

NAME \_\_\_\_\_ DATE \_\_\_\_\_ CLASS PERIOD \_\_\_\_\_

### BEHIND THE SCENES WITH CHEMISTRY

Introduction: Students will perform experiments that enable them to understand how movie stars survive being lit on fire while filming action movie scenes.

In 1988, chemist Gary Zeller won an Academy Award for technical achievement for his invention of Zel Jel, a biodegradable mixture of water and natural polymers extracted from plants that is used in the special effects industry to protect stunt people who need to set themselves on fire while filming motion pictures.

PURPOSE: To test the ability of a conductor and an insulator to protect a marshmallow from fire.

HYPOTHESIS: Make a prediction as to which marshmallow will be most protected.

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<u>MATERIALS:</u> Aluminum pan	Play-doh
Tea light candle	91% alcohol
3 Skewers	3 Marshmallows
Aluminum foil	

PROCEDURE:

1. Coat one marshmallow with aluminum foil.
2. Coat one marshmallow with Play-doh.
3. Leave one marshmallow uncoated.
4. Put a marshmallow on a skewer. Go up to the front table and spray the marshmallow with alcohol.
5. Return to your lab station and light a sprayed marshmallow with the flame of a candle. Allow it to burn until the fire goes out. When cooled, examine the marshmallow and record your observations.
6. Repeat Step 5 with the other 2 marshmallows.

DATA: Observations:

1. Uncoated marshmallow: \_\_\_\_\_
2. Marshmallow + aluminum foil: \_\_\_\_\_
3. Marshmallow + Play-doh: \_\_\_\_\_

CONCLUSION: \_\_\_\_\_

QUESTIONS:

1. What is (are) the variable (s) in this experiment?

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2. What is the control? \_\_\_\_\_

3. Which substance is the insulator? \_\_\_\_\_

4. Which substance is a conductor? \_\_\_\_\_

5. What was the purpose of the alcohol? \_\_\_\_\_

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