

ACTIVITY NO. -1

ARE THE CRYSTALLINE SALTS REALLY DRY?

Subject	Science
Class	X
Chapter/Unit	Chemical Reactions and Equations
Topic	Decomposition Reaction
Time	45 minutes
Nature of Activity	Group

What will I learn (Learning Outcome)?

To analyze the changes that take place during heating of crystalline salt of copper sulphate and infer the type of reaction.

Skills:

Critical thinking, Analyzing and Applying

What I have to do?

To demonstrate the heating of copper sulphate salt.

What do I require?

copper sulphate salt, test-tube, test-tube holder, safety goggles, gloves and burner

What do I need to know?

Decomposition reaction is a reaction in which a single chemical compound breaks down to form two or more substances.

➤ Teacher's Activity

Teacher will:

1. divide the class into groups of four each and explain the responsibility of each member of the group.

2. make the necessary arrangements for the activity and brief the necessary precautions to be taken during the activity.

Caution*The activity requires burning and therefore, should be strictly carried out under teacher's supervision*

How will I proceed?

➤ **Student's Activity**

1. Wear the safety goggles and gloves before beginning the activity.
2. Take small amount of blue coloured copper sulphate salt in a clean and dry test-tube.
3. Note the colour and state of the salt. Hold the test-tube with a test-tube holder and heat it over the burner.
4. Always heat the test-tube away from your face. Note the changes taking place upon heating the crystalline salt.
5. Heat the salt for 5-7 minutes more. Record observations again.

What have I observed?

S. No.	Color and state of:	OBSERVATION - color and state
1.	copper sulphate before heating	
2.	copper sulphate after heating	

What have I learnt?

Since a single compound results in the formation of _____,
_____ and _____ I conclude that, it as a
_____ reaction.

What am I curious to learn?

- Let us take a small amount of calcium carbonate. Note the colour and state of the salt. Now, heat it as described in the above activity. What do you

observe? Is there a gas evolved during this reaction? How will you check the presence of the gas evolved?

- Let us take a small amount of Silver Bromide on a watch glass and keep it under direct sunlight. What will you observe?

Let me evaluate myself

Q1. Define a Decomposition reaction.

Q2. Predict the chemical equation for the reaction taking place in the above activity and balance it.

Q3. Is the above reaction an endothermic reaction or exothermic reaction? Justify your answer by giving reason.

Q4. Why do we see water droplets inside the test-tube as we start heating crystalline copper sulphate salt? What will happen if water is added back to the test-tube at this stage?

Q5. One of the students tries to pass hydrogen gas through black coloured copper oxide formed in the above activity as the final residue. What will she observe? What type of reaction has taken place? Support your answer with the help of a chemical equation.
