**Candy Chemistry***Review for Bath Bombs*

Ingredients: Sugar (2 parts), Powdered Drink mix (1 part), baking soda (1 part), citric acid (1 part)

**Part A:** Sample the candy as instructed.

1. Record your observations on the **properties of substances** before and after eating the candy in Table 1.

|  |  |
| --- | --- |
| **Table 1. Observations** | |
| **Before Eating** | **During/After Eating** |
|  |  |

**Part B:** Analyze the popping candy reaction by answering the questions below. Refer to the provided chemical equation when necessary:

C6H8O7(aq) + 3NaHCO3(aq)  Na3C6H5O7(aq) + 3CO2(g) + 3H2O(l)  
 citric acid baking soda sodium citrate carbon dioxide water

1. Complete Table 2 by drawing the missing **molecular models**.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 2. Models** | | | | | |
|  | **REACTANTS** | | **PRODUCTS** | | |
| **Chemical Formula** | C6H8O7 | 3NaHCO3 | Na3C6H5O7 | 3CO2 | 3H2O |
| **Molecular Model** | *A drawing of a face  Description automatically generated* | A picture containing object  Description automatically generatedA picture containing object  Description automatically generatedA picture containing object  Description automatically generated |  | **Model:** | **Model:** |

1. Which atom is present in every compound of the reaction? What is a chemical property of this element?
2. Examine the evidence and make a claim about what happened to the individual atoms present during this reaction. Give a reasoning by stating the scientific principle that helps to explain the evidence.

|  |  |  |
| --- | --- | --- |
| **Claim** | **Evidence** | **Reasoning** |
|  | |  |  | | --- | --- | | **#Atoms in reactants** | **# of Atoms in products** | | C = 9  H = 11  O = 16  Na = 3 | C = 9  H = 11  O = 16  Na = 3 | |  |

1. Did a **chemical reaction** take place after you ate the mixture? Circle one of the claims. Support your claims with evidence and reasoning.

|  |  |  |
| --- | --- | --- |
| ***Did a chemical reaction take place?*** | | |
| **Claim** | **Evidence** | **Reasoning** |
| YES, a chemical reaction took place.  NO, a chemical reaction did not took place. |  |  |

1. Analyzing the chemical equation: C6H8O7(aq) + 3NaHCO3(aq) 🡪 Na3C6H5O7(aq) + 3CO2(g) + 3H2O(l) citric acid baking soda sodium citrate carbon dioxide water
   1. What part of the chemical equation represents the saliva added? \_\_\_\_\_\_\_\_\_\_\_
   2. What is the chemical formula for the gas that is formed as a result of this reaction? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. What classification of matter: elements, molecules, or compounds are the reactants and products?