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Fire Forensics Investigation Day 1

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



INTRODUCTION



_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.

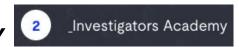
Watch the introductory video. Re-watch as necessary to provide details about what you
notice and wonder from the kitchen fire scene.



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





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.

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

2. 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.

| 3. | Using information from the accordion | n, identify | y the best | t explanations | for each | term or | core i | idea. |
|----|--------------------------------------|-------------|------------|----------------|----------|---------|--------|-------|
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_____ 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?