

Soup Heat Trail

Track how heat moves and changes temperatures.

SC.4.P.11.1 "Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each hotter object and circle each colder object. Draw a small arrow from the hotter object toward the colder object to show the direction heat flows.

Lunch Outside

- ① On a chilly morning, Maya opens a thermos of vegetable soup at a park. The soup is much warmer than the air around it. Heat energy moves from the hot soup to the colder air. As the soup loses heat, its temperature slowly drops. The nearby air gains a tiny amount of heat, but a large amount of air changes temperature only a little.
- ② Next, Maya places a metal spoon that has been sitting outside into the soup. At first, the spoon is colder than the soup. Heat flows from the soup into the spoon. The spoon's temperature rises, so it feels warmer in Maya's hand. The soup gives away some heat, so its temperature falls a little more.
- ③ After Maya removes the spoon, she sets it on a cool picnic table. Now the spoon is warmer than the table. Heat flows from the spoon to the cooler table. The spoon loses heat and cools down. The table gains heat where the spoon touches it, although the thick table may not feel much warmer.

2 ANSWER WITH EVIDENCE Use the passage

1 In the first paragraph, which object is hotter, and which object is colder?

2 What happens to the soup's temperature as heat moves from the soup to the air?

3 What happens to the spoon's temperature after Maya puts it into the soup?

4 After Maya sets the spoon on the picnic table, which way does heat flow?

3 YOUR TURN Your own words

Choose a hot object and a colder object that can touch. In Panel 1, draw and label them before they touch, and show an arrow for heat flow. In Panel 2, draw and label how each object's temperature changes, then write one sentence explaining the heat flow.

	
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PART 1 • READ AND MARK

Underline each hotter object and circle each colder object. Draw a small arrow from the hotter object toward the colder object to show the direction heat flows. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	In the first paragraph, which object is hotter, and which object is colder?	The soup is hotter, and the air is colder.
2	What happens to the soup's temperature as heat moves from the soup to the air?	The soup loses heat, so its temperature slowly drops.
3	What happens to the spoon's temperature after Maya puts it into the soup?	Heat flows from the soup into the spoon, and the spoon's temperature rises.
4	After Maya sets the spoon on the picnic table, which way does heat flow?	Heat flows from the warmer spoon to the cooler table.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Panel 1: A warm cookie touches a cool plate. An arrow points from the cookie to the plate. Panel 2: The cookie is cooler, and the plate is warmer. Sentence: Heat flowed from the warmer cookie to the cooler plate.

Accept any reasonable pair in which one object begins hotter than the other. The arrow must point from the hotter object to the colder object, and the hotter object should cool while the colder object warms.