



BURNING MONEY

SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything while doing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a **CHOKING HAZARD**. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

INGREDIENTS

- 1 Cup of Water
- 1 Cup of Rubbing Alcohol
- 1 Dollar Bill
- Tongs
- Grill Lighter

INSTRUCTIONS

STEP 1: Mix the water with the rubbing alcohol. Describe and classify the water and rubbing alcohol mixture by its observable properties.

STEP 2: Using the tongs, dip the dollar bill into the water and rubbing alcohol mixture, for 30 seconds.

STEP 3: Holding the dollar bill with the tongs, use the grill lighter to ignite the dollar bill, and observe. What new substance(s) form when burning the alcohol?

EXPLANATION

Combustion or burning occurs between the alcohol and oxygen, which is a chemical reaction. During combustion a hydrocarbon and oxygen react to form carbon dioxide, water, and energy in the form of heat. The rubbing alcohol is what burns when you ignite the dollar bill. The temperature at which alcohol burns is not hot enough to evaporate the water, therefore the dollar bill remains wet and does not catch on fire. Water is very good at absorbing heat without increasing in temperature.



SCIENCE BACKGROUND

Matter is anything that has mass and takes up space. Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. Measurements of a variety of properties can be used to identify materials. When two or more different substances are mixed, a new substance with different properties may form. This is considered a chemical reaction, which is a change that results in one or more new substances. A physical reaction does not result in a new substance.

I CAN STATEMENT

- I can plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- I can conduct an investigation to determine whether the mixing of two or more substances results in a new substance.

NEXT GENERATION SCIENCE STANDARDS CONNECTION

2 – Structure and Properties of Matter

5 – Structure and Properties of Matter

