

Max's Market Data Investigation

Learning objective: To interpret and present discrete data using bar charts and tables, and to solve comparison, sum, and difference problems.

Help Max the monkey organize his market stall findings. First, conduct a survey of your classmates to collect data on their favorite fruit. Then, draw a bar chart to represent your findings and answer the analytical questions below to complete your statistical report.

Word bank: frequency · total · category · axis · interval · scale · difference · comparison · data · interpret

1. Data Collection Table: Create a tally chart for your chosen fruit categories and record the final frequency for each. Explain why you chose these specific categories. (3 marks)

2. Bar Chart Construction: Describe the scale you have chosen for your vertical axis (the y-axis). Justify why you chose this interval (e.g., counting in 2s, 5s, or 10s). (3 marks)

3. Calculating Totals: Calculate the total number of children surveyed. Show your working out clearly. (2 marks)

4. Comparison Analysis: Identify the difference between the most popular fruit and the least popular fruit. What might happen to your results if you surveyed 50 more people? (4 marks)

5. Problem Solving: If each piece of fruit costs £0.50, calculate the total cost if you were to buy one of every fruit mentioned in your survey. (3 marks)

6. Evaluation: Compare and contrast your data set with a partner's. Are there any similarities or anomalies in the results? Explain your reasoning. (4 marks)

Extension challenge: Imagine Max wants to open a fruit stall at the school fair. Based on your data, write a short proposal explaining which three fruits he should stock to make the most profit, justifying your choices using the mathematical evidence from your chart.