

Line Graph Detectives

Explain the highest, lowest, and matching observations

GRADE 4 • 4.PS.1.d.ii

4.PS.1.d.ii "Analyze data represented in line graphs and communicate results orally and in writing: identify parts of the data that have special characteristics and explain the meaning of the greatest, the least, or the same (e.g...."

NAME _____

DATE _____

READ, COMPARE, EXPLAIN

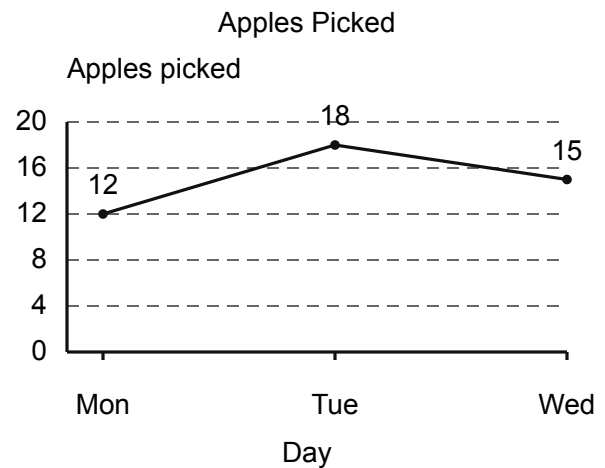
Read the axis labels and units before comparing points. The highest point has the greatest value; the lowest has the least. Points at equal heights have equal values, even on different days. Explain what the value means in its context.

WORKED EXAMPLE

Which day had the greatest number of apples picked, and what does that mean?

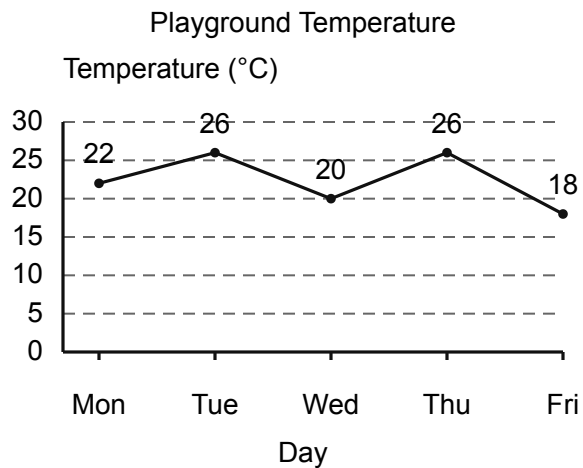
1. The highest dot is at 18 apples.
2. That dot is above Tuesday.

Answer: Tuesday had the most apples picked: 18.



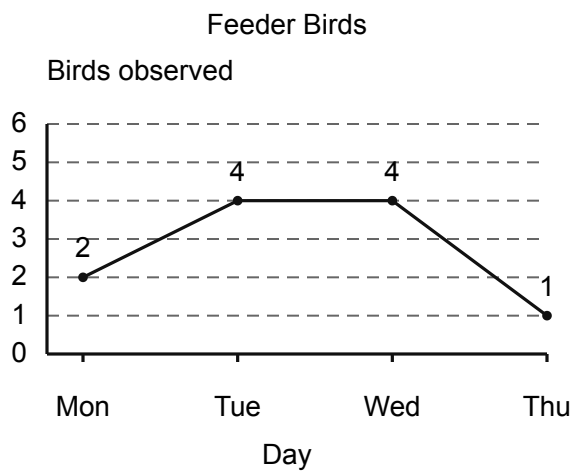
PRACTICE 4 problems

- 1** Use Playground Temperature. Name the warmest and coolest days and their temperatures.



- 2** Use Playground Temperature in Practice 1. Which days match? Explain what equal-height dots mean here.

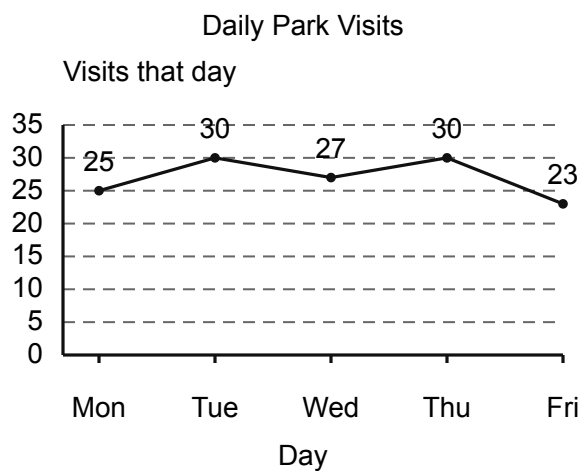
- 3** Use Feeder Birds. Explain the flat part of the line, including days and value.



- 4** Use Feeder Birds in Practice 3. Give the greatest and least values and explain their meaning.

APPLY IT Show your work

- 1** Use Daily Park Visits. Which days had the most visits, and which had the fewest? Include the values.



- 2** Use Daily Park Visits in Apply It 1. Tell a partner what the matching high points mean. Then explain why matching high points do not mean visits stayed constant between them.

CHALLENGE One step up

Use Playground Temperature in Practice 1. A student says the lowest point means there was no warmth at all. Correct this claim using the graph and explain what lowest actually means.

Accept greatest/most/highest and least/fewest/lowest when appropriate to context. Require all tied days, values, and units. A flat segment means consecutive observations are equal; separated matching values do not establish constancy between them. Oral explanation is required in Apply It 2. Printed dots are recorded observations; connecting segments do not create new measured observations.

PRACTICE 1

Tuesday and Thursday were warmest at 26°C. Friday was coolest at 18°C.

PRACTICE 2

Tuesday and Thursday match at 26°C: the recorded temperatures were the same on those days.

PRACTICE 3

Tuesday and Wednesday both had 4 birds observed; the recorded number did not change.

PRACTICE 4

Greatest: 4 birds on Tuesday and Wednesday, the most observed. Least: 1 bird on Thursday, the fewest observed.

APPLY IT 1

Tuesday and Thursday had the most, 30 visits each. Friday had the fewest, 23 visits.
Require the stated evidence and reasoning; accept equivalent correct wording.

APPLY IT 2

Tuesday and Thursday each had 30 visits. Wednesday had only 27, so the daily counts did not stay constant between those days.
Require the stated evidence and reasoning; accept equivalent correct wording.

CHALLENGE

The lowest recorded temperature was 18°C on Friday, not 0°C. Lowest means least among the displayed observations; it does not mean none.