Name _____ Period _____ Date _____

Your Progress:

- Mastery
- Proficient
- Developing
- Beginning

Lesson 12: Does Mass Change During a Chemical Reaction?

Activity 12.1

Purpose

Alka seltzer and water will be used to determine if mass changes in a chemical reaction.

✚ Safety

Wear safety goggles while mixing the chemicals in this lab.

Procedure

1. Fill the cup with about 100 ml of water.
2. Check the scale is zeroed.
3. Place the cup with water and 2 Alka-Seltzer tablets on the scale and record the mass on the back page. Do not put the tablets into the water yet.
4. Place the tablets inside the cup and allow the tablets to react completely. Record your observations on the back page.
5. Record the mass of the reacted tablets, water, and cup on the back page.
6. Discuss with your group your observations and compare the masses from before and after the reaction.
7. Discuss how you can design an experiment to explain the changes in the mass from before and after the reaction.

Data Table

	Before the Reaction	After the Reaction
Total Mass (in grams)		
Observations During the Reaction		

Conclusion

What happened to the mass of the cup, and everything in the cup, when the tablets reacted with the water?

_____

_____

Why do you think this happened?

_____

_____

_____

Extension

What would need to be done differently in order to have the mass stay the same?

_____

_____

_____

Design a Closed System:

Draw a diagram that shows how a closed system could be built to allow the Alka-seltzer and water to exist in a closed system. The system must allow the two to react while remaining a closed system. Be sure to label all of the parts of your model:

Data

Build the system you have designed and repeat the experiment:

	Before the Reaction	After the Reaction
Total Mass (in grams)		
Observations During the Reaction		

Conclusion

Was the system you designed a closed system? How do you know?

_____

_____

_____