**Popcorn Lab**

**Law of Conservation of Mass**: Matter cannot be created nor destroyed. The matter that one begins with must equal the amount of matter that one ends with.

Pre-Lab Explanation: In this experiment you will try to explain the ”loss” of mass in terms of the law of conservation of matter. You will be going through the steps of the scientific method in order to prove this experiment does not violate this law.

Pre-Lab Steps: In this experiment, you will be asked to mass unpopped popcorn. You will record the mass then pop the popcorn. Then weigh the popcorn after it is popped. If there is a difference in the before popped mass with the after popped mass you will have to explain how this does NOT violate the law of conservation of mass. Think about other possibilities of how the matter could have changed form to an unmeasurable amount of mass. Hint: The matter did not turn into energy, and it was not lost.

Procedure:

Safety Precautions: Use caution when handling hot objects. Use low heat for popping kernels. Be patient! Jiffy Pop is REAL popcorn (it’s not the microwave, so it won’t be done in 3 minutes!!)

1. Obtain a Jiffy Pop
2. Take the mass of the unpopped kernels by massing the Jiffy Pop.
3. Use a hot plate to heat your Jiffy Pop.
4. Keep the hot plate on low to medium.
5. Heat the Jiffy Pop by Moving Back and forth. Be careful to keep no burn the Popcorn!!
6. Listen for pops, when the pops stop the popcorn is finished.

Once all or most of the kernels have popped, take the mass the jiffy pop container with the popped popcorn.

1. Record the mass of the popped kernels in your data table.
2. Answer the rest of the questions of the lab and finish the scientific method.
3. Add some NaCl and enjoy your popcorn
4. Observations and Data:

Data Table 1: Mass of the Popcorn

|  |  |  |
| --- | --- | --- |
| Popped and Unpopped | Mass | Percent of Total Mass |
| Unpopped Popcorn |  |  |
| Popped Popcorn |  |  |

1. Discussion: Was the mass different before the popping as compared to after it was popped?

Circle YES or NO

1. Since the law of conservation of mass is always in effect, how can you explain this difference?
2. Conclusion: List a way that the experiment could be changed in order to capture the mass that appears to have been “lost” during this experiment.