Measure It and Make a Line Plot

Measure six lengths in centimeters and show the data with X marks

Name: _____ Date: _____

Part 1: Measure the strips

You need: a ruler and six classroom measurement strips labeled A-F.

Measure each strip from one end to the other. Put the ruler's 0 at the end of the strip. Record the length to the nearest whole centimeter.

Strip	Length in centimeters
A	
B	
C	
D	
E	
F	

Check: I measured and recorded **6** lengths. Yes / Not yet

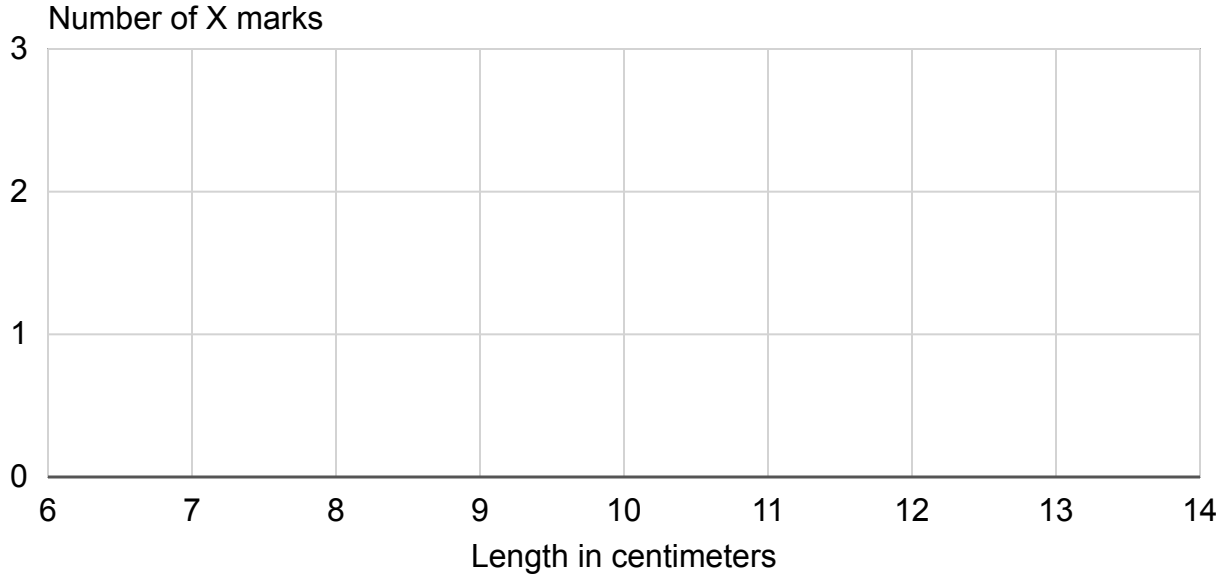
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Part 2: Put your data on a line plot

A line plot uses an X mark for each measurement. Write one X above the matching length for every strip you measured. Stack X marks when two strips have the same length.



Count check: Count all of your X marks. I have _____ X marks. It should equal the number of strips measured.

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Answer key and teaching notes

Materials supplied in this worksheet: measurement-recording table, blank line-plot graph, and count check. **Additionally needed:** one centimeter ruler per student or pair; six cardstock measurement strips labeled A-F; pencils. Prepare strips that are 2 cm wide and exactly these lengths: A = 7 cm, B = 9 cm, C = 9 cm, D = 11 cm, E = 11 cm, F = 13 cm. Cut square ends. Do not write the lengths on the student-facing side. Shuffle the strips before placing them at each work area.

Setup: Print and supply all student pages, keeping teacher-key pages separate. Place the six labeled strips and a ruler at each student or pair's workspace. Demonstrate ruler placement with a different object, such as a 10-cm paper strip, so the answer measurements are not shown.

Teacher-read script: “Today you will make your own data by measuring. Put the 0 on your ruler at one end of a strip. Read the number at the other end. Measure every strip, then use one X on the line plot for each measurement. If lengths match, stack the X marks. Finally, count your X marks. You should have one mark for each strip.”

Observe: During Part 1, look for the ruler zero aligned with an end and a whole-centimeter recording for each labeled strip. During Part 2, count the student's marks and compare each mark with the table. Accept measurements and plot placement that match the prepared strips; if a strip was cut slightly differently, accept the correctly measured nearest whole unit and a matching six-mark plot. Prompt, “Where does the ruler start?” rather than supplying a length.

Answers:

1. Part 1 table: A 7 cm; B 9 cm; C 9 cm; D 11 cm; E 11 cm; F 13 cm.
2. Part 2 line plot: one X at 7; two stacked X marks at 9; two stacked X marks at 11; one X at 13. No X marks at 6, 8, 10, 12, or 14. Reasoning: each recorded measurement receives one X.
3. Count check: 6 X marks. Reasoning: 1 + 2 + 2 + 1 = 6 observations.

Source credit: New York Next Generation Mathematics Learning Standards, NY-2.MD.9, “Represent and interpret data.” Task focus: generating measurement data and presenting it in a whole-number line plot. https://www.nysed.gov/curriculum-instruction/new-york-state-next-generation-mathematics-learning-standards