Changes Tell Stories

Use observations to explain heating and cooling changes.

S2P1.c "Provide evidence from observations to construct an explanation that some changes in matter caused by heating or cooling can be reversed and some changes are irreversible."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the observations that show what changed. Write R beside evidence of a change that can be reversed and I beside evidence of a change that cannot be reversed.

Maya Watches Matter

1. During science time, Maya placed an ice cube in a cup. After ten minutes in a warm room, she saw liquid water. She put the cup in a freezer. Later, the liquid water was a solid ice cube again.

2. At lunch, Maya watched an egg cook in a warm pan. The clear egg white became white and firm. She cooled the cooked egg, but it stayed white and firm. It did not become a clear, runny egg.

3. Maya used what she observed as evidence. The ice changed from solid to liquid when warmed and back to solid when cooled, so that change can be reversed. The cooked egg did not change back after cooling, so cooking it was irreversible.

2 ANSWER WITH EVIDENCE

Use the passage

1. What observations show that the ice change could be reversed?

2. What happened to the egg when it was heated and then cooled? What does this show?

3. Use evidence from the reading to explain why melting ice and cooking an egg are different kinds of changes.

3 YOUR TURN

Your own words

Describe one change in matter that is not in the reading. Write two observations, then explain whether heating or cooling could reverse the change.

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PART 1 · READ AND MARK

Underline the observations that show what changed. Write R beside evidence of a change that can be reversed and I beside evidence of a change that cannot be reversed. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What observations show that the ice change could be reversed?	**The ice became liquid water in the warm room. In the freezer, the liquid water became a solid ice cube again.**
2	What happened to the egg when it was heated and then cooled? What does this show?	**The clear egg white became white and firm when heated. It stayed white and firm after cooling. This shows that cooking the egg was irreversible.**
3	Use evidence from the reading to explain why melting ice and cooking an egg are different kinds of changes.	**Melted ice changed back into solid ice when it was cooled, so it was reversible. The cooked egg did not change back into a clear, runny egg when cooled, so it was irreversible.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I heated a piece of bread in a toaster. It turned brown and crisp, and cooling it did not make it soft, pale bread again. The change was irreversible because it did not change back when it cooled.

Accept any accurate example of a heating or cooling change that is not from the passage. The response should include observable evidence and a correct explanation of whether the change can be reversed.