

Name _____



Apple Observations: Conservation of Mass

Objective: In this activity, we will use simple materials to demonstrate the **Law of Conservation of Mass**. We will put one apple in a closed jar, and one in an open jar. We will then observe how their masses change over time.

→ **Answer This:** Define the Law of Conservation of Mass: _____

→ **Answer This:** Generate a focus question. On the lines below, ask a question that relates to the objective of this activity.

Materials:

- 2 similar apples
- 2 jars (mason jars, spaghetti sauce jars, jelly jars, etc.)
- triple beam balance or digital scale

Procedure:

1. Obtain two similar apples.
2. Place one of the apples in an open jar and leave it open.
3. Place the other apple in a jar that you can seal very tightly shut. (Use a piece of wax paper or plastic wrap across the opening before you screw on the lid if this will help it seal better.)
4. Record the mass of each jar with apple today and every other day for several weeks.

→ **Answer This:** Which container represents a closed system? _____

An open system? _____

Hypothesis: Make a hypothesis about what you think will happen to the mass of each jar over time.

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Data Tables:

Data – Open Jar		
Date	Mass (g)	Observations Describe what the apple looks like and how it is changing (or not).

Name _____

Data – Closed Jar

Date	Mass (g)	Observations Describe what the apple looks like and how it is changing (or not).

Name _____

Analysis:

1. Write a summary of your observations in this activity. Be sure to include how the appearance of the apples changed in each jar, as well as how the mass changed (or did not) in each jar.

2. Did your results support or refute your original hypothesis?
Explain your answer using data from the activity.

3. Which of the jars **best** demonstrated the Law of Conservation of Mass?
Explain your answer using data from the activity.

4. Which of these jars would be a good analogy to logs burning in a campfire?
Explain your answer using data from the activity.

5. Which of these jars would be a good analogy to combining baking soda and vinegar in a flask that is capped by a balloon? Explain your answer using data from the activity.

6. Complete the Claims/Evidence/Reasoning grid below to answer the following question:
During a chemical reaction in a closed system, is matter lost?

My Claim	My Evidence	My Reasoning

7. Restate the **Law of Conservation of Mass** in your own words.