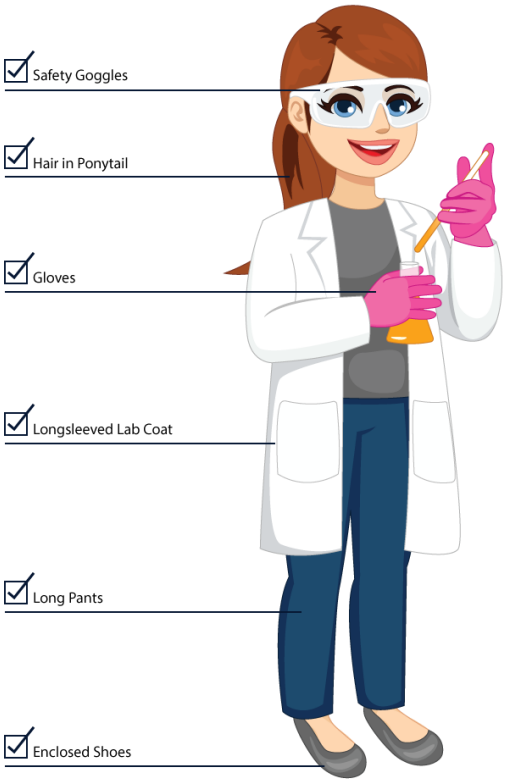
Name: _____ Period: _____ Date: _____

Lab Safety Lab Activity 3 - Teacher Edition



Introduction:

Wearing the proper personal protective equipment is important. In this lab we will learn how goggles, lab aprons, and gloves can protect you from chemicals.

Learning objectives:

By the end of this lesson students will:

- Describe the safety procedures for addressing fire in the lab.

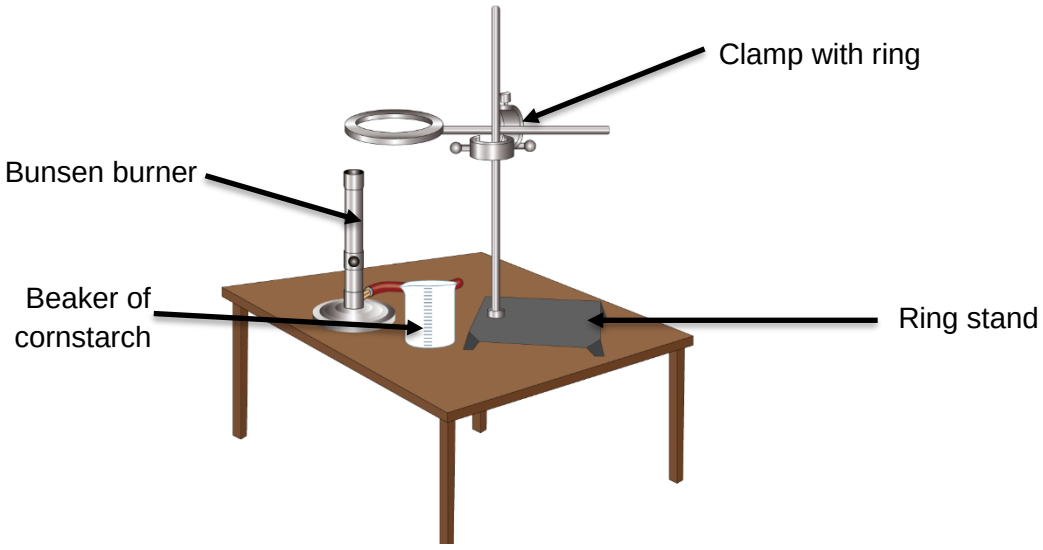
Pre lab prep for teacher will involve setting up the materials as follows:

Materials:

- Cornstarch
- Bunsen burner
- Bunsen burner lighter
- Ring Stand with clamp
- Wire Gauze
- Striker

Experimental Setup

- The teacher will be conducting this lab as a demo.
- The demo lab table will be set up as follows:



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Safety

1. Ensure you and your partner have:
    - closed toed shoes
    - long hair tied back neatly and out of the way.
    - safety goggles, lab apron and gloves on.

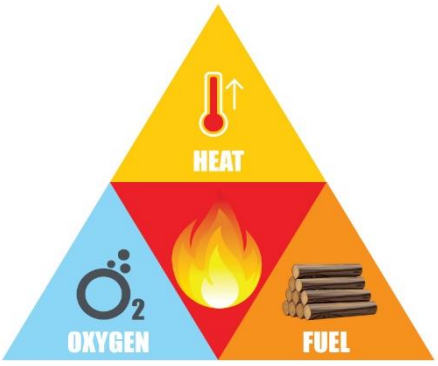
    Note: Do not remove any of these until your lab is completed, cleaned up, and you are instructed to do so by your teacher!

2. Read all the instructions and do not pick up any lab equipment or begin until you are instructed to do so!

3. Review the fire safety information below.

Fire Safety

All fires need three things to exist: a heat source, fuel, and oxygen. By removing one or more of these elements, the fire can be extinguished. Acting quickly and sensibly when there is a fire is essential to reduce the amount of damage the fire can cause.



If a student catches on fire…

If a student's clothing or hair should catch on fire the student should use **Stop, Drop and Roll** to smother the flame and extinguish it as soon as possible**.** Students should also use a fire blanket over the individual to put out the fire.

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If a fire alarm goes off while you're in the lab you should…

1. Extinguish all flames and turn off all gas sources.
2. Exit the room in an orderly manner.
3. Meet outside at your pre-appointed location.

Procedure:

1. Have a Bunsen burner lit at the end of a lab table and make sure students are seated a safe distance away (at least 2 meters distance)
2. Teacher should be wearing goggles and apron.
3. Heat the beaker of cornstarch on the gauze mat over the flame of the Bunsen burner to show students that the cornstarch does not ignite.
4. Pour two tablespoons of cornstarch into the middle of a piece of construction paper.
5. Roll the paper into a tube. Be sure to keep it level so the cornstarch does not leak out the ends. Point the tube at the top of the flame from approximately 75 cm away. Blow into the tube.
6. Cornstarch explosion! If some lights are off it makes more of a light show. Remember don't breathe in with your mouth on the tube or you'll get a big mouth full of cornstarch.

Post-Lab Questions:

1. Circle the two most important lab safety expectations for this lab

A. Read the instructions
B. Clean up all messes
C. Organize your lab
D. Handle Chemicals Properly
E. Practice good fire safety skills
F. Waft (Save your nose hairs)
G. Wear Goggles
H. Lose the Comedy routine
I. No Eating during lab
J. Protect your skin with gloves

2. Explain why the cornstarch did not catch on fire or flame up when it was heated by the flame.

The cornstarch didn't ignite because it lacks the oxygen part of the fire triangle

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3. List 3 things that are necessary for fire to occur?

   A. Oxygen

   B. Fuel

   C. Heat

4. What did the teacher demo show that allowed the cornstarch to flame up?

   Introduced the oxygen part of the fire triangle by dispersing the cornstarch into the air.

5. What should you do if a lab partner's clothing catches on fire during the lab?

   Immediately notify your teacher and utilize the Fire Blanket by spreading it out and placing it over your lab partner's clothing.

6. What do you do if the fire alarm goes off during a lab?

   - **Extinguish all flames and turn off all gas sources.**
   - **Exit the room in an orderly manner.**
   - **Meet outside at your pre appointed location.**

7. What are the three types of burns and what are evidence of each type of burn?

   Place under cold running for 15 minutes. If it is a significant sized burn the emergency shower could be used, and the nurse should be called.

8. What does a fire blanket do to help extinguish fire or flame? (circle one)

   a. The fire blanket keeps the fire from passing to the next student.

   b. It smothers the fire and removes the oxygen it needs to burn.

   c. It prevents scarring from the burn.

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