

Pill Bug Detectives

Use counts and observations to support, then question, an explanation.

3.1.d.i “constructing and critiquing conclusions and explanations use evidence (measurements, observations, patterns) to construct or support an explanation”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the measurements and observations that are evidence. Circle the conclusion, then number the sentence that tells how the test could be stronger.

A Damp-Side Test

- ① Maya wondered whether pill bugs choose a moist place or a dry place. She put ten pill bugs in the middle of a choice box. One side had damp paper towels. The other side had dry paper towels. Both sides were the same size and had the same amount of shade. Maya counted the pill bugs on each side every minute for five minutes.
- ② At the first count, six pill bugs were on the damp side and four were on the dry side. At minutes two, three, four, and five, the damp-side counts were seven, eight, eight, and eight. Maya also observed that several pill bugs stayed together under the damp towel. Only two pill bugs were on the dry side at the final count.
- ③ Maya concluded that the pill bugs preferred the damp side of this box. Her counts support that conclusion because more pill bugs were on the damp side at every count. Still, one test with ten pill bugs cannot show what all pill bugs will do. To strengthen the explanation, Maya could repeat the test with new groups and switch which side has the damp towel.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What conclusion did Maya make about the pill bugs?

2 Give two measurements from the test that support Maya's conclusion.

3 How does the pattern in Maya's counts support her conclusion?

4 Why is Maya's conclusion limited? Name one way she could make her explanation stronger.

3 YOUR TURN _____ Your own words

A student rolls the same toy car down a smooth ramp and a rough ramp. The car rolls 85 cm on the smooth ramp and 40 cm on the rough ramp. Write exactly two sentences. State a conclusion using the measurements, then tell one way to make the explanation stronger.

PART 1 • READ AND MARK

Underline the measurements and observations that are evidence. Circle the conclusion, then number the sentence that tells how the test could be stronger. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What conclusion did Maya make about the pill bugs?	Maya concluded that the pill bugs preferred the damp side of the box.
2	Give two measurements from the test that support Maya's conclusion.	At the first count, 6 pill bugs were on the damp side and 4 were on the dry side. At the final count, 8 were on the damp side and 2 were on the dry side.
3	How does the pattern in Maya's counts support her conclusion?	More pill bugs were on the damp side at every count, and the damp-side count rose from 6 to 8.
4	Why is Maya's conclusion limited? Name one way she could make her explanation stronger.	She did only one test with ten pill bugs, so it cannot show what all pill bugs will do. She could repeat the test with new groups or switch the damp towel to the other side.

PART 3 • YOUR TURN (SAMPLE ANSWER)

The toy car rolled farther on the smooth ramp because it traveled 85 cm there but only 40 cm on the rough ramp. The student should repeat the rolls several times and compare the results.

Accept a conclusion that the smooth ramp allowed the car to roll farther when it is supported by both measurements. Accept a reasonable improvement, such as repeating trials, using the same starting point, or testing more than one car.