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| Science 9 | Unit B |
| Chemical Reactions and Conservation of Mass | 84 Mins |

Notes

**Chemical Reactions**

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| Chemical Reaction: two or more substances react to form new substances  Reactants – materials at the start of a reaction  Products – materials at the end of a reaction  Signs of a Chemical Reaction   * Colour Change (New Colour) * Formation of an Odour * Formation of a Solid or Gas * Change in Temperature | Na(s) + Cl2(g) -> NaCl(s)  Reactants Products  Potassium iodide and Lead (II) nitrate  Frying an egg  Electrolysis of water  Salting icy sidewalks |

**Conservation of Mass in Chemical Reactions**

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| In a Closed system the mass of ALL Products will be the same as the mass of ALL Reactants.  If the system is Open some products might escape. | Closed – nothing gets in… or out  Open – the products can leave the area. |

**Lab**

Problem: Does the mass of reactants and products change during a reaction?

Materials:

Balance

4g of Baking Soda

4g of Calcium Chloride

Plastic Bags

Small plastic cup

Scoopla

5mL Water

5mL of Bromothymol Blue or Phenol Red

Hypothesis:

Procedure:

1. Put the baking soda and calcium chloride in the plastic bag
2. Put the water and Bromothymol Blue or Phenol Red in the small
3. Keep everything upright and record the mass of ALL the contents
4. Without opening the bag, tip the canister over and allow the contents to mix
5. Observe any changes in the bag
6. After the reaction is complete record the mass of ALL the contents again
7. When you are done rinse out the plastic cup and return it to your teacher
8. Throw the bag in the garbage

Observations: (See and feel)

Analyzing and Interpreting:

What evidence do you have that a chemical reaction occurred?

How did the mass before the reaction compare with the mass after the reaction?

Was the reaction exothermic, endothermic, or both?

Conclusion:

Using your Data, answer the problem.