|  |  |
| --- | --- |
| **Mass and Change Lab** | **NAME:**  **Date: Period:** |

Think about the changes that can occur to matter. For each experiment below:

* + 1. Predict what will happen to the mass in each experiment (increase, decrease or stay the same)
    2. Classify each of the changes as *physical* or *chemical*. (Write P or C)
    3. Record the observations for each experiment.
    4. Draw a particle diagram that represents your system *before* and *after* the experiment.

**Experiment 1:** [Steel wool is torn into smaller pieces.](https://youtu.be/TRvPQyw5vxA)

Mass prediction: Particle Diagram

Type of change: Before After

Observations:

|  |  |
| --- | --- |
| **Substance** | **Mass (g)** |
| Initial mass |  |
| Final mass |  |
| Change in mass (F-I)= |  |

Did the mass change? Why or why not?

**Experiment 2:**  [Ice is melted and changes to water.](https://youtu.be/JsmD1dLVqqg)

Mass prediction: \_\_ Particle Diagram

Type of change: Before After

Observations:

|  |  |
| --- | --- |
| **Substance** | **Mass (g)** |
| Initial mass |  |
| Final mass |  |
| Change in mass (F-I)= |  |

Did the mass change? Why or why not?

**Experiment 3:** [A solution of sodium iodide is added to a solution of lead II nitrate.](https://youtu.be/z1SPt3gUKrc)

Mass prediction: Particle Diagram

Type of change: Before After

Observations:

|  |  |
| --- | --- |
| **Substance** | **Mass (g)** |
| Initial mass |  |
| Final mass |  |
| Change in mass (F-I)= |  |

Did mass change? Why or why not?

**Experiment 4:** [A piece of steel wool is heated in a flame.](https://youtu.be/Ri-DV1lUovY)

Mass prediction: Particle Diagram

Type of change: Before After

Observations:

|  |  |
| --- | --- |
| **Substance** | **Mass (g)** |
| Initial mass |  |
| Final mass |  |
| Change in mass (F-I)= |  |

Did mass change? Why or why not?

**Experiment 5:** [Some sugar is dissolved in water.](https://youtu.be/GZMQ8Fxn52M)

Mass prediction: Particle Diagram

Type of change: Before After

Observations:

|  |  |
| --- | --- |
| **Substance** | **Mass (g)** |
| Initial mass |  |
| Final mass |  |
| Change in mass (F-I)= |  |

Did the mass change? Why or why not?

**Experiment 6:** [Alka-Seltzer is dissolved in water.](https://youtu.be/Lxu9jittFPA)

Mass prediction: Particle Diagram

Type of change: Before After

Observations:

|  |  |
| --- | --- |
| **Substance** | **Mass (g)** |
| Initial mass |  |
| Final mass |  |
| Change in mass (F-I)= |  |

Did the mass change? Why or why not?

**Summary**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Experiment** | **Physical change** | **Chemical Change** | **Mass Increased** | **Mass Decreased** | **Mass Stayed the Same** |
| **1** |  |  |  |  |  |
| **2** |  |  |  |  |  |
| **3** |  |  |  |  |  |
| **4** |  |  |  |  |  |
| **5** |  |  |  |  |  |
| **6** |  |  |  |  |  |

What conclusion can you draw about how mass changes during physical changes? Chemical changes?

What does mass measure? How is it different from what volume measures?

Did any of the experiments not support our final conclusion about conservation of mass? If yes, examine the video again and explain why the mass changed. How did it increase or decrease-what did we not control?