Grade 2 | Science

Week 16 Practice Workbook | Days 76-80

Read the matching Student Textbook lesson. Type into the answer fields, and save a completed copy. Print pages for drawing activities.

Day 76: Heating Changes Matter: Melting

Sample results: 30 minutes in a sunny window

Item	Before	After 30 minutes
Ice cube	Hard solid	Puddle of water
Pat of butter	Firm solid	Soft, with oily edges
Chocolate chip	Hard solid	Soft and melted
Crayon	Hard solid	No change
Pebble	Hard solid	No change

1. Which items in the sample table became liquid or melted?

2. Which items did not change?

3. Explain what heating did to the ice cube. Use the words solid and liquid.

Day 77: Cooling Changes Matter: Freezing

Sample observations

When	Solid or liquid?	What the scientist saw
Before freezing	Liquid	Orange juice that flows
After a night in the freezer	Solid	Hard orange cube
After one hour on the counter	Liquid	Orange juice in a puddle

1. In the sample, what happened to the juice in the freezer?

2. What happened when the frozen juice sat on the counter?

3. Use the sample observations as evidence to tell whether freezing juice can be undone.

Hands-on task: Freeze juice and let it melt

• With an adult, pour a little juice into two sections of an ice cube tray. Mark the level with tape.

• Observe the juice. Is it a solid or a liquid? Record what you see.

• Put the tray in the freezer overnight. The next day, observe and record.

• Set one frozen cube on a plate on the counter for one hour. Observe and record.

• Decide: can freezing juice be undone? Write your answer and your evidence.

When	Solid or liquid?	What I saw
Before freezing	____	_____
After a night in the freezer	____	_____
After one hour on the counter	____	_____

My evidence:

Day 78: Changes That Can Be Undone and Changes That Cannot

Before and after observations (an adult did all the heating)

Material	Before	After heating or cooling	After trying to change it back
Water put in the freezer	Clear liquid	Hard, clear ice	Warmed on the counter: clear liquid again
Egg cooked in a pan	Runny, clear and yellow	Firm, white and yellow	Cooled: still firm, white and yellow
Butter warmed in a pan	Firm, pale yellow	Melted yellow liquid	Cooled in the refrigerator: firm again
Bread toasted	Soft and white	Hard and brown	Cooled: still hard and brown

1. Using the table, which two changes went back to how they started?

2. Which two changes did not go back?

3. Choose one change from the table. Use its before and after observations as evidence to tell whether it can be undone.

Day 79: Evidence Test: Chocolate and Dough

Sample observations

Material	Before heating	While heating	After cooling
Chocolate	Hard brown chips	Smooth, runny liquid	Hard, solid chocolate in a new flat shape
Cookie dough	Soft, sticky and pale	Puffing up and turning brown	Firm, crisp and brown

1. In the sample, what was the chocolate like after it cooled?

2. In the sample, what was the dough like after it was baked and cooled?

3. Use the sample observations to argue which change can be undone and which cannot.

Hands-on task: Compare melted chocolate and baked dough

• Watch an adult melt a few chocolate chips in a bowl set in warm water. Observe the chips before and while they melt.

• Watch the adult pour the melted chocolate onto wax paper. Let it cool and harden. Observe it again.

• Watch an adult bake a small ball of cookie dough in an oven. Observe the dough before baking.

• Let the baked cookie cool. Observe it again.

• Record what you saw. Then decide which change can be undone, using only your observations.

Material	Before heating	While heating	After cooling
Chocolate	_____	_____	_____
Cookie dough	_____	_____	_____

The change that can be undone, and my evidence:

Day 80: Independent Check: Heating and Cooling

Before and after observations (an adult did all the heating)

Material	Before	After heating or cooling	After trying to change it back
Broken crayon pieces warmed in an oven	Hard, solid pieces	Melted wax liquid	Cooled: one hard, solid crayon
Pancake batter cooked on a griddle	Runny liquid	Firm, golden pancake	Cooled: still a firm pancake
Ice pop left in the sun	Hard, frozen solid	Melted, sticky liquid	Put back in the freezer: hard, frozen solid

Answer on your own. An adult may read the questions aloud but should not give the answers.

1. Which material became a single new crayon after it cooled?

2. What was the pancake like after it cooled?

3. Choose one change from the table that can be undone and one that cannot. Use the observations as evidence for both.

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