



CREST
Olympiads
#CRESTInnovator



CREST Science Olympiad (CSO) **Worksheet** *for* **Class 8**



Topic

Combustion and Flame



@crestolympiads



info@crestolympiads.com



+91-98182-94134

Worksheet on Combustion and Flame

1. A certain substance has an ignition temperature of 300°C . If the substance is exposed to a constant flame with a temperature of 250°C , what will happen?

- a. The substance will not ignite.
- b. The substance will ignite and burn completely.
- c. The substance will partially ignite but not sustain the flame.
- d. The substance will ignite, but the combustion will stop as soon as the flame is removed.

2. Consider the following statements and choose the correct option:

Statement 1: Using a lid to cover a burning pan can extinguish the fire by cutting off the supply of oxygen.

Statement 2: Using water to extinguish an electrical fire is safe and effective.

- a. Statement 1 is correct but statement 2 is incorrect.
- b. Statement 1 is incorrect but statement 2 is correct.
- c. Both statements are correct.
- d. Both statements are incorrect.

3. In an experiment, a piece of paper is set on fire using a magnifying glass to focus sunlight. Which of the following is the most likely reason for the paper to catch fire?

- a. The ignition temperature of paper is very low.
- b. The magnifying glass lowers the ignition temperature of the paper.
- c. Sunlight contains a large amount of oxygen.
- d. The magnifying glass concentrates heat on a small area, raising the temperature above the ignition temperature.

4. In the following question, you will find an assertion and a reason. Select the appropriate option that applies.

Assertion: The ignition temperature of paper is higher than that of gasoline.

Reasoning: Paper is a solid fuel, and solid fuels generally have higher ignition temperatures compared to liquid fuels like gasoline.

- a. Both assertion and reasoning are correct, and the reasoning justifies the assertion.
- b. Both assertion and reasoning are correct, but the reasoning does not justify the assertion.
- c. The assertion is correct, but the reasoning is incorrect.
- d. Both assertion and reasoning are incorrect.

5. During a fire safety demonstration, four different fire extinguishers were used to put out fires of different types - water for wood, foam for petrol, carbon dioxide for electrical, and sand for oil fires. Which statement best explains the choice of extinguishers for specific fires?
- a. Water extinguisher breaks down the fuel molecules to stop combustion.
 - b. Foam extinguisher displaces oxygen and smothers the fire.
 - c. Carbon dioxide extinguisher adds a cooling effect to the fire.
 - d. Sand extinguisher chemically reacts with the fuel to stop combustion.

Answer Key

1. a - The substance will not ignite. The ignition temperature of a substance is the minimum temperature required for it to catch fire and sustain combustion. In this case, the constant flame temperature of 250°C is lower than the ignition temperature of the substance (300°C), so it will not ignite.
2. a - Statement 1 is correct but statement 2 is incorrect.
Statement 1: Using a lid to cover a burning pan can indeed extinguish the fire by cutting off the supply of oxygen, which is necessary for combustion.
Statement 2: Using water to extinguish an electrical fire is NOT safe and effective. Water is a good conductor of electricity, and using it on an electrical fire can lead to electrical shock or spread the fire further. It is recommended to use a fire extinguisher specifically designed for electrical fires.
3. d - The magnifying glass focuses sunlight on a small spot, increasing the intensity of heat energy at that point. This concentrated heat raises the temperature of the paper at that spot above its ignition temperature, leading to combustion and catching fire. The other options (a, b, and c) are not directly related to the phenomenon of using a magnifying glass to start a fire with sunlight.
4. a - Both assertion and reasoning are correct, and the reasoning justifies the assertion.
The assertion states that the ignition temperature of paper is higher than that of gasoline, which is true. The reasoning provides a valid explanation for this, stating that solid fuels, like paper, generally have higher ignition temperatures compared to liquid fuels like gasoline. The reasoning justifies the assertion.
5. b - The choice of extinguishers for specific fires is based on their ability to tackle the fire effectively. Foam extinguisher is used for petrol fires because it forms a blanket over the fuel and cuts off the supply of oxygen, which is essential for combustion. By smothering the fire, the foam extinguisher helps to extinguish it.

More Questions Coming Soon – Keep Learning!

Difference between Ordinary & Extra-Ordinary is that "Little Extra"

Discover Our Ultimate Prep Kits!

Buy Previous Years Papers

1. Login at www.crestolympiads.com/login
2. Go to Dashboard -> Additional Practice -> Buy



Buy Physical & Digital Workbooks at

<https://www.crestolympiads.com/olympiad-books>



Buy Additional Practice

1. Login at www.crestolympiads.com/login
2. After login, go to Dashboard -> Additional Practice -> Buy



@crestolympiads



info@crestolympiads.com



+91-98182-94134