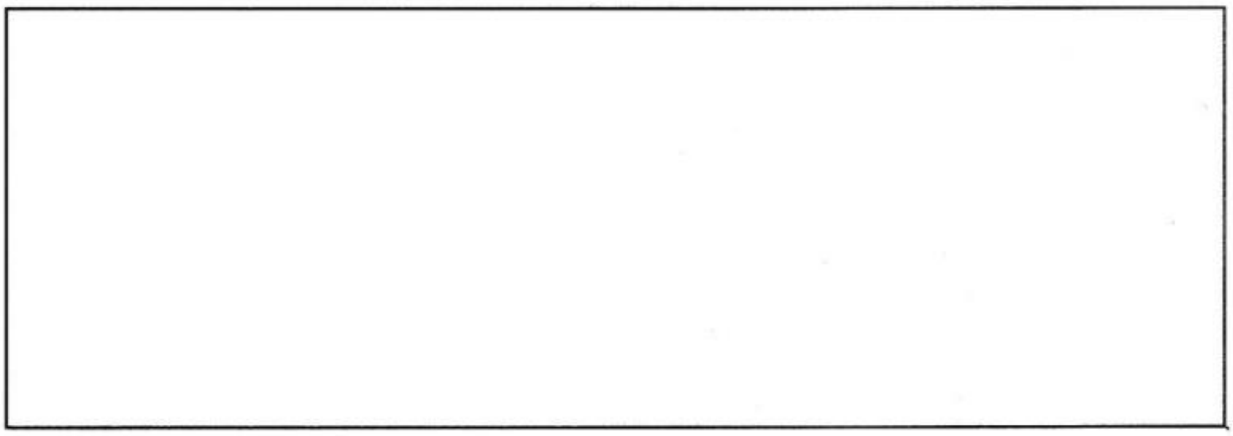
Grade 8 Combustion and Flame Worksheets

A. Answer the following questions in short:

1. List conditions under which combustion can take place.
2. Explain how the use of CNG in automobiles has reduced pollution in our cities.
3. Compare LPG and wood as fuels.
4. Give reasons:

(a) Water is not used to control fires involving electrical equipment.
(b) LPG is a better domestic fuel than wood.
(c) Paper by itself catches fire easily whereas a piece of paper wrapped around an aluminium pipe does not.

5. Make a labelled diagram of a candle flame.



6. Name the unit in which the calorific value of a fuel is expressed.
7. Explain how CO_2 is able to control fires.
8. It is difficult to burn a heap of green leaves but dry leaves catch fire easily. Explain.
9. Which zone of a flame does a goldsmith use for melting gold and silver and why?
10. In an experiment 4.5 kg of a fuel was completely burnt. The heat produced was measured to be 180,000 kJ. Calculate the calorific value of the fuel.
11. Can the process of rusting be called combustion? Discuss.
12. Abida and Ramesh were doing an experiment in which water was to be heated in a beaker. Abida kept the beaker near the wick in the yellow part of the candle flame. Ramesh kept the beaker in the outermost part of the flame. Whose water will get heated in shorter time?
13. You are provided with three watch glasses containing milk, petrol and mustard oil, respectively. Suppose you bring a burning candle near these materials one by one which material(s) will catch fire instantly and why?
14. People usually keep Angeethi/burning coal in their closed rooms during winter season. Why is it advised to keep the door open?

B. Fill in the blanks:

1. Burning of wood and coal causes ……. of air.
2. A liquid fuel, used in homes is …… .
3. Fuel must be heated to its …….. before it starts burning.
4. Fire produced by oil cannot be controlled by …… .

C. Tick (✓) the correct option:

1. Good fuels have:
(a) low ignition temperature and high calorific value
(b) low ignition temperature and low calorific value
(c) high ignition temperature and high calorific value
(d) high ignition temperature and low calorific value

2. Calorific value of a fuel is the heat energy produced when:
(a) any amount of the fuel is completely burnt
(b) one kilogram of the fuel is completely burnt
(c) one milligram of the fuel is completely burnt
(d) hundred grams of the fuel is completely burnt

3. Acid rain can be caused by the burning of:
(a) petrol
(b) CNG
(c) diesel
(d) coal

4. Which of these is a solid pollutant?
(a) SPM
(b) Carbon monoxide
(c) Nitrogen oxides
(d) Sulphur dioxide

D. State True or False:

1. Air is necessary for combustion. ……
2. The fuel in candle is its wick that bums to produce heat and light.
……..
3. Soot produced by combustion is not harmful for us as it consists of oily carbon.
……..
4. Oxygen is very effective in putting out fire. …….

E. Match the following:

‘A’	‘B’
1. Fossil fuel	a. Combustible substance

2. Combustion	b. Carbon dioxide
3. Petrol	c. Petroleum
4. Gobar gas	d. Burning of fuels
5. Fire extinguisher	e. Cow dung

F. Find out the number, type and location of fire extinguishers available in your school, nearby shops and factories. Write a brief report about the preparedness of these establishments to fight fire.

G. Talk to people who use LPG at home. Find out what precautions they take in LPG.

H. Record your observation and mention whether on burning the material forms a flame or not:

S.No.	Material	Forms flame	Does not form flame
1.	Candle		
2.	Magnesium		
3.	Camphor		
4.	Kerosene Stove		
5.	Charcoal		

I. Make a list of fuels familiar to you. Group them as solid, liquid and gaseous fuels as in the table given below:

S.No.	Solid Fuels	Liquid Fuels	Gaseous Fuels
1.			
2.			
3.			