

Sea Breeze

Caroline was hot. She was sticky and sweaty and in a bad mood. “Why is it so hot here?” she complained.

Caroline and her family were sitting on the porch of their rented beach house. The beach vacation was supposed to be relaxing, but Caroline was too hot to relax. “Let’s walk down to the beach,” said her mom. “It will be cooler near the ocean.”

Her mom was right. It *was* cooler near the ocean. There was a breeze blowing off the water. It felt great. Caroline and her family spent the afternoon splashing in the waves and building sandcastles on the shore. Caroline was relieved. But she wondered. *Why* was it cooler?

On the walk home, Caroline asked her dad. “Why is it cooler by the water?”

“Let’s do an experiment to see,” he replied.

When they got back to the beach house, Caroline helped her dad set up two glass dishes. They got some sand that Caroline’s brother had brought back from the beach in a pail. Caroline’s dad heated the sand on the stove until it was hot to touch. Then he poured it in one of the dishes.

Caroline filled the other dish with ice water. She and her dad put the dishes on the table. They made sure to put them in a place where there was

no wind. Her dad even used a cardboard box to make sure to block any breeze that might blow in if someone opened the door.

Next, Caroline’s dad lit a stick of incense. It made a lot of smoke. He handed it to Caroline and she held it between the two dishes. The smoke started to drift towards the dish with the sand.

“So the air flows from the cooler water to the warmer sand?” asked Caroline.

“Exactly!” said her dad. “Air rises when it gets hot. So the air above the hot sand rises and becomes less dense. The opposite thing happens over the cooler water. The air gets denser. To create balance, the cool air from over the water moves to the sand.”

“And it makes us feel cooler!” Caroline exclaimed. “Can we go back tomorrow?”

“Of course!” said her dad. And they did.



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NAME: _____ DATE: _____

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 - a. She didn't like the beach
 - b. She was too hot
 - c. She had to do science homework
 - d. Her brother was bothering her

2. Which direction did the smoke drift in Caroline's experiment?
 - a. Toward the sand
 - b. Toward the water
 - c. It didn't move at all
 - d. It went in a circle

3. What did Caroline put in her dish?
 - a. Hot sand
 - b. Cold sand
 - c. Hot water
 - d. Cold water

4. Why did they do the experiment in a place with no wind?
 - a. So the sand wouldn't cool off
 - b. So they wouldn't be cold
 - c. So the wind wouldn't affect the results
 - d. So the water wouldn't spill

Instructions for teachers:

These questions can be used to assess understanding of the reading passage.

The item in bold is the correct answer for each question.

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