

# Puddle Detective

Trace how changing one condition affects a result.

**3.5.B** “identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems;”

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## 1 READ AND MARK \_\_\_\_\_ Read it twice

**YOUR JOB** Underline each cause and circle the effect it produces. Number 1, 2, and 3 beside three cause-and-effect relationships that explain puddle drying.

### Why Did One Puddle Dry First?

- ① After a morning rain, Maya noticed that puddles on the playground did not disappear at the same speed. Puddles in sunny places became smaller before lunch. Puddles under a bench stayed longer. Maya wondered what caused one puddle to dry faster than another. She predicted that sunlight warmed the water and made it change into water vapor faster.
- ② To investigate, Maya filled two same-sized trays with equal amounts of water. She put one tray in sunlight and one tray in shade. She checked both trays every hour. By noon, the sunny tray had less water. The shaded tray had more water left. Because the trays began alike, Maya could connect the different amount of sunlight to the different drying speeds.
- ③ Sunlight was not the only cause that could affect drying. Wind can move moist air away from water, which may help more water vapor enter the air. A warm, windy day could dry a puddle quickly. Maya's test showed one cause, sunlight, while keeping the tray size and starting water amount the same. Scientists change one condition so they can investigate its effect.

**2 ANSWER WITH EVIDENCE** \_\_\_\_\_ Use the passage

**1** What condition did Maya change in her tray test?

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**2** What effect did sunlight have on the water by noon?

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**3** Why did Maya use trays that were the same size and had equal amounts of water?

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**4** According to the passage, how could wind cause a puddle to dry faster?

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**3 YOUR TURN** \_\_\_\_\_ Your own words

Plan a fair test to investigate whether a place in sun or shade changes how fast an ice cube melts. Write 3 sentences. Name what you will change, what you will keep the same, and what effect you predict.

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**PART 1 • READ AND MARK**

Underline each cause and circle the effect it produces. Number 1, 2, and 3 beside three cause-and-effect relationships that explain puddle drying. Accept any marking that follows this job and points at the right text.

**PART 2 • ANSWERS**

| # | QUESTION                                                                       | ANSWER                                                                                                                |
|---|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1 | What condition did Maya change in her tray test?                               | <b>She changed whether a tray was in sunlight or in shade.</b>                                                        |
| 2 | What effect did sunlight have on the water by noon?                            | <b>The tray in sunlight had less water, so it dried faster.</b>                                                       |
| 3 | Why did Maya use trays that were the same size and had equal amounts of water? | <b>She kept those conditions the same so she could connect the amount of sunlight to the different drying speeds.</b> |
| 4 | According to the passage, how could wind cause a puddle to dry faster?         | <b>Wind moves moist air away from the water, which may help more water vapor enter the air.</b>                       |

**PART 3 • YOUR TURN (SAMPLE ANSWER)**

I will put equal-sized ice cubes on identical plates, one in sunlight and one in shade. I will keep the plates and the starting ice-cube sizes the same. I predict the ice cube in sunlight will melt faster because sunlight warms it.

Accept answers that correctly identify sunlight as the changed condition and faster drying as its effect. For the open task, accept any fair comparison that changes sun or shade, keeps relevant conditions the same, and gives a reasonable prediction.