Heat Changes Things

Use evidence to tell which changes can be reversed.

P.2.5.4 "Construct scientific arguments to support claims that some changes to matter caused by heating can be reversed, and some changes cannot be reversed."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline what heating did to each material, and circle what happened after it cooled to find evidence about which changes can be reversed.

What Happens After Heating?

1. At a craft table, a grown-up warms a piece of candle wax. The hard wax melts into a puddle. When it cools, it gets hard again. The wax has changed shape, but heating did not make a new kind of stuff.

2. In a kitchen, a grown-up heats an egg in a pan. The clear egg white turns white and firm. Once the egg cools, the white stays firm. Cooling does not turn the cooked egg white back into clear, runny egg white.

3. Think about chocolate and bread, too. Warm chocolate melts, then gets hard again when it cools. Bread turns brown when it is toasted. Cooling the toast does not make it soft, pale bread again. These clues help us decide which changes can be reversed.

2 ANSWER WITH EVIDENCE

Use the passage

1. Can the change to the wax be reversed? Use what happens when it cools as evidence.

2. Can cooling reverse the change to the egg white? Use evidence from the passage.

3. Which change can be reversed, melting chocolate or toasting bread? Tell what happens when each cools.

3 YOUR TURN

Your own words

Think of a change caused by heating that is not in the passage. Write two sentences: tell what heating did, then use what happens after cooling to say whether the change can be reversed.

ANSWER KEY

Heat Changes Things

GRADE 2 · P.2.5.4

PART 1 · READ AND MARK

Underline what heating did to each material, and circle what happened after it cooled to find evidence about which changes can be reversed. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Can the change to the wax be reversed? Use what happens when it cools as evidence.	**Yes. The melted wax gets hard again when it cools.**
2	Can cooling reverse the change to the egg white? Use evidence from the passage.	**No. The cooked egg white stays white and firm after it cools.**
3	Which change can be reversed, melting chocolate or toasting bread? Tell what happens when each cools.	**Melting chocolate can be reversed because the chocolate gets hard again when it cools. Toasting bread cannot be reversed because cooling does not make the toast soft, pale bread again.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

When I warmed an ice cube, it melted into water. In a freezer, the water froze again, so the change can be reversed.

Accept a different accurate example if the student describes a change caused by heating and uses evidence about cooling to support the claim. For melted ice, the water must cool enough to freeze again.