

FIRE TRIANGLES:

UNDERSTANDING THE FIRE TRIANGLE

Call emergency services: 0800 033 911 for assistance.

Remain calm but act quickly

This documentation is merely guidelines, suggestions or recommendations and NOT a complete list of loss-control measures; it has been compiled from information obtained via the internet from various fire and safety sites to assist in the basic learning of fire safety. The information is NOT intended to replace manuals or instructions provided by the manufacturer or the advice of a qualified professional, nor is it intended to effect coverage under any policy.

THE FIRE TRIANGLE

THE DEADLY TRIO NOBODY WANTS TO HANDLE

WHO NEEDS TO KNOW THE FIRE TRIANGLE?

THAT'S EASY EVERYONE NEEDS TO KNOW THE FIRE TRIANGLE

WHAT IS A FIRE TRIANGLE?

A fire triangle is a standard, simple triangle illustrating the three elements (fuel, oxygen and heat) that are required in order to produce a chemical reaction (FIRE).

WHAT DOES A FIRE TRIANGLE DO?

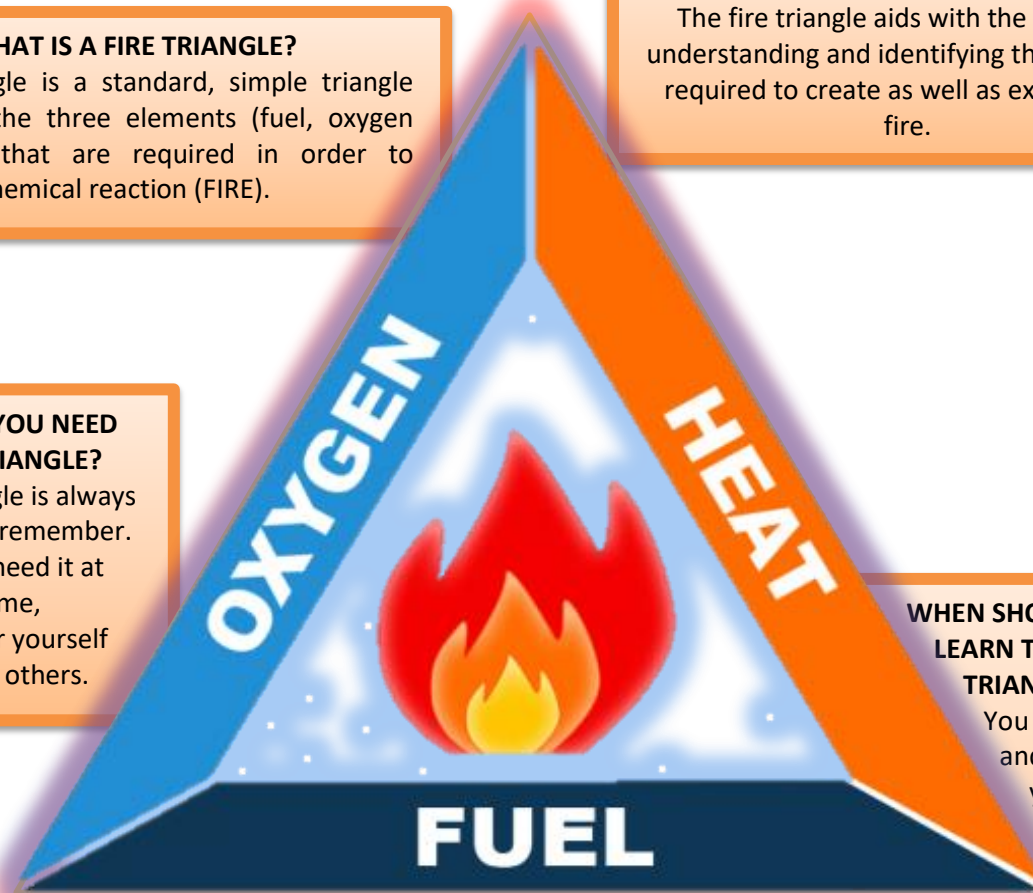
The fire triangle aids with the learning, understanding and identifying the elements required to create as well as extinguish a fire.

WHEN WILL YOU NEED THE FIRE TRIANGLE?

The fire triangle is always important to remember. You could need it at any time, whether for yourself or to help others.

WHEN SHOULD YOU LEARN THE FIRE TRIANGLE?

You should learn and familiarise yourself with the fire triangle as soon as possible prior to learning and understanding your fire extinguisher.



WHAT DOES THE FIRE TRIANGLE ILLUSTRATE (WHAT DO YOU DO WITH A FIRE TRIANGLE)?

IT SHOWS YOU WHICH ELEMENTS MAKE AND BREAK A FIRE

OXYGEN: Sustain combustion - Most fires burn vigorously in any atmosphere of at least 20% oxygen. Without oxygen, most fuels could be heated until entirely vaporised, yet would not burn.

➡ **EXAMPLES:** Normal air, some fuels contain oxygen

HEAT: To reach ignition temperature - Heat is required to elevate the temperature of a material to its ignition point.

➡ **EXAMPLES:** Sun, sparks, friction, electrical energy

FUEL: Combustible material to feed fire – The fuel for a fire may be solid or gas. The type and quantity of the fuel will determine the correct method and agent which must be used to extinguish the fire.

➡ **EXAMPLES:** Wood, leather, sugar, gas, oil, paint, alcohol, propane, natural gases

ADDING THE ELEMENTS CREATES A FIRE NATURALLY (CHEMICAL REACTION)

WHAT DO WE LEARN FROM THE FIRE TRIANGLE?

Together oxygen, heat and fuel naturally create a chemical reaction (fire)

Remove one of the elements



from the triangle and the fire will “die out”

REMINDER....

NEVER USE WATER ON A FIRE UNLESS YOU KNOW WHAT IS THE CAUSE (THE FUEL)

CHEMISTRY OF FIRE

FIRE TRIANGLE

SUMMARY

The triangle shows the combination of elements present in every fire.

Oxygen:

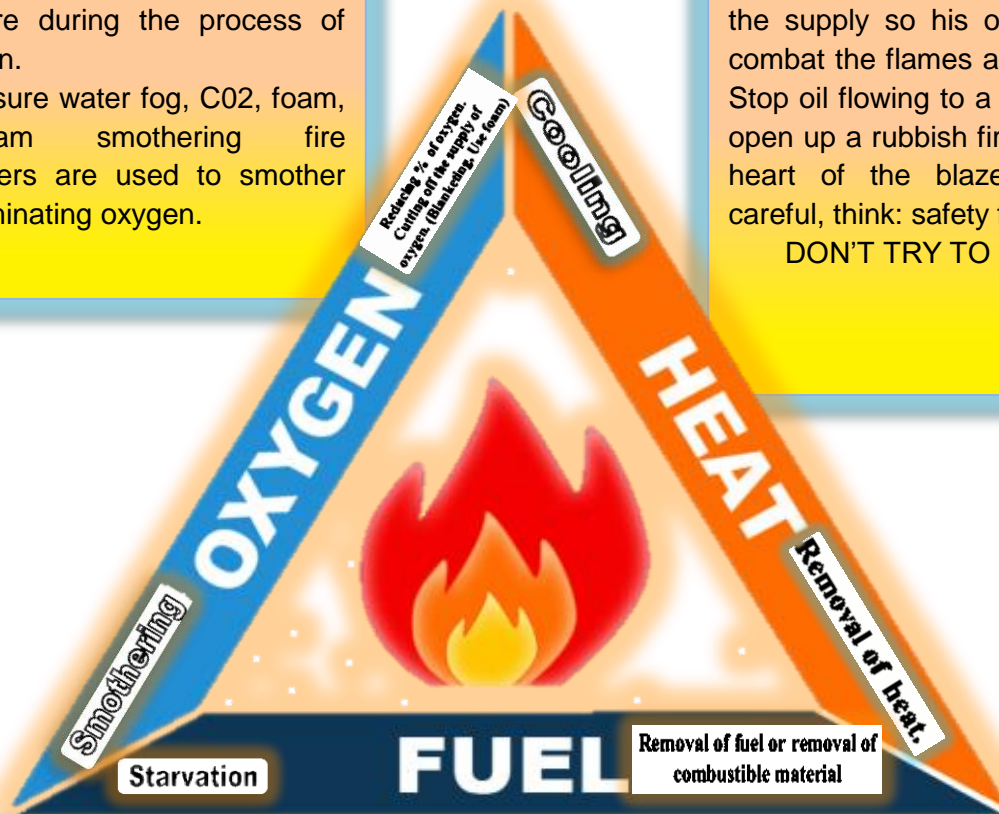
In order to burn, a fire must have oxygen, which is extracted from the atmosphere during the process of combustion.

High pressure water fog, CO₂, foam, or steam smothering fire extinguishers are used to smother fire by eliminating oxygen.

Fuel:

After a fire starts, the fire-fighter's main concern with fuel is to cut off the supply so his other efforts to combat the flames are not wasted. Stop oil flowing to a fire with sand; open up a rubbish fire to get at the heart of the blaze – BUT be careful, think: safety first.

DON'T TRY TO BE HERO



Ignition temperature:

All substances have an ignition temperature. Some must be heated before the temperature is sufficiently high to give off the vapours that burn. If held below this point, a fire is not possible. This indicates the use of a cooling agent.