

Sprout Number Detectives

Use subtraction to compare growth patterns in a fair test.

3.2.C “use mathematical calculations to compare patterns and relationships; and”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB In the table, underline the height numbers and number each day-to-day change for both sprouts from 1 to 3, so you can compare their patterns.

Two Places, Two Sprouts

- ① To test how light affects growth, Elena planted two bean seeds in matching cups. Both cups had the same soil, water, and warm room. One cup sat by a sunny window. The other sat in a shaded spot. Each morning, Elena measured each sprout from the soil to its tallest tip. Her measurements are in the table.

ELENA'S SPROUT MEASUREMENTS

Day	Sunny-window sprout, cm	Shaded sprout, cm
1	2	2
2	4	3
3	6	4
4	8	5

- ② Elena compared measurements by subtracting one height from another. She could subtract a plant's first height from its later height to find how much it grew. She could also subtract the shaded height from the sunny height on the same day. Repeating these calculations across days helped her look for a pattern instead of using one measurement alone.
- ③ The numbers can show a relationship between light and growth in this test. A fair comparison matters because soil, water, cup size, and temperature can also affect a plant. Elena tested only two locations, so her data are evidence from these sprouts. More plants and more days would give stronger evidence about the light pattern.

2

ANSWER WITH EVIDENCE

Use the passage

- 1
- How many centimeters did the sunny-window sprout grow from day 1 to day 4? Show the subtraction.
- 2
- How many centimeters did the shaded sprout grow from day 1 to day 4? Show the subtraction.
- 3
- On which day was the sunny-window sprout 2 cm taller than the shaded sprout? Show the subtraction.
- 4
- If the sunny-window sprout keeps the same day-to-day growth pattern, how tall will it be on day 5? Explain your calculation.

3

YOUR TURN

Your own words

Make a three-day data table for two bean plants in different places. Choose reasonable heights, then subtract Plant B from Plant A in the Difference column for each day.

DAY	PLANT A, CM	PLANT B, CM	DIFFERENCE, A - B, CM

PART 1 • READ AND MARK

In the table, underline the height numbers and number each day-to-day change for both sprouts from 1 to 3, so you can compare their patterns. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How many centimeters did the sunny-window sprout grow from day 1 to day 4? Show the subtraction.	6 cm, because $8 - 2 = 6$.
2	How many centimeters did the shaded sprout grow from day 1 to day 4? Show the subtraction.	3 cm, because $5 - 2 = 3$.
3	On which day was the sunny-window sprout 2 cm taller than the shaded sprout? Show the subtraction.	Day 3, because $6 - 4 = 2$.
4	If the sunny-window sprout keeps the same day-to-day growth pattern, how tall will it be on day 5? Explain your calculation.	10 cm. Add 2 cm to the day 4 height: $8 + 2 = 10$.

PART 3 • YOUR TURN (SAMPLE ANSWER)

DAY	PLANT A, CM	PLANT B, CM	DIFFERENCE, A - B, CM
Day 1	3	2	1
Day 2	5	3	2
Day 3	7	4	3

Accept any reasonable set of heights with correct subtraction in the Difference column. The data should allow a student to compare how the two plants change over time.