



Data & Graph Sense Quest

Name: _____

Grade: 4

Date: _____

Read, compare, and reason with bar graphs, pictographs, line plots, and tables. Show work for multi-step differences.

Part 1 · Read a Bar Graph BAR

Favorite Sports (Students)

Soccer: 12 | Basketball: 9 | Swimming: 6 | Tennis: 3 | Track: 10

1. Most popular sport = _____

2. Least popular sport = _____

3. Difference soccer & swimming = _____

4. Total track + tennis = _____

5. How many more chose track than basketball? _____

6. Total students shown = _____

Part 2 · Pictograph (★ = 2 Books) PICTO

Books Read (Week)

Mia: ★★★★★☆ (stars=4.5) • Leo: ★★★★★ (4) • Asha: ★★★ (3) • Ben: ★★★★★☆ (4.5)

7. A half star = _____ book(s)

8. Mia read _____ books

9. Ben and Leo together = _____ books

10. Who read 6 books? _____

11. Greatest readers tied: list both names _____ & _____

12. How many more than Asha did Mia read? _____ books

Part 3 · Line Plot (X = 1 Shell Length in cm) LINE PLOT

Lengths: 3: XX | 4: XXXX | 5: XXXXX | 6: XX

13. Total shells = _____

14. Most common length (mode) = _____ cm

15. Difference between longest & shortest = _____ cm

16. How many shells length 4 or 5 cm? _____

17. Fraction of shells that are 5 cm = _____

18. Are more shells 3 or 6 cm? _____ (or equal)

Part 4 · Tables & Multi-Step TABLE

Snack Sales (Boxes): Granola 18 | Crackers 24 | Fruit Cups 16 | Popcorn 22

19. Highest selling snack = _____

20. Lowest selling snack = _____

21. Total boxes sold = _____

22. Difference crackers & fruit cups = _____

23. Granola + popcorn = _____

24. If 5 more fruit cups sold, new total fruit cups = _____

Part 5 · Data Operations OPERATE

25. Set of scores: 7, 9, 8, 6, 10.
Highest - lowest = _____

26. Same scores: total = _____

27. Average (mean) of scores (nearest tenth) = _____

28. If another 10 added, new total = _____

29. New average (exact /10) = _____/10

30. Median of original scores = _____

Median: order numbers and pick middle. Mean: total $\div$ number of values.

Part 6 · Word Problems & Reflection THINK

31. Track vs soccer from Part 1: soccer 12, track 10. Fraction of all (Part 1 total) that chose track = _____

32. In the pictograph, total books read by all = _____

33. If each popcorn box (Part 4) earns \$3, money from popcorn = \$_____

34. If granola increases by 6 boxes, does it pass crackers? (Yes/No) _____

35. Which representation (bar / pictograph / line plot / table) you found quickest to read? _____

36. Reflection: One data skill to practice more. _____

Reflection (#36) open—accept any sensible response.

Answer Key

1. Soccer
2. Tennis
3. 6
4. 13
5. 1
6. 40
7. 1
8. 9
9. 13.5
10. Asha (6 books)
11. Mia & Ben
12. 3 (9-6)
13. 13
14. 5
15. 3
16. 9
17. 5/13
18. Equal
19. Crackers
20. Fruit Cups
21. 80
22. 8
23. 40
24. 21
25. 4
26. 40
27. 8.0
28. 50
29. 50/6
30. 8
31. $10/40 = 1/4$
32. 33
33. 66
34. No (24 vs 24 tie)
35. Varies
36. Varies

#9 pictograph: Ben 9, Leo 8 $\rightarrow$ 17; #17 fraction simplified allowed. #29 $50/6$ may also be written $25/3$ or $8\frac{1}{3}$. Accept equivalent simplified fractions. Reflection items vary.