

Measure It Fairly

Plan consistent metric measurements for a plant-growth investigation.

5.1.b.iv "planning and carrying out investigations take metric measurements using appropriate tools"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the words that name a measuring tool or metric unit. Number 1, 2, and 3 beside the steps Maya uses to measure height accurately.

Measuring Bean Seedlings

- ① To test how shade affects bean seedling growth, Maya plans an investigation with two groups of identical plants. She keeps the soil, pot size, water amount, and starting day the same. One group sits near a sunny window, and the other sits under a shade cloth. She will measure each plant once every three days for twelve days.
- ② Before measuring, Maya places a metric ruler beside one seedling. She lines the ruler's zero mark with the soil surface and reads the mark level with the tallest tip, without bending the plant. She records height in centimeters, written cm. A ruler is appropriate because height is a length, not a mass, temperature, or liquid volume.
- ③ At each check, Maya measures all plants in the same way and writes each result with its unit in a data table. If a seedling is 14 centimeters tall, she writes 14 cm, not just 14. After twelve days, she can compare the groups' height changes. Careful metric measurements make the investigation fair and help others understand her results.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What tool does Maya use, and what quantity does it measure?

2 How does Maya position and read the ruler to measure a seedling correctly?

3 How should Maya record a seedling that is fourteen centimeters tall?

4 Why does Maya measure every plant in the same way and record the unit with each result?

3 YOUR TURN _____ Your own words

Plan a three-check investigation that measures the height of a plant or another growing living thing. Complete the table with a metric tool, a metric unit, and the same measurement method for each check.

PLANNED CHECK	WHAT I WILL MEASURE	METRIC TOOL	UNIT	HOW I WILL MEASURE

PART 1 • READ AND MARK

Underline the words that name a measuring tool or metric unit. Number 1, 2, and 3 beside the steps Maya uses to measure height accurately. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What tool does Maya use, and what quantity does it measure?	She uses a metric ruler to measure the seedlings' height, which is a length.
2	How does Maya position and read the ruler to measure a seedling correctly?	She lines the ruler's zero mark up with the soil surface and reads the mark level with the tallest tip without bending the plant.
3	How should Maya record a seedling that is fourteen centimeters tall?	14 cm
4	Why does Maya measure every plant in the same way and record the unit with each result?	Using the same method makes the investigation fair. Recording units makes the results clear and understandable.

PART 3 • YOUR TURN (SAMPLE ANSWER)

PLANNED CHECK	WHAT I WILL MEASURE	METRIC TOOL	UNIT	HOW I WILL MEASURE
Day 0	Sunflower seedling height	Metric ruler	cm	Put zero at the soil surface and read the tallest tip.
Day 3	Sunflower seedling height	Metric ruler	cm	Put zero at the soil surface and read the tallest tip.
Day 6	Sunflower seedling height	Metric ruler	cm	Put zero at the soil surface and read the tallest tip.

Accept equivalent descriptions of lining up the ruler and reading the tallest tip. For the open task, accept any appropriate metric tool and unit that match the quantity measured, provided the method is consistent across checks.