

Max's Market Stall Statistics

Learning objective: To interpret, compare, and construct data using line graphs, tables, and timetables to solve complex problems.

Help Max the monkey organise his fruit stall data. Read the information carefully and use your mathematical reasoning to solve these challenges. Show your working out clearly.

Max has been tracking his fruit sales over the course of a busy morning. Between 08:00 and 12:00, he sold the following amounts of apples: 08:00 (15), 09:00 (25), 10:00 (20), 11:00 (35), 12:00 (45).

Word bank: line graph · axis · interval · data set · frequency · maximum · minimum · trend

1. Construct a line graph on the provided grid to represent Max's apple sales. Label the x-axis 'Time' and the y-axis 'Number of Apples Sold'. Ensure your scale is appropriate. (3 marks)

2. Identify the period where the greatest increase in sales occurred. Justify your answer by calculating the difference between the two hours. (2 marks)

3. If apples cost 45p each, calculate the total revenue Max generated from apple sales between 11:00 and 12:00. Show your calculation. (2 marks)

4. Explain why a line graph is a more effective way to represent this data than a bar chart when looking for trends over time. (2 marks)

5. Max predicts that if the trend continues, he will sell 55 apples by 13:00. Evaluate this claim—what factors might cause his sales to decrease instead? (2 marks)

6. Compare and contrast the sales at 10:00 with the sales at 12:00. What is the difference in the amount of money earned? (2 marks)

Draw: Draw a neat, accurate line graph on squared paper showing the time on the horizontal axis and the quantity of apples sold on the vertical axis, ensuring you use a ruler and sharp pencil.



Extension challenge: Design a 'Market Survey' questionnaire for customers. Once you have your survey questions, create a tally chart to record results for five different fruits. Write a paragraph explaining the trend you discovered in your data and suggest how Max could use this information to decide which fruit to stock more of next week.