

Max's Magnificent Math Data Dash

Learning objective: To interpret, present, and compare data using bar charts, pictograms, and tables in accordance with Grade 3 statistics objectives.

Help Max the monkey solve his data puzzles! Read each question carefully, look at the clues provided, and show your working out for the calculations.

Answer Key: 1. C (10) | 2. False | 3. 40 | 4. B (25) | 5. True | 6. 15 | 7. A (The scale is 2) | 8. 10 | 9. True | 10. 50. Greater Depth Reasoning: 1. Max might use a pictogram to show pictures of fruit. 2. A bar chart is better for comparing quantities. 3. If the scale was 5, 12 would be hard to plot accurately. 4. Data collected over time is continuous. 5. Frequency tables allow for quick addition. 6. Justify: Comparing the tallest bar to the shortest shows the range.

Word bank: Bar chart · Pictogram · Frequency table · Data · Discrete · Continuous · Scale · Interval

1. Max counted 5 apples, 3 pears, and 2 bananas. If a pictogram uses one symbol to represent 1 piece of fruit, how many symbols are needed in total? A) 5 B) 8 C) 10* D) 12 (1 mark)

2. True or False: A bar chart can be used to display continuous data like how a plant grows over several weeks. (1 mark)

3. In a survey, 20 children chose football and 20 children chose swimming. What is the total number of children surveyed? (1 mark)

4. If a bar in a chart reaches halfway between 20 and 30, what value does it represent? A) 22 B) 25* C) 26 D) 28 (1 mark)

5. True or False: The 'scale' of a bar chart tells us how much each interval on the axis represents. (1 mark)

6. Max spent £5 on stickers, £10 on pens, and £5 on paper. How much did he spend in total? (Answer in £) (1 mark)

7. Which scale is most appropriate for a bar chart showing values of 2, 4, 6, and 8? A) Increments of 2* B) Increments of 5 C) Increments of 10 D) Increments of 100 (1 mark)

8. If 30 people like red and 20 people like blue, how many more people like red than blue? (1 mark)

9. True or False: A frequency table is a simple way to record data using tally marks. (1 mark)

10. If a pictogram key shows that one star symbol equals 10 points, how many points are 5 stars worth? (1 mark)

Draw: Draw a bar chart representing the number of pieces of fruit Max the monkey ate this week: 4 bananas, 6 apples, and 2 oranges. Remember to label your axes!



Extension challenge: 1. Explain why it is important to label both axes on a bar chart. 2. Compare and contrast a pictogram and a bar chart; when would you choose one over the other? 3. Justify why a scale of 2 is better than a scale of 10 when representing data that only goes up to 15. 4. What might happen if you forgot to include a 'key' on your pictogram? 5. Create a set of data that would be best represented by a tally chart. 6. If you were recording the temperature every hour, why would a line graph be more appropriate than a bar chart?