

Seed Data Detectives

Read a data table, find patterns, and evaluate a claim.

5.1.c.i "interpreting, analyzing, and evaluating data represent and analyze data using tables and graphs"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle the highest and lowest values in the data table. Underline words in the passage that tell you to compare data, evaluate a claim, or consider a fair test.

Which Water Temperature Helped?

- ① A fifth-grade class tested how water temperature affects bean seed germination. They placed 20 bean seeds on damp paper towels in each of four containers. Every container received the same kind of seeds, the same amount of light, and equal water. Only water temperature changed. After seven days, students counted seeds with a visible root.

BEAN SEEDS THAT GERMINATED AFTER SEVEN DAYS

Water temperature	Germinated seeds
10°C	6
20°C	15
30°C	18
40°C	4

- ② To analyze the results, students should identify the highest and lowest counts. Next, they can compare the counts in temperature order to look for a rise, fall, or change in the pattern. A result from one temperature does not prove that temperature alone caused the difference. The other test conditions matter when students evaluate a claim.
- ③ The class should be careful about one test. A container might have received slightly more water, or a few seeds may not have been healthy. Repeating the investigation with new groups of seeds would make the conclusion stronger. The students could graph temperature on the bottom axis and number of germinated seeds on the side axis to show the pattern.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Which water temperature had the most germinated bean seeds? How many seeds germinated?

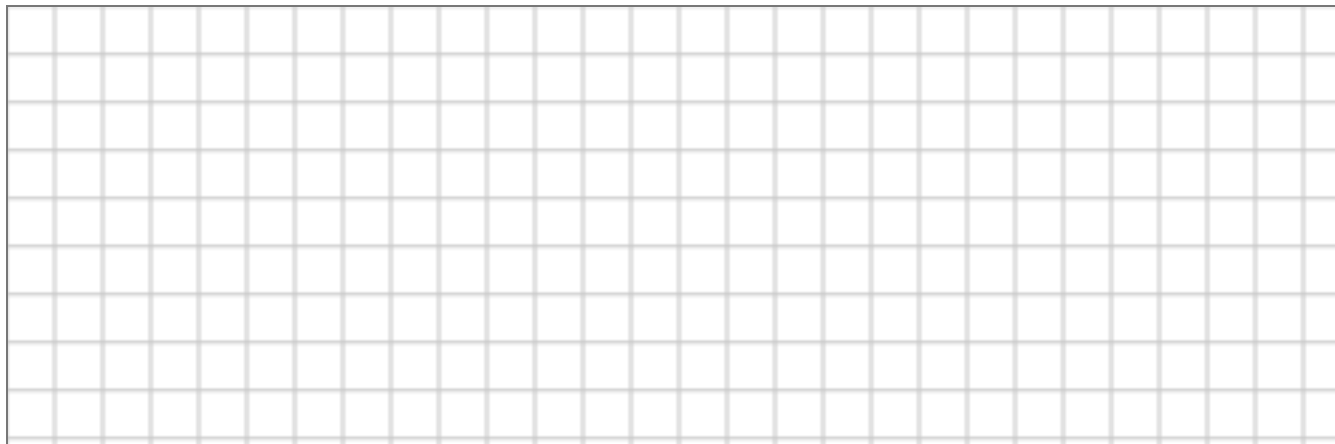
2 How many more seeds germinated at 30°C than at 40°C?

3 Describe the pattern in germination from 10°C to 30°C. Then describe what happened at 40°C.

4 A student says, "Germination always increases as water temperature rises." Is this claim supported by the table? Use data as evidence.

3 YOUR TURN _____ Your own words

Use the grid to make a bar graph of the table data. Label both axes, give your graph a title, and write one sentence below the graph that tells the main pattern you see.



PART 1 • READ AND MARK

Circle the highest and lowest values in the data table. Underline words in the passage that tell you to compare data, evaluate a claim, or consider a fair test. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which water temperature had the most germinated bean seeds? How many seeds germinated?	30°C, with 18 germinated seeds.
2	How many more seeds germinated at 30°C than at 40°C?	14 more seeds.
3	Describe the pattern in germination from 10°C to 30°C. Then describe what happened at 40°C.	Germination increased from 6 seeds at 10°C to 15 at 20°C and 18 at 30°C. At 40°C, it dropped to 4 seeds.
4	A student says, "Germination always increases as water temperature rises." Is this claim supported by the table? Use data as evidence.	No. Germination increased through 30°C, but it dropped from 18 seeds at 30°C to 4 seeds at 40°C.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Bar graph titled "Bean Seed Germination at Different Water Temperatures," with bars of 6 at 10°C, 15 at 20°C, 18 at 30°C, and 4 at 40°C. Germination increased from 10°C to 30°C, then decreased at 40°C.

Accept equivalent descriptions of the trend and correct calculations based on the table. For the graph, accept accurately plotted bars, clear axis labels, and a claim that matches the data.