

Evidence Detectives

Measure, record, and compare investigation data.

GRADE 4 • TEKS 4.1

4.1 "Scientific and engineering practices. The student asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena..."

NAME _____

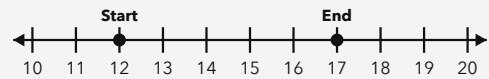
DATE _____

USE DATA AS EVIDENCE

Label what you change and what you measure. Record each measurement with its unit. To compare two measurements in the same unit, subtract to find the difference.

WORKED EXAMPLE

A Celsius thermometer showed 12°C at the start and 17°C at the end. How many degrees did it rise?



1. Start temperature: 12°C .
2. End temperature: 17°C .
3. Subtract: $17 - 12 = 5$.
4. The temperature rose 5°C .

Answer: 5°C

PRACTICE 4 problems

- 1** A rock has a mass of 240 g. After it dries, it has a mass of 226 g. How much mass was lost?

ANSWER _____

- 2** A graduated cylinder holds 36 mL of water. It then holds 49 mL. How much water was added?

ANSWER _____

- 3** A student counts 7 pill bugs under a log and 11 under a nearby rock. How many pill bugs were counted altogether?

ANSWER _____

- 4** A class tests how shade affects soil temperature. Write two table headings, one for the condition and one for the measurement.

ANSWER _____

APPLY IT Show your work

- 1** The bar graph shows bean seeds that sprouted in two locations. Which location had more sprouts, and by how many?

BEAN SEEDS SPROUTED



ANSWER _____

- 2** The garden club keeps the same soil, pots, and bean seeds. Plant A gets 25 mL of water each day. Plant B gets 40 mL. After 6 days, A is 13 cm tall and B is 19 cm tall. Which water amount was linked to the taller plant, and how much taller was it?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A beaker starts with 50 mL of water and loses 4 mL each hour. List the amount after 1, 2, and 3 hours. Then state the input-output rule in words.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A rock has a mass of 240 g. After it dries, it has a mass of 226 g. How much mass was lost?	14 g
2	A graduated cylinder holds 36 mL of water. It then holds 49 mL. How much water was added?	13 mL
3	A student counts 7 pill bugs under a log and 11 under a nearby rock. How many pill bugs were counted altogether?	18 pill bugs
4	A class tests how shade affects soil temperature. Write two table headings, one for the condition and one for the measurement.	Light condition; Soil temperature (°C)

PART 2 • APPLY IT

1. **Sunny window, 6 more seeds.** Compare the bar values. Subtract 3 from 9 to find the difference.
2. **40 mL, 6 cm taller.** Plant B received 40 mL and measured 19 cm. Subtract 13 from 19.

CHALLENGE

46 mL, 42 mL, 38 mL. Subtract 4 mL for each hour.

Accept equivalent table headings that clearly name the light condition and soil temperature in °C. For the challenge, accept an equivalent rule such as "water amount decreases by 4 mL each hour."