

The Extinguisher

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Grades: 1-3

Focus: Safety education when working with fire will be implemented.
Students will identify the three components of a fire.
Fire suppression will be examined through experimentation.
Removal of one component while conducting each experiment will determine the missing component.

Activity:

Discuss fire safety before beginning any experiment that is working with fire.

1. Fire extinguisher, shovel and bucket of water need to be nearby.
2. Clothing that should not be worn when conducting experiments include; long sleeves and baggy clothing.
3. Hair must be pulled back.
4. Safety goggles must be worn when fire is being lit and burning.
5. Proper behavior around a fire includes no pushing, shoving or playing with the fire.
6. Proper way to ignite a fire by not reaching over the fuel, instead ignite the edge closest to you, not playing with the matches, they are to be used to ignite the fire. Discuss how you should hold the match when striking the box.
7. Discuss how an unlit match retains heat, so do not touch the burned end of the match until it has time to cool after it has burned.
8. Disposal of burned remains and cleanup should be taught by instructing them to put ashes in a metal container that isn't lined with a plastic bag, or one that contains paper products.

Pumpkin Experiment 1:

Materials: pumpkin, candle, knife, spoon, matches, safety goggles, crayons, and paper, fire extinguisher

Procedure:

Cut off top of pumpkin and scoop out the inside. Light the candle, discussing that the match will provide the heat, one of the necessary components in the fire triangle. Ignite the candle, which is the second component of a fire, fuel. Place candle inside pumpkin let children observe lit candle and explain how oxygen is present. Put on the lid, wait a few seconds or minutes depending on the pumpkin size, open the lid and observe the unlit candle. Draw what part of the fire triangle is missing in the experiment.(oxygen)

Extension: carve pumpkin and discuss why the lit candle does not go out when placed inside with the lid on.

Experiment 2: Materials: cookie sheet, matches, flour, paper, dried small twigs, fire extinguisher, safety goggles, crayons, paper, and fire extinguisher

Procedure:

On the cookie sheet, build a small twig and paper fire. Ignite the fire using the match. As the fire burns discuss the fire triangle. Next, pour flour over fire. Students draw another picture of what part of the fire triangle is removed. (heat)

Extension: Discuss other ways to remove heat such as, lid on a pan, etc.

Experiment 3: wooden matches, alligator clip hooked on to a wire that's attached to a ring stand, cookie sheet, safety goggles

Procedure: Take a match and insert it into the alligator clip upside-down. Light this match and count how long it burns. Draw out the part of the fire triangle that is missing. (Fuel)(Fireworks Trunk)

Extension: take another match, insert it in the clip right side up, and ignite. Count how long it burns. You can even use a ruler to measure the height of the flame and compare it with the flame height of the match burned upside down. Then discuss the preheating of fuel and the removal of fuel.

Website: www.firelab.org - This site has fire information and resources.

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