 30 seconds to a minute.

Watch what happens and record: _____

---take your nail out of the salt water and sit in on a paper towel and return to class---

-----return to the lab to observe your nail-----

Record your observations of the nail:

questions:

1. The absence of what element made your flame go out?
2. The presence of what compound made your indicator change color?

The chemical equation for rust is: $4 \text{Fe(s)} + 6 \text{H}_2\text{O(l)} + 3 \text{O}_2\text{(g)} \longrightarrow 4 \text{Fe(OH)}_3\text{(s)}$

3. What are the reactants?
4. What are the products?
5. What was the purpose in adding SALT to your water?