

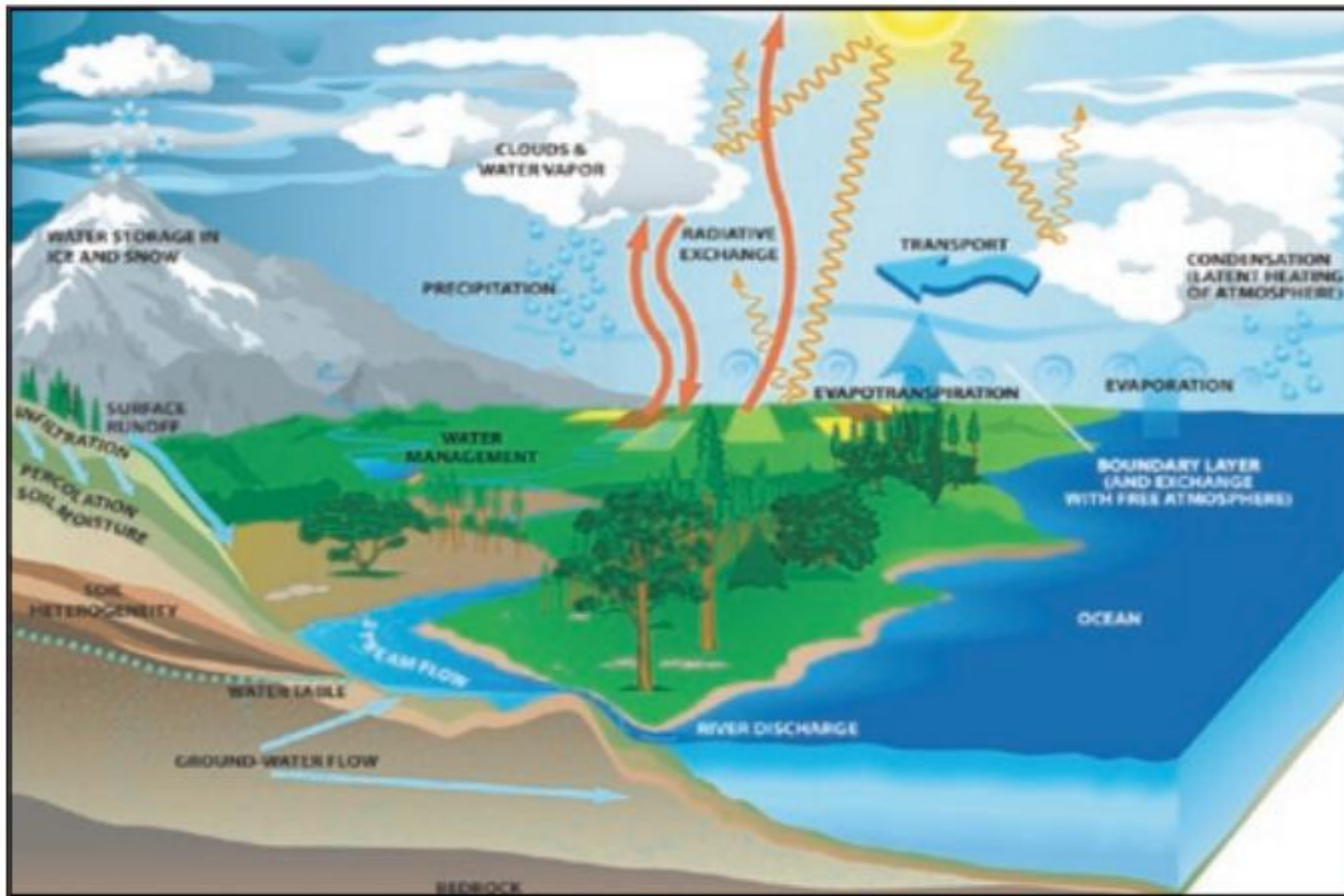
Purpose: When matter undergoes changes, how does the mass change?

Warmup: Get one whiteboard and one marker. Copy from someone's homework at your group the answer to only the problem that your group did for a histogram on Friday. **By 10:58 be standing in the back of the room with your whiteboard propped up like a painting. No more than two groups to a bench.**

# Gallery walk.

- Stand a blank whiteboard next to yours. Add comments and sign them for credit.
- Your comments should include:
  - Polite disagreements with the whiteboard
  - Ways that agree with it but that are more clear

**EXAMPLE: CHANGE OF # OF TENTH  
GRADERS...**



The Water Cycle; NASA

# Definitions

System – all the matter within an arbitrary boundary that you can draw anywhere you choose, but cannot move it once you draw it

Closed system – no matter enters or leaves.

Example: a sealed container

Open system – matter can escape or sneak in

Example: an open container

# The conservation of matter

No matter how substances within a closed system interact, the total mass of the system remains the same.

In other words, if nothing leaks in or out, the amount of matter must stay the same.

This is true of every change that has ever happened!

Seltzer data.

# Burning Paper

Carey crumpled a wad of paper and placed it in a large glass jar. He recorded the total mass of the jar (including the air in the jar), the paper, the lid, and a match.

Carey lit the match, quickly put it in the jar, and sealed the lid. Most of the paper burned. He saw smoke in the jar and black ashes left from the paper.

Which sentence best describes the total mass of the jar, lid, paper, and match before burning compared with the total mass after burning?

- A** The total mass after burning is greater.
- B** The total mass after burning is less.
- C** The total mass before and after burning is the same.

Explain your thinking. Describe what happens to the total mass before and after burning the paper.

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Question: After how does the mass of a sealed jar with burning paper inside change when the paper burns?

- A** The total mass after burning is greater.
- B** The total mass after burning is less.
- C** The total mass before and after burning is the same.