Fire Basics

Name _____

1. Identify the following terms used in fire investigations.

_____ **-** Produced when a substance undergoes rapid oxidation involving heat and light.

_____ _____ – Shows the three elements needed to produce and sustain a fire.

_____ _____ – The lowest temperature to which a substance must be heated in order for the substance to give off vapors which will burn when exposed to a flame or ignition source.

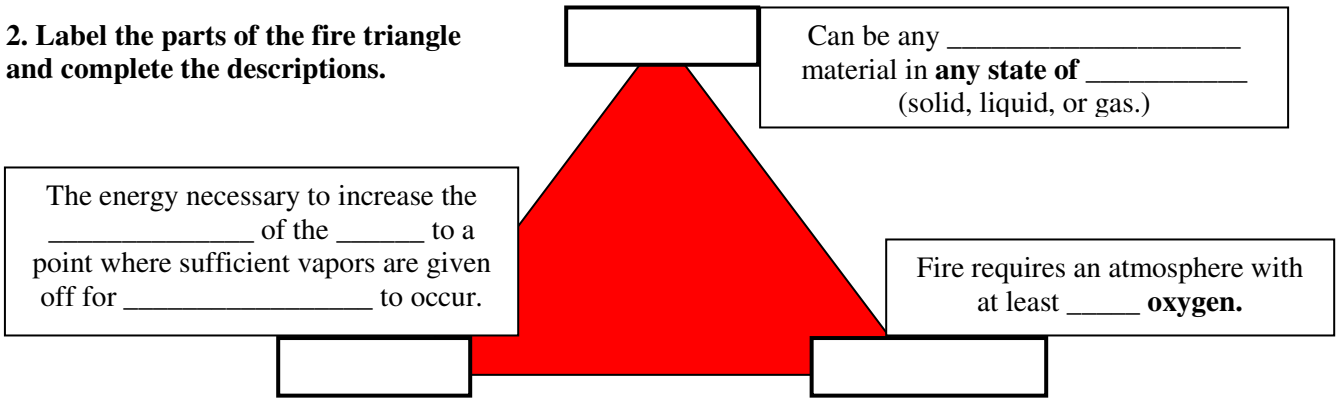
_____ **of** _____ – The location where the fire started.

_____ _____ –Noticeable patterns created by the fire as it burns.

_____ – Substances, such as gasoline, paint thinner, and alcohol, that accelerate the burning process.

_____ – A fire started deliberately.

2. Label the parts of the fire triangle and complete the descriptions.



3. Identify the clues below that might help an investigator analyze a fire scene.

Point of Origin – Burn patterns and other damage can help determine the point of origin, or the _____ where the fire _____.

_____ Patterns – Created by very _____ fires that burn very quickly and _____ fast along its path, so that there can be sharp lines between what is burned and what isn't.

- A char pattern on a _____ would help an investigator determine which side of the door the fire was on.
- A char pattern on the _____ would help investigators determine the use of an accelerant and its path.

____ - Patterns - Fire burns ____, in a V-shaped pattern, so a fire that starts at an outlet against a wall leaves a char pattern that points to the origin.

- A very _____ V-shape might indicate a fire that was hotter than normal, such as one helped along by an accelerant.
- A _____ V-shape might indicate a fire that was slow burning.
- A _____-shape could indicate that there was a "pool of origin" rather than a point of origin, such as might be caused by, say, a puddle of gasoline.

_____ Shadows - Occur when heavy furniture shields part of a wall; can help determine the origin point.

_____ **-** Glass fragments, windows, and light bulbs can provide clues to a fire.

- Light bulbs tend to melt _____ the heat source, so the "direction of melt" can indicate the direction of the fire.
- The shattered or cracked glass of the windows can provide indications as to how the fire _____.
- A dark _____ layer on the glass could indicate a slow, smoldering fire.
- Clear glass with an abnormal pattern of cracking could imply a very ____ fire, possibly due to an accelerant.

_____ Effect - Since fire burns _____, there can be an effect where the fire ignites at a point, the superheated gases _____ upward and form a _____, which continues straight up to burn a _____ in the ceiling. If the roof is not entirely burnt, and the fire investigator finds such a hole, the _____ of the fire could be directly underneath.

Color of _____ – Determine what type material was burning.

Color of _____ – Indicates at what temperature the fire was burning.

4. Give two examples of accidental fires. _____ _____

5. How would odors help an investigator determine the use of an accelerant?

6. How should an investigator manage a fire scene?

- Work from the least damaged areas to the most heavily damaged areas.
- Document with notes, _____, and videos.
- Collect _____ (accelerant samples, fire items, and other crime scene evidence.)
- Interview _____.
- Determine the point of _____.
- Determine the _____ source(s).
- Hypothesize the _____ for the fire.

7. What can you do to help prevent arson or arson damage?

- Report suspicious _____ and activities that may result in arson.
- If you have a friend or classmate that has set fires in the past or plans to set a fire, tell an _____– parent, teacher, counselor, police officer, or a fireman.
- Start or participate in a _____ _____ program with your parents.
- Install and properly maintain _____ _____ in your home and encourage friends and relatives to do the same. Your family should also have a _____ _____ plan for your home.