

Fire Forensics Investigation Day 1

October is Fire Prevention Month!
Learn how fires start and spread through
an interactive investigation this week!



INTRODUCTION

1

_There's Been a Fire

There's been a fire! You're here to investigate. Take the role of a fire investigator to identify evidence left behind, so you can make a claim about the origin of the fire.

1. **Watch the introductory video.** Re-watch as necessary to provide details about what you notice and wonder from the kitchen fire scene.



Notice

What did you notice in the kitchen scene?

Wonder

What are you wondering?
What more would you need to know to make a claim about the origin of the fire?

Initial Thinking

What are your initial thoughts about how the fire started, or where it started?

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2. Scroll down the website page. More closely observe three possible pieces of evidence left by the fire. Record the evidence here:

3. What do you notice about this possible evidence?

4. What are you wondering about char, blackened surfaces, and the burned versus unburned objects? List at least two questions.

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Sensemaking: What do you already know about fire? Develop an initial model of fire in the provided space. Include as many labels as possible.

a



What is Fire Interactive

What is fire?

Select the interactive showing a sofa on fire. Use the information from the interactive to gather information about fire.

- Record your understanding of how fire develops in the chart below.

1	CLICK ON HOTSPOT 1	List signs that the sofa is experiencing a chemical change:	
2	CLICK ON HOTSPOT 2	What evidence can you observe that the couch has experienced a chemical reaction?	
3	CLICK ON HOTSPOT 3	Describe how the white smoke is formed.	
		What state of matter is actually igniting and burning?	

- What is something new you learned about fire from the interactive?



Fire is a gas phase chemical reaction that releases heat and light.

Scroll to the **red language accordion**.

- Using information from the accordion, identify the best explanations for each term or core idea.

_____ Phases of Matter

a. interaction of matter and energy that results in new products

_____ Chemical Reaction

b. release of heat, light, change in color or odor

_____ Evidence of a Chemical Reaction

c. solid, liquid, gas, or plasma



Real Lab Footage: Pyrolysis



Scroll to the video showing an infrared view of a lamp shade next to a fire. Watch the video and observe the lampshade as it pyrolyzes.

4. What color does the lampshade first appear in the infrared camera?
5. What color does the lampshade appear once it pyrolyzes?
6. What explanation can you make for the change in the lampshade's color?
7. What can you observe about the gases emitted from the lamp shade during the video?
8. What explanation can you make for the change in gas emitted or released from the lampshade?