

Heat Changes Matter

Read how heating and cooling change solids and liquids.

2.3.c "heating and cooling can change the phases of matter."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each sentence that tells how heating or cooling changes matter. Circle the word or words that name what the matter becomes.

Maya's Changing Materials

- ① Maya puts a few ice cubes in a bowl on the kitchen table. Ice is a solid, so it keeps its own shape. The warm air gives the ice heat. After a while, the cubes become liquid water.
- ② Later, Maya pours the liquid water into an ice tray and places it in a freezer. The freezer cools the water. As heat leaves the water, it changes from a liquid into solid ice cubes again.
- ③ At snack time, Maya sees chocolate melt in a warm hand. Heating changes the solid chocolate to a liquid that can flow. When the melted chocolate is cooled in a refrigerator, it becomes a solid piece once more.

2 ANSWER WITH EVIDENCE _____ Use the passage

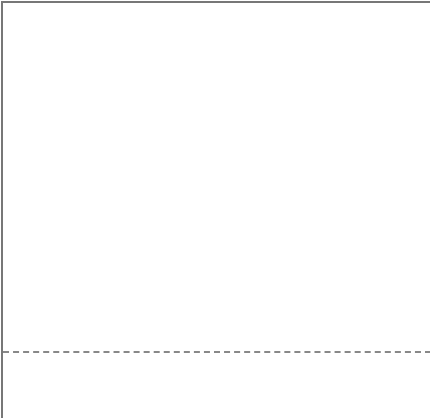
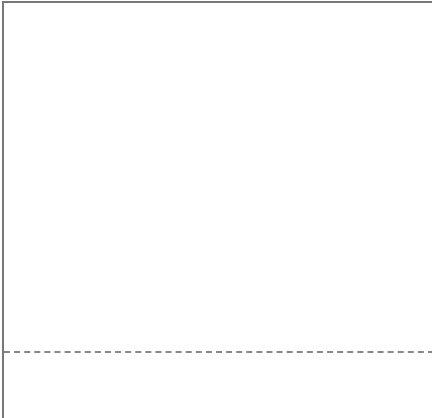
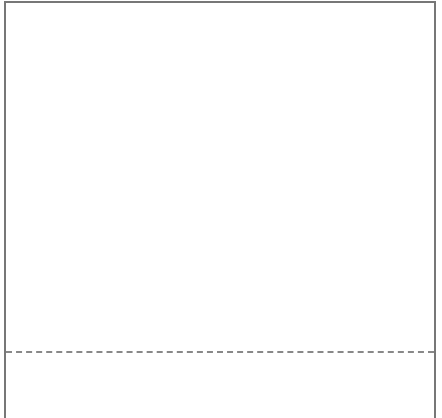
1 What change happens to the ice cubes after they get heat from the warm air?

2 How does the freezer change liquid water?

3 What happens to melted chocolate when it is cooled in a refrigerator?

3 YOUR TURN _____ Your own words

Choose a material not named in the reading, such as candle wax. In the three panels, draw it before heating, after heating, and after cooling. Label each picture solid or liquid, then write one sentence explaining both changes.

		
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PART 1 • READ AND MARK

Underline each sentence that tells how heating or cooling changes matter. Circle the word or words that name what the matter becomes. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What change happens to the ice cubes after they get heat from the warm air?	The solid ice cubes become liquid water.
2	How does the freezer change liquid water?	The freezer cools the water, and it changes into solid ice cubes.
3	What happens to melted chocolate when it is cooled in a refrigerator?	It becomes a solid piece again.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Panel 1: Solid candle wax. Panel 2: Liquid melted wax. Panel 3: Solid candle wax. Heating changed the solid wax to a liquid, and cooling changed it back to a solid.

Accept accurate examples in which heating changes a solid to a liquid and cooling changes that liquid back to a solid. Labels and the sentence should correctly match the student's drawings.