

# SHREE VASISHTHA VIDHYALAYA

## Subject-Science

### Chapter name- Combustion and Flame (Worksheet)

#### A. Multiple Choice Questions (MCQs)

1. Which of the following is a combustible substance?

- a) Water
- b) Iron
- c) Petrol
- d) Sand

2. The hottest part of a candle flame is:

- a) Outer zone
- b) Middle zone
- c) Inner zone
- d) Base of the wick

3. Which of the following is an example of rapid combustion?

- a) Rusting of iron
- b) Burning of paper
- c) Formation of a compost heap
- d) Photosynthesis

4. Which gas is mainly responsible for fire?

- a) Oxygen
- b) Carbon dioxide
- c) Nitrogen
- d) Hydrogen

5. Match the following types of combustion with examples:

Type of Combustion      Example

i) Spontaneous      a) Fire in a forest

ii) Rapid      b) Burning of wood

iii) Slow      c) Rusting of iron

6. The process of burning in the presence of sufficient oxygen is called:

- a) Incomplete combustion
- b) Complete combustion

- c) Explosion
- d) Ignition

7. Which of the following is a product of complete combustion of a hydrocarbon?

- a)  $\text{CO}_2$  and  $\text{H}_2\text{O}$
- b) CO and C
- c)  $\text{O}_2$  and CO
- d)  $\text{H}_2$  and  $\text{O}_2$

8. The yellow color of a candle flame is due to:

- a) Hot gases
- b) Incandescence of carbon particles
- c) Reflection of light
- d) Chemical reaction

9. Which type of combustion is used in petrol engines?

a) Slow combustion                    b) Rapid combustion

c) Spontaneous combustion            d) Explosive combustion

10. Which of the following is an inflammable material?

a) Petrol                            b) Sand                            c) Water                            d) Glass

## B. Fill in the Blanks

1. The process of burning in the presence of oxygen is called \_\_\_\_\_.
2. The \_\_\_\_\_ zone of a flame is the hottest.
3. Coal burning in a furnace shows \_\_\_\_\_ combustion.
4. \_\_\_\_\_ is a sign of incomplete combustion.
5. Wood, paper, and petrol are examples of \_\_\_\_\_ substances.

## C. One Word Answers

1. What is the term for a substance that catches fire easily?
2. Name the colorless, odorless gas that supports combustion.
3. Which part of a candle flame is the coolest?
4. Name one product of incomplete combustion.
5. What type of combustion occurs without any external spark?

## D. Short Answer Questions

1. Define combustion.
2. Differentiate between complete and incomplete combustion.
3. What are the three zones of a candle flame?
4. Give two examples of spontaneous combustion.
5. Why does incomplete combustion produce carbon monoxide?

## **E. Long Answer Questions**

1. Explain the process of combustion and the conditions required for it.
2. Describe the structure of a candle flame with a labeled diagram.
3. Explain the harmful effects of incomplete combustion.
4. Write a note on inflammable and combustible substances.
5. Discuss the role of oxygen in combustion.

## **F. Assertion and Reason Questions**

Instructions: Read the statements carefully and choose the correct option:  
(a) Both Assertion (A) and Reason (R) are true, and R is the correct explanation of A.

- (b) Both A and R are true, but R is not the correct explanation of A.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

1. Assertion (A): The outer zone of a flame is the hottest.

Reason (R): Complete combustion takes place in the outer zone.

2. Assertion (A): Incomplete combustion produces carbon monoxide.

Reason (R): Insufficient oxygen leads to incomplete burning of fuel.

3. Assertion (A): Petrol is more inflammable than water.

Reason (R): Petrol catches fire easily at low temperature.

4. Assertion (A): Rusting of iron is an example of spontaneous combustion.

Reason (R): Spontaneous combustion occurs without external ignition.

5. Assertion (A): Rapid combustion releases large amounts of energy in a short time.

Reason (R): Rapid combustion occurs slowly over a long period.