

Grade VII

Lesson 8. Fire: Friend and Foe

PROSE

Soul of the Chapter

Early Man and Fire

Early man must have found fire to be dangerous and frightening. Fire must have been a mystery for an early man but it is known today that it is a result of chemical reaction. When oxygen present in air combines with carbon and hydrogen present in a fuel, energy is released in form of heat and light and this is what fire is. To make fire fuel, heat and oxygen is needed. Wood, coal, gas are fuel, oxygen is available in air. But to cause fire heat is essential. A piece of paper doesn't catch fire until that is supplied to it. Every fuel burns at a particular temperature which is also called 'flash point' or 'kindling temperature.'

Fire: A Friend and a Dangerous Enemy

Fire is a boon if it is kept under control but can be dangerous if it goes out of it. It is used in our house daily for cooking food, burning candles and so on, but if it goes out of control it can cause damage to life, houses and even forests. Fire can be controlled by taking away any three of the things required for burning it. It can be stopped immediately by taking away the fuel.

It can also be controlled by cutting the oxygen supply, for this many a times blankets are thrown over burning objects. Another way is to reduce the flash temperature; this can be done by spraying water which lowers down the temperature. However, water cannot be used to put out on electrical fires or an oil fire. Carbon dioxide extinguisher is the best way to control electrical fire.

Fire fighters

Earlier people used to form human chains and pass buckets of water from ponds or wells to the blaze. These days, there are trained personnel to handle this. The trained team of fire fighters is called fire brigade. They are skilled people to handle all kind of fire. They have the knowledge of first-aid as well and are able to provide immediate help to people suffering from

burn injuries or from the effect of the smoke. Discovery of fire has been a great boon to mankind. Fire is worshipped as God in many cultures around the globe. It is a dear friend if can be used properly, but can turn dangerous if it goes out of control.

NCERT Folder

Check

1. Mark the correct answer in each of the following

(i) Early man was frightened of

- (a) Lightening and volcanoes.
- (b) The damage caused by them.
- (c) Fire

(ii) (a) Fire is energy.

- (b) Fire is heat and light
- (c) Fire is the result of chemical reaction.

(i) (c) fire

(ii) (c) Fire is the result of chemical reaction.

2. From the boxes given below choose the one with the correct order of the following sentences.

(i) That is fire.

(ii) A chemical reaction takes place.

(iii) Energy in the form of heat and light is released.

(iv) Oxygen combines with carbon and hydrogen.

(a) (ii) (iii) (iv)

(b) (iii) (i) (iv)

(c) (iii) (ii) (i)

(d) (ii) (iii) (i)

(d) (ii) (iii) (i)

Working with the text

1. What do you understand by the 'flash point' of a fuel?

Every fuel catches fire at a particular temperature. This temperature is called the 'flash point' of a fuel.

2. (i) What are some common uses of fire?

Fire is used in cooking, to keep our homes warm during winter. Fire is also used to produce electricity.

(ii) In what sense is it a 'bad master'?

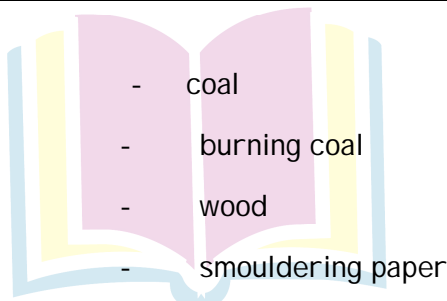
If fire goes out of control, it can cause damage to our life, house and property.

It is 'bad master' in this sense.

3. Match items in Column A with those in Column B.

A	B
(i) Fuel	- lighted matchstick
(ii) Oxygen	- air
(iii) Heat	- coal
	- burning coal
	- wood
	- smouldering paper
	- cooking gas

(i) fuel



- coal
- burning coal
- wood
- smouldering paper
- cooking gas

(ii) oxygen

- air

(iii) heat

- lighted matchstick, burning, coal.

4. What are the three main ways in which a fire can be controlled or put out?

Fire can be put out by taking away the fuel, stopping the supply of oxygen or by lowering down the temperature around the fuel, so that the fuel is not able to attain its flash point.

5. Match the items in Box A with those in Box B

A		B
(i)	To burn a paper or a Piece of wood	it absorbs heat from the burning material and lowers the temperature.
(ii)	Small fires can be put out	reduces the risk of fire.
(iii)	When water is spread on Fire	with a damp blanket.
(iv)	A carbon dioxide extinguisher Is the best thing	we heat it before it catches fire.
(v)	Space left between buildings	to put out an electrical fire.

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|-------|-------------------------------------------------|------------------------------------------------------------------------|
| (i) | To burn a paper or a piece Of wood | we heat it before it catches fire. |
| (ii) | Small fires can be out | with a damp blanket. |
| (iii) | When water is spread on fire | it absorbs heat from the burning materials and lowers the temperature. |
| (iv) | A carbon dioxide extinguisher Is the best thing | to put out an electrical fire. |
| (v) | Space left between buildings | reduces risk of fire. |

6. Why does a burning candle go out when you blow on it?

When we blow a burning candle, we disturb the hot air around and reduce down its temperature. The temperature comes below the flash point and the candle stops burning.

7. Spraying water is not a good way of putting out an oil fire or an electrical fire. Why not?

Oil is lighter than air. It floats over it and continues to burn. So, water cannot be used to put out oil fires. Moreover, as the water spreads, it carries along with it the oil as well, further increasing the change of spreading the fire.

Water is a good conductor of electricity. So, when water is sprayed over electrical fire there are extremely chances of it conducting the electricity. It can result in causing shock and severe injury to the person fighting the fire.

8. What are some of the things you should do to prevent a fire at home and in the school?

Buildings should be constructed at a distance to reduce the risk of catching fire. There should be suitable precautions and extinguishing devices be kept at home and schools to prevent fire.

Working with Language

1. Read the following sentences.

To burn paper or a piece of 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 burns. The verbs in italics are in the simple present tense. When we use it, we are not thinking only about the present. We use it to say that something happens all the time or repeatedly or that something is true in general.

Find ten examples of verbs in the simple present tense in the text 'Fire: Friend and Foe' and write them down here. Do not include any passive verbs.

- (i) Fire is the result of a chemical reaction.
- (ii) This is what we call fire.
- (iii) To burn a piece of paper or wood, we heat it before it catches fire.
- (iv) Oxygen comes from the air.
- (v) It is sometimes said that fire is a good servant, but a bad master.
- (vi) The third way to putting out a fire is to remove heat.
- (vii) We spend millions of rupees each year in fighting fire.
- (viii) It absorbs heat from burning fuel.
- (ix) It only means that fire is very useful.
- (x) Fire is still worshipped in many parts of the world.

2. Fill in the blanks in the sentences below with words from the box. You may use a word more than once.

Carbon Cause Fire Smother

- (i) Gandhiji's life was devoted to the of justice and fair play.
- (ii) Have you inspired your house against
- (iii) Diamond is nothing, but In its purest form.
- (iv) If you put too much coal on the fire at once you will it.
- (v) Smoking is said to be the main Of heart disease.
- (vi) When asked by an ambitious writer whether he should put some into his stories. Somerset Maugham murmured, "No, the other way round."
- (vii) She is a copy of her mother.
- (viii) It is often difficult to A yawn when you listen to a long speech on the value of time.

- (i) cause (ii) fire (iii) carbon (iv) smother
- (v) cause (vi) fire (vii) carbon (viii) smother

3. One word is italicised in each sentence. Find its opposite in the box and fill in the blanks.

(Spending Shut Destroy Subtract increase)

- (i) You were required to keep all the doors *open*, not
- (ii) Pupil: What mark did I get in yesterday's Maths test?
Teacher: You got what when you *add* five and five and ten form the total?
- (iii) Run four kilometres a day to *preserve* your health. Run a lot more toit
- (iv) If a doctor advises a lean and lanky patient to *reduce* his weight further, be sure he is doing it to his income.
- (v) The world is too much with us; late and soon.
- (vi) Getting and we lay waste our powers.

- (i) shut (ii) subtract (iii) destroy
- (iv) increase (v) spending

4. Use the words given in the box to fill in the blanks in the sentences below.

(across, along, Past, Through)

- (i) The cat chased the mouse _____ the lawn.
- (ii) We were not allowed to cross the frontier. So, we drove _____ It as far as we could and came back happy.
- (iii) The horse went _____ the winning post and had to be stopped with difficulty.
- (iv) It is not difficult to see _____ your plan. Anyone can see your motive.
- (v) Go _____ the yellow line, then turn left. You will reach the post office in five minutes.

(i) across (ii) along (iii) past (iv) through (v) along

Speaking and Writings

1. Look at the following three units. First re-order the items in each unit to make a meaningful sentence. Next, re-order the sentences to make a meaningful paragraph. Use correct punctuation marks in the paragraph.

- (i) **And eighteen fire tenders struggled/the fire began on Monday/to douse the blaze till morning.**
- (ii) **In A major fire/over 25 shops/were gutted**
- (iii) **But property/was destroyed/worth several lakhs/no casualties were reported.**
- (i) The fire began on Monday and eighteen fire tenders struggled to douse the blaze till morning.
- (ii) Over 25 shops were gutted in a major fire.
- (iii) No casualties were reported, but properties worth several lakhs were destroyed.

1. Read the following newspaper report given in the box below.

Fire Station Goes Up in Flames

A fire chief was embarrassed when a station without a smoke alarm went up in flames. The building and a fire engine were destroyed in the blaze. Nobody was injured in the fire that was tackled by 30 fire fighters in six fire engines from neighbouring towns.

Chapter Practice

Very Short Answer Type Questions

1. Why the early man was afraid of fire?

The early man might have seen volcanoes or lightning before he started using fire and was hence knew it was dangerous and powerful. So, he was scared of fire.

2. Give some examples of fuel.

Wood, coal, cooking gas and petrol are examples of fuel.

3. Why a newspaper or stick lying in the open does not catch fire on its own?

A fuel in presence of oxygen alone can't start burning. Heat is required for a fuel to catch fire. That is the reason why a newspaper or stick lying in the open doesn't catches fire.

4. Why gaps are left between buildings during construction?

Gaps are left between building during construction to reduce the risk of fire.

5. How the discovery of fire has helped the mankind?

Discovery of fire has helped the early man to cope with nature. It also helped them adopt a settle mode of life.

Short Answer Type Questions

1. How fire is a good servant?

Fire is a good servant. When kept under control fire helps us do many things. In most of our home we cook our food on fire.

We use fire to keep us warm during extreme winter. It is also used in generating electricity.

2. Before fire brigades were set out, how people tried to put out fire.

Before the fire brigade came into the picture people used to extinguish fire forming human chain. Everyone was a fireman in that scenario.

People used to pass buckets filled with water from a pond or well through each other and the person at the extreme end used to pour it over the flames.

3. How have we learnt to control fire?

Every year we spend millions of rupees for fighting fires. We spend even large sum of money to find out ways to prevent fire from happening and going out of control. In the process we have learn to control fire and use it for our betterment.

Long Answer Type Questions

1. Explain with an example how can you put out fire by cutting the supply of oxygen.

Oxygen is one of the three elements essential for causing fire. If we can disrupt the supply of oxygen then we can put out the fire.

This can be applied in case of small fires. If we throw a damp blanket or a sack over the fire, it cuts off the supply of oxygen and the fire is immediately put off.

2. Why we cannot use water to put out some fires?

We cannot use water in case of oil and electric fires. Oil floats over water and thus oil fires cannot be extinguished. It being a good conductor of electricity put the life of the man spraying it in danger.

Extract based questions

Extract 1

Directions (Q. Nos. 1-6) Read the extract given below and answer the following questions.

Some fire cannot be put out with water. If water is sprayed onto an oil fire, the oil will float to the top of the water and continue to burn. This can be very dangerous because water can flow quickly, carrying the burning oil with it and spreading the fire.

1. What is oil fire?

A fire caused because of inflammable oils like petroleum, kerosene, diesel etc is called oil fire.

2. Name two kinds of fire that cannot be extinguished using water.

Oil fire and electric fire cannot be extinguished using water.

3. Why water cannot be used to put out on oil fire?

Oil being lighter than water floats over it, so water cannot be used to extinguish oil fires. Moreover, as the water spreads it carries along the oil with which in turn extends the fire.

4. Water cannot extinguish oil fire, but

- (a) Controls it (b) spreads it (c) has not impact on it (d) None of these
(b) spreads it

5. Find one word from the given lines that is antonym of 'slow'.

- (a) Spray (b) Dangerous (c) Rapid (d) Quick
(d) Quick

6. What can be used to control oil fires?

- (a) Carbon extinguishers
(b) Damp blanket
(c) Sand
(d) All of the above
(d) All of the above

Extract 2

Directions (Q. Nos. 1-6) Read the extract given below and answer the following questions.

The second way of putting _____ the burning material. The third way of putting out a fire is to remove the heat.

1. How can small fires be put out?

Small fires can be put out using a damp blanket or a sack, since it stops oxygen from reaching the burning material.

2. What prevents oxygen to reach the burning material?

- (a) Nitrogen
(b) Carbon dioxide
(c) Water
(d) Heat
(b) Carbon dioxide

3. What is the third way of putting out a fire?

The third way of putting out a fire is to remove the heat.

4. What is the method of extinguishing fire mentioned in the above extract?

- (a) Removing the heat
 - (b) Spraying water
 - (c) Removing the fuel
 - (d) Removing the supply of oxygen
- (d) Removing the supply of oxygen

5. Which word in the above extract means 'stop burning'?

Extinguish

6. Which word in the above extract is a synonym of 'moist'?

Damp



Next Generation School