WHAT IS... The Fire Triangle? FIRE FACT SHEET

The Fire Triangle is a simple way of understanding the components of fire. Each side of the triangle represents one of the three components needed to have a fire: oxygen, fuel, and heat. Fire is a chemical reaction and without all three of these components, fire cannot exist or be sustained.

Oxygen

The air that surrounds us contains approximately 21% oxygen. Air supporting a fire must be at least 16% oxygen content to burn.

Fuel

Fuel is considered any material capable of burning and is characterized by its moisture content (how wet the fuel is), size, shape, quantity, and the arrangement in which it is spread over the landscape.

Fuel sources include any kind of combustible material, such as the following:

- grass
- shrubs
- trees
- houses
- propane tanks
- wood piles
- decks

Heat Source

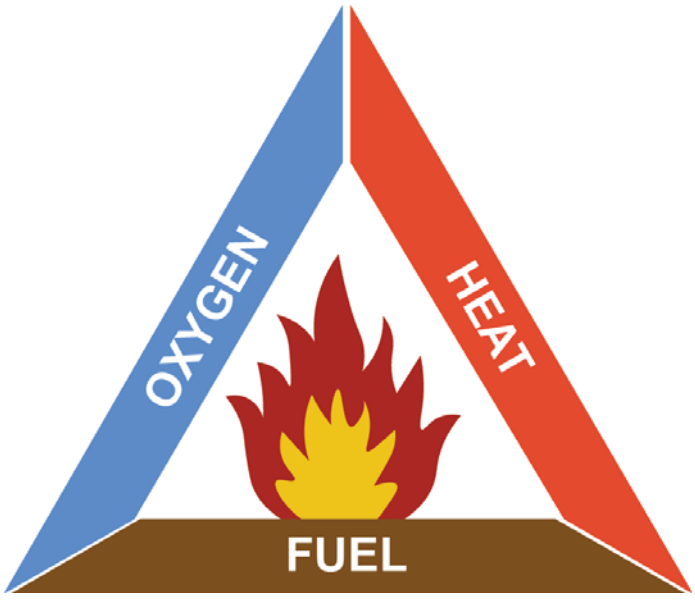
A heat source is responsible for the initial ignition of fire, and heat is also needed to maintain the fire and permit it to spread. Heat allows fire to spread by removing the moisture from nearby fuel, warming surrounding air and preheating the fuel in its path.

Heat source examples include the following:

- lightning
- cigarettes
- power lines
- catalytic converters
- small engine sparks
- matches
- magnifying glass

Fire = Oxygen+Fuel+Heat Source

A fire occurs when all three of these components react together in time and space. A fire can be put out, prevented, or the impacts reduced by removing, reducing, or separating these elements. In a forest environment, a fuel management activity such as thinning the trees is a method of reducing the amount and arrangement of fuel that is capable of burning. Additionally, reducing unwanted ignition sources by humans helps to decrease the probablity of a fire occurring.



The Fire Triangle

For more information:

LANL Fire Wildfire Management Planning Website: http://www.LANLWildlandfire.com