

Pill Bug Detectives

Read how a team turns a question into an investigation.

SC.3.N.1.1 "Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the team's question, number the steps they used to test it, and circle the sentence that gives an explanation based on observations.

Damp or Dry?

- ① During recess, Maya noticed pill bugs under a damp flowerpot. She wondered, "Do pill bugs choose damp places or dry places?" Her team decided to investigate. They found a shallow tray, two equal pieces of cardboard, water, a spoon, and six pill bugs. They planned to compare two places while keeping the tray, cardboard size, and number of pill bugs the same.
- ② First, the team placed one dry cardboard piece on one side of the tray. They sprinkled water on the other cardboard piece until it was damp. Then they put all six pill bugs in the middle. Every minute for five minutes, they counted the bugs on each side. They wrote each count in a notebook. They did not move the bugs during counting.
- ③ At the end, most pill bugs were on the damp cardboard at each count. The team explained that pill bugs chose the damp place in this test. Their explanation matched their observations, but they knew one short investigation could not prove what every pill bug always chooses. They could repeat the test with new pill bugs or switch the cardboard sides to check their result.

2 ANSWER WITH EVIDENCE Use the passage

1 What question did Maya's team investigate?

2 Name two things the team kept the same during the investigation.

3 How did the team collect observations in a systematic way?

4 What observation supported the team's explanation?

3 YOUR TURN Your own words

Plan and describe a safe investigation about the natural world in 4 to 6 sentences. Include a question, what you will change, two things you will keep the same, how you will record observations, and an explanation using your result.

PART 1 • READ AND MARK

Underline the team's question, number the steps they used to test it, and circle the sentence that gives an explanation based on observations. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What question did Maya's team investigate?	They investigated whether pill bugs choose damp places or dry places.
2	Name two things the team kept the same during the investigation.	Answers include the tray, the cardboard size, and the number of pill bugs.
3	How did the team collect observations in a systematic way?	They counted the pill bugs on each side every minute for five minutes and wrote each count in a notebook.
4	What observation supported the team's explanation?	Most pill bugs were on the damp cardboard at each count.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I asked, "Do equal ice cubes melt faster in sunlight or shade?" I put one equal-sized ice cube in sunlight and one in shade. I used matching plates and started both tests at the same time. Every two minutes, I recorded whether each cube had melted. The ice cube in sunlight melted completely first. I explained that, in this test, sunlight made the ice cube melt faster because it received more heat.

Accept equivalent descriptions of the team's question, controls, data collection, and evidence. For Your Turn, accept safe investigations with a testable question, fair comparison, recorded observations, and an explanation connected to the stated result.