

Pill Bug Detectives

Compare evidence from three field teams.

6.1.c.iii "interpreting, analyzing, and evaluating data compare and contrast data collected by different groups and discuss similarities and differences in findings"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline details about how the teams collected data, and circle findings that show a similarity or difference between groups. Number your three strongest circled findings so you can use them as evidence.

Three Teams, Three Sites

- ① Three science teams investigated where pill bugs were most common near their school. Each team placed a 30-centimeter square frame on the ground, counted pill bugs for five minutes, and repeated the count three times. The teams shared their average counts and soil observations. The table shows that their sites were not the same.

PILL BUG COUNTS FROM THREE TEAMS

Group	Site	Average Pill Bugs	Soil Observation
A	Forest edge	12	Moist
B	Garden edge	3	Dry
C	Compost bin	15	Moist

- ② Groups A and C found more pill bugs than Group B. They also both described their soil as moist, while B called its soil dry. Still, A and C did not have identical results, because the compost bin had a higher average than the forest edge. The teams can compare patterns, but they cannot prove moisture alone caused the difference.
- ③ To evaluate the findings, the class checked how the data were collected. All teams used the same frame size, counting time, and number of trials. That makes their methods similar. However, each team chose a different location, and the locations differed in more than moisture. A stronger follow-up investigation would sample several moist and dry spots in each location type.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Which two groups reported the same soil condition? How did their average pill bug counts compare with Group B's count?

2 Compare the highest and lowest average counts. Which groups had them, and what was the difference in pill bugs?

3 Name one way all three teams collected data similarly and one way their investigation sites differed.

4 Why do the results not prove that moisture alone caused the differences in pill bug counts?

3 YOUR TURN _____ Your own words

Two groups each used three 25-centimeter squares to count earthworms: North Garden averaged 8 in damp soil, and South Garden averaged 2 in dry soil. Write exactly three sentences that compare their findings, name one method similarity, and explain one reason the results do not prove moisture caused the difference.

PART 1 • READ AND MARK

Underline details about how the teams collected data, and circle findings that show a similarity or difference between groups. Number your three strongest circled findings so you can use them as evidence. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which two groups reported the same soil condition? How did their average pill bug counts compare with Group B's count?	Groups A and C both reported moist soil. Their averages, 12 and 15 pill bugs, were both higher than Group B's average of 3.
2	Compare the highest and lowest average counts. Which groups had them, and what was the difference in pill bugs?	Group C had the highest average, 15, and Group B had the lowest, 3. The difference was 12 pill bugs.
3	Name one way all three teams collected data similarly and one way their investigation sites differed.	All teams used the same frame size, counting time, and number of trials. Their sites differed, such as a forest edge, garden edge, and compost bin.
4	Why do the results not prove that moisture alone caused the differences in pill bug counts?	The teams used different locations, and those locations could differ in other ways besides moisture.

PART 3 • YOUR TURN (SAMPLE ANSWER)

North Garden found an average of 8 earthworms per square, while South Garden found 2. Both groups used three 25-centimeter squares, so their methods were similar. The north soil was damp and the south soil was dry, but the class should sample more damp and dry spots before saying moisture caused the difference.

Accept equivalent comparisons that use the table data and identify shared methods or different site conditions. For the open response, accept a reasonable limitation or follow-up step that recognizes more than one variable may differ.