Atomic Energy Education Society, Mumbai

Book: Honeycomb; Chapter: 8

Fire: Friend & Foe

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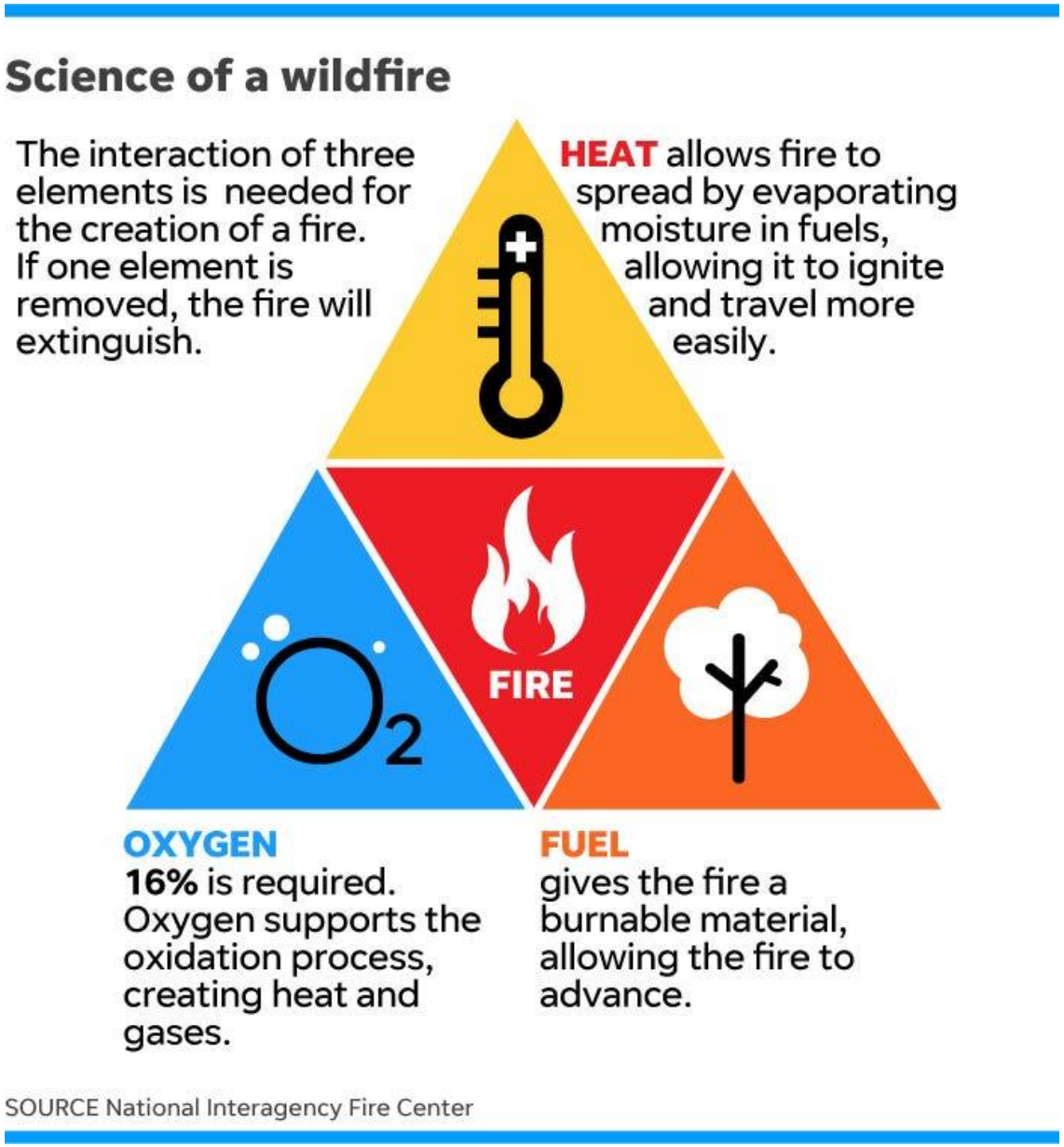
‘THE FIRST HALF’ – WHAT IS THERE TO READ?

Fire was looked upon as dangerous and frightening by the early man. Infact, it was quite a mystery for him but still fascinated him. The volcanoes and lightnings must have terrified him but these were of course, magical. Today, fire is known as a result of chemical reaction. Man and science are beautifully complimenting each other. In this chemical reaction, when oxygen present in air combines with carbon and hydrogen present in a fuel, energy is released in the form of heat and light called fire. Production of fire requires fuel, heat and oxygen. Wood, coal, gas are important examples of fuels. And the oxygen is available in the air. That is why, a smouldering paper catches fire when air is blown on it. But to cause fire, heat is equally essential. Fuel and oxygen do not make fire by themselves. So, a piece of paper or a stick lying in the open doesn’t catch fire until supplied with heat. Same is the case with a piece of wood also. Every fuel burns at a particular temperature which is also called ‘flash point or kindling temperature of the fuel.



‘THE FIRST HALF’ – WHAT IS THERE TO READ?... Contd.

- **Fire is a good servant but a bad master.** It is a boon if it is kept under control but can be dangerous if we lose control. It is used in our house daily for cooking food, burning candles and so on. Its utility cannot be denied. But if it goes out of control, it can cause damage to life, houses, human property and even forests.
- Fire can be controlled by taking away any three of the things required for burning it. For example, it can be stopped immediately by taking away the fuel.
- If the fire has no fuel to feed on, no burning can take place. We can put out a fire simply by not adding more fuel to it.

Early man didn’t know what fire was, but he must have seen the damage it could cause. He must have watched lightning and volcanoes long before he began to use fire himself. Fire was powerful and dangerous, and he was frightened. Fire may have puzzled early man but we now know that fire is the result of a chemical reaction. When the oxygen in the air combines with carbon and hydrogen in a fuel, a chemical reaction takes place. Energy in the form of heat and light is released in this process. This is what we call fire.

DIFFICULT WORDS & MEANINGS

SL NO	WORDS	MEANINGS
1	DAMAGE	DESTROY
2	FRIGHTENED	AFRAID
3	PUZZLED	PERPLEXED
4	CHEMICAL	RELATED TO CHEMISTRY
5	REACTION	PROCESS
6	RELEASED	LIBERATE

Three things are needed to make fire— fuel,oxygen and heat. Wood, coal, cooking gas and petrol are some examples of fuel. Oxygen comes from the air. That is why, when you blow on smouldering paper, it often bursts into flame. The third thing needed to make fire is heat. Fuel and oxygen do not make fire by themselves, or else a newspaper or a stick lying in the open would catch fire on its own. To burn a piece of paper or wood, we heat it before it catches fire. We generally do it with a lighted match. Every fuel has a particular temperature at which it begins to burn. This temperature is called the ‘flash point’ or ‘kindling temperature’ of the fuel. It is sometimes said that fire is a good servant but a bad master. It only means that fire is very useful as long as it is kept under control. For instance, we use it to cook our food, warm our homes in winter and to generate electricity. But, on the other hand, if fire gets out of control it can be very dangerous. Each year thousands of homes and shops are damaged by fire. Vast areas of forest are also destroyed and hundreds of people are killed or injured.

DIFFICULT WORDS & MEANINGS

SL NO	WORDS/PHRASES/ PHRASAL VERBS	MEANINGS
1	SMOULDERING	SLOW BURNING WITH SMOKE BUT NO FLAME
2	LIGHTED	ILLUMINATED
3	INSTANCE	EXAMPLE
4	GENERATE	PRODUCE
5	INJURED	HURT

ust as three things are needed to tart a fire, there are three main ays in which a fire can be put out. n each, one of the three things eeded for burning is taken away. or example, we can take away the uel. If the fire has no fuel to feed n, no burning can take place. We ften let a fire die out simply by not dding more fuel to it.

DIFFICULT WORDS & MEANINGS

SL NO	WORDS/PHRASES/ PHRASAL VERBS	MEANINGS
1	FEED	GIVE FOOD TO
2	DIE OUT	TO DISAPPEAR
3	ADD FUEL TO THE FLAMES (IDIOM)	TO MAKE A BAD SITUATION WORSE