SCIENCE

Heating and cooling

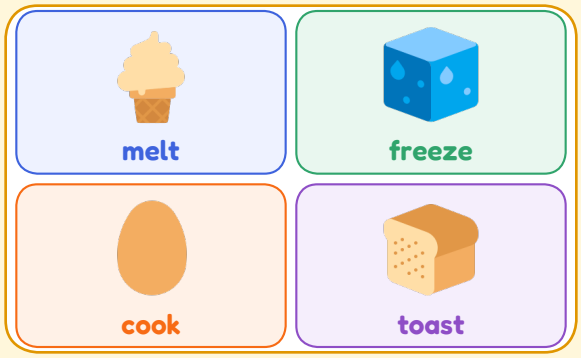


Name _____ Date _____

I can tell how heating and cooling change matter.

1 How it works

Heating and cooling can change matter. Heat melts ice into water and melts chocolate and butter. Cooling freezes water into ice. Some changes can be undone: melted chocolate hardens again when it cools. Some changes cannot be undone: once bread is toasted or an egg is cooked, it cannot change back.



2 Heat it or cool it? Circle one.

To melt ice cream	heat	cool
To make juice into ice pops	heat	cool
To cook an egg	heat	cool
To make toast	heat	cool
To make ice cubes	heat	cool

How did I do? ☆ ☆ ☆

Scan for more free practice

SCIENCE · HEATING AND COOLING

Can it change back?



Name _____ Date _____

I can tell which changes can be undone.

1 Can you undo it? Circle yes or no.

1. Ice melts into water.	yes	no
2. Bread is toasted.	yes	no
3. Chocolate melts in the sun.	yes	no
4. An egg is cooked.	yes	no
5. Water freezes into ice.	yes	no

2 What happens? Draw a line.

butter in a hot pan	melts into a liquid
juice in the freezer	turns brown and crunchy
a raw egg in a pan	freezes into an ice pop
bread in a toaster	cooks and turns solid

How did I do? ☆ ☆ ☆

Scan for more free practice

SCIENCE · HEATING AND COOLING

Think like a scientist



Name _____ Date _____

🎯 **I can explain which changes can be undone.**

1 Think about it ❓

1. Why does ice cream melt in the sun? _____
2. How can you turn water into ice? _____
3. Can you undo toasting bread? Why? _____
4. Name a change you can undo. _____

2 True or false? Circle it. ✅

1. Melted chocolate can harden again.	true	false
2. Cooling can turn water into ice.	true	false
3. Heat can melt ice.	true	false
4. A cooked egg can become raw again.	true	false
5. Toast can turn back into bread.	true	false

3 Draw something before and after it is heated.



How did I do? ☆ ☆ ☆

Scan for more free practice

SCIENCE · HEATING AND COOLING

Try it: the chocolate melt

Name _____ Date _____

🎯 I can test how heating and cooling change chocolate.

1 You need

- 3 small pieces of chocolate
- 3 paper cups
- a sunny spot
- a shady spot
- a fridge

2 What to do

1. Put one piece of chocolate in each cup.
2. Put one cup in the sun, one in the shade and one in the fridge.
3. After 20 minutes, look and gently touch. Which piece melted?
4. Put the melted piece in the fridge. Does it harden again?

3 I predict

Which piece will melt the most?

_____

_____

4 What I see

Place	After 20 minutes	Back in the fridge
sun		
shade		
fridge		

How did I do? ☆ ☆ ☆

Scan for more free practice

FOR TEACHERS AND PARENTS

Answer key: heating and cooling

1 Page 1

Heat or cool: 1) heat; 2) cool; 3) heat; 4) heat; 5) cool.

2 Page 2

Undo: 1) yes; 2) no; 3) yes; 4) no; 5) yes.

Changes: 1) butter in a hot pan: melts into a liquid; 2) juice in the freezer: freezes into an ice pop; 3) a raw egg in a pan: cooks and turns solid; 4) bread in a toaster: turns brown and crunchy.

3 Page 3

Think: 1) The sun heats it; 2) Cool it in a freezer; 3) No, the heat changed it for good; 4) Melting or freezing water or chocolate.

True or false: 1) true; 2) true; 3) true; 4) false; 5) false.

Drawing: answers will vary, for example a raw egg and a fried egg, or an ice cube and a puddle.

4 Page 4: Try it!

The chocolate in the sun melts the most, the one in the shade softens a little, and the one in the fridge stays hard. When the melted chocolate cools in the fridge, it hardens again. Melting chocolate is a change that can be undone, but cooking an egg is not.

5 Teaching tip 💡

Make a two-column chart called Can we undo it? and add every change the class notices during the week, from melting ice to baked bread.

Safety: check for food allergies before anyone tastes the chocolate. A grown-up handles anything hot.

Scan for more free practice