

Science 9-Chemistry

Activity 2D&E—Mass of Reactants and Products & Mass and Gas



10

Name _____

Due Date _____

Show Me Hand In

Correct and Hand In Again By _____

Activity 2D—Mass of Reactants and Products

Purpose: To see what happens to the total mass during a chemical reaction

Procedure: Follow procedures 1-11 on page 34-35 of SP and record your observations on this sheet.

Proc. 7. Describe the **sodium carbonate** solution _____

Describe the **calcium chloride** solution _____

Proc. 10. Describe the **chemical reaction** _____

<u><i>Data Table for Proc. 8 & 10.</i></u>	
Mass of container and reactants (before reaction)	_____ g
Mass of container and products (after reaction)	_____ g
Difference in mass	_____ g

Discussion Questions:

1. Name the **reactants** in this reaction _____ &

2. In the data table above, calculate the **difference in mass** of the products and reactants. If the products mass is less than that of the reactants, make the difference negative. Give your mass difference to the teacher and he will figure out the average change in mass for all the groups.
Is the **average change in mass** significant? _____
3. The products of this reaction are **calcium carbonate** (which made it go cloudy) and **sodium chloride**. Use this and the information in question 1 to write a **word equation** for the reaction.

Activity 2E—Mass and Gas

Purpose: To see what happens to the **total mass** during a chemical reaction in which a **gas** is produced.

Procedure : Follow the procedures 1-7 on page 36 of SP and record your observations on this sheet.

<u><i>Data Table for Proc. 4 & 6.</i></u>	
Mass of container and reactants (before reaction) g
Mass of container and products (after reaction) g
Difference in mass g

Proc. 5. Describe what happens when the **acid** is poured into the beaker. _____

Discussion Questions:

1. What is the evidence that a chemical reaction took place? _____

2. Name the **reactants** in this chemical reaction. _____
& _____.
3. Calculate the **difference in mass** of the container and contents before and after the reaction using the data table above. The difference in mass is _____g
Is this difference in mass **significant** (greater than 0.02 g)? _____
4. Suggest why the container and the contents lost a **significant** amount of mass (if it did).

5. Why did goggles have to be worn in this experiment? _____

6. The products of this reaction are **carbon dioxide**, **sodium chloride** and **water**. Using this and the information in question 2, write a word equation for the reaction which took place.

7. Did this experiment take place in a **closed system** or **open system**? _____
