

Name _____

Date _____

Blk _____

Generating & Burning Hydrogen Gas

Problem: How can a burning wooden splint be used to test for the presence of hydrogen gas?

Materials: see page 48 in BC Science 9 text

Procedure: see page 48 in BC Science 9 text

Observations: How do you know there is a chemical change occurring?

What happens when you bring the lighted wooden splint near the base of the test tube?

Discussion:

1. How does the appearance of the zinc metal change as it reacts with the acid?
2. Predict what might happen to the zinc if it were left in the acid for a long time.
3. Describe what happens during a positive test for hydrogen gas.

The Synthesis of Oxygen

- Problem:** How can a glowing wooden splint be used to test for the presence of oxygen gas?
- Materials:** See page 77. Soap will not be used.
- Procedure:** See page 77. Omit step 1.
- Observations:** What happens when you put the potassium iodide (KI) into the test tube?

Discussion:

1. What happens to a glowing splint when it is placed in pure oxygen?

The following two reactions will produce an unknown gas. Based on the information you learned in testing for hydrogen and oxygen, you will identify which gas was produced.

Calcium in Water

Problem: What gas is produced when calcium metal reacts with water?

Materials: See page 97 of BC Science 9 text.

Procedure: See page 97 of BC Science 9 text.

Observations: Appearance of calcium metal before reaction:

Appearance of calcium metal & water during reaction:

How do you know when your inverted test tube is filled with gas?

Did your wooden splint pop or reignite? _____

What happened when you repeated your experiment with the phenolphthalein indicator?

Discussion:

1. According to your wooden splint tests, was hydrogen gas or oxygen gas produced when calcium reacts with water?

2. Phenolphthalein indicator changes colour in the presence of a base. Bases have hydroxide in them.
 - a. What is the symbol and ion charge for hydroxide?

 - b. Was a base produced in your reaction?

Balloon of Gas

Observe the teacher demonstration.

What gas was produced? _____

→How do you know?

Conclusion:

Compare the test for oxygen with the test for hydrogen.

a. How are the procedures different?

b. How do the observations differ?
