LESSON MAKER PRO

Data in Focus

Find center, spread, and unusual values.

GRADE 6 · 6.SP.5c

6.SP.5c "Giving quantitative measures of center (median and/or mean) and variability (interquartile range), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the..."

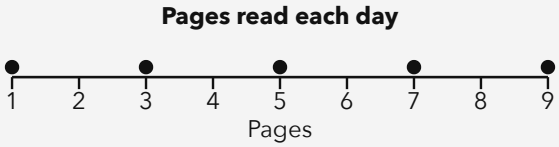
NAME _____ DATE _____

CENTER AND SPREAD

The mean is the sum divided by the number of values. The median is the middle value of ordered data, or the average of the two middle values. To find the interquartile range (IQR), find the medians of the lower and upper halves, leaving out the overall median if there is one, then subtract Q1 from Q3.

WORKED EXAMPLE

The plot shows pages read each day. Find the median and IQR.



1. Order the values: 1, 3, 5, 7, 9.
2. The median is 5. Leave it out when finding the lower and upper halves.
3. Q1 = (1 + 3) / 2 = 2; Q3 = (7 + 9) / 2 = 8.
4. IQR = 8 - 2 = 6.

Answer: Median: 5 pages; IQR: 6 pages.

PRACTICE 4 problems

1 Find the median: 20, 22, 24, 26, 28.

ANSWER _____

2 Find the mean: 30, 30, 36, 36.

ANSWER _____

3 Find the IQR: 40, 42, 44, 46, 48, 50.

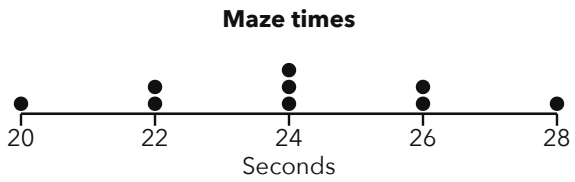
ANSWER _____

4 Find the median and IQR: 52, 54, 56, 58, 60, 62, 64.

ANSWER _____

APPLY IT Show your work

1 Nine students timed a maze. Find the median and IQR of their times. Describe where most times fall.



ANSWER _____

2 A student counted jumps on six days: 30, 32, 34, 36, 38, 60. Find the median and IQR. Which day has an unusually high count?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two groups tracked daily game time in minutes. Group A: 40, 42, 44, 46, 48. Group B: 40, 42, 44, 46, 78. Find both medians and IQRs. Which group varies more in its middle half? Name a striking value.

WORK SPACE AND ANSWER

ANSWER KEY # Data in Focus

GRADE 6 · 6.SP.5c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the median: 20, 22, 24, 26, 28.	**24**
2	Find the mean: 30, 30, 36, 36.	**33**
3	Find the IQR: 40, 42, 44, 46, 48, 50.	**6**
4	Find the median and IQR: 52, 54, 56, 58, 60, 62, 64.	**Median: 58; IQR: 8.**

PART 2 · APPLY IT

1. **Median: 24 seconds; IQR: 4 seconds. Seven of the nine times are from 22 to 26 seconds.** The middle value is 24. Q1 is 22 and Q3 is 26, so the IQR is 4.
2. **Median: 35 jumps; IQR: 6 jumps. The 60-jump day is unusually high compared with the other days.** The middle values are 34 and 36, giving a median of 35. Q1 is 32 and Q3 is 38, so the IQR is 6.

CHALLENGE

Both medians are 44 minutes. Group A's IQR is 6 minutes, and Group B's IQR is 21 minutes, so Group B varies more in its middle half. Group B's 78-minute day is strikingly high.

For the challenge, Q1 is 41 for both groups. Q3 is 47 for Group A and 62 for Group B.