

What is Fire?

Student Worksheet

Name _____

Overview: You stare and stare at it, like a bug drawn to light, but what *is* that stuff called fire? You'll find out in this exciting experiment.

What to Learn: After today, you will understand that fire is a combination of different gases and hot plasma.

Lab Time

1. Your teacher will demonstrate this lab for you.
2. Fill out the data table below as your teacher performs the experiment.

What is Fire? Data Table

Amount of Alcohol	Amount of Water	Observation of the Reaction

Exercises Answer the questions below:

1. Is fire a chemical or physical reaction? How do you know?
2. What type of matter is fire? Solid, liquid, gas, or plasma?
3. What three things are needed to start a fire?
4. We know that alcohol is a very flammable fuel and water has a high heat capacity, meaning it absorbs energy from the flame. Why are both necessary in this experiment?
5. Dollar bills are made of a combination of linen and paper. Why do you think this was useful for this experiment? (*Hint: linen is a type of fabric. How is that different from paper?*)

Exercises

1. Is fire a chemical or physical reaction? How do you know? (chemical because it gives off light and heat)
2. What type of matter is fire? Solid, liquid, gas, or plasma? (it can be both gas and plasma)
3. What three things are needed to start a fire? (fuel, oxygen, and a spark)
4. We know that alcohol is a very flammable fuel and water has a high heat capacity, meaning it absorbs energy from the flame. Why are both necessary in this experiment? (The alcohol provides the fuel for the fire while the water makes the dollar cool enough so it doesn't catch on fire.)
5. Dollar bills are made of a combination of linen and paper. Why do you think this was useful for this experiment? (*Hint: linen is a type of fabric. How is that different from paper?*) (it is stronger and more absorbent)

Closure Before moving on, ask your students if they have any recommendations or unanswered questions that they can work out on their own. Brainstorming extension ideas is a great way to add more science studies to your class time.