



SfS Away from the Classroom!

C12: Conservation of Matter (Recommended for Grades 3-5)

Please use the following resources to learn about the conservation of mass and matter.

Watch this Video: https://www.youtube.com/watch?time_continue=1&v=Wwmsy4huZQ0&feature=emb_logo

Answer these questions:

- What is the Law of Conservation of Matter or Mass?
- How does the scientist in the video prove this Law?
- Why do you think this Law is important in science?

Activities: Follow these directions to prove conservation of mass in a solution and between phases.

You will need:

<ul style="list-style-type: none">• Kitchen scale• 2 cups• Tablespoon	<ul style="list-style-type: none">• Water• Sugar or salt• 2 ice cubes	<ul style="list-style-type: none">• Science notebook• Pencil
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Conservation of Mass in a solution:

1. Place both cups on the kitchen scale at the same time.
2. Pour water into one cup (about half way).
3. Add 1 Tablespoon of sugar (or salt) to the second cup. Write down the total mass of both cups before mixing.
4. Carefully pour the sugar (or salt) into the water. Gently stir the water until the sugar (or salt) has disappeared.
5. Write down the mass of the 2 cups and the water-sugar solution. Compare this to the mass in step 3.

Optional: Try other solutions like water and dirt, or three substances mixed together instead of two.

Conservation of Mass when a substance changes phases:

1. Place 2 ice cubes in the cup and mass them on the kitchen scale. Write down this mass.
2. Leave the cup on the scale for 1-2 hours until no ice is left (it's all melted).
3. Mass the cup of water. Write down this mass. Compare this to the mass in step 1.
4. Did the mass of the ice cubes change when they changed form (solid to liquid)?

Make observations & use Claims, Evidence, and Reasoning!

1. **Claim:** Mass is conserved when a solution is mixed.
 - **Evidence:**
 - **Reasoning:**
2. **Claim:** Mass is conserved when a substance changes form.
 - **Evidence:**
 - **Reasoning:**

