

## Kit's Data Detective Challenge: The Orchard Inventory

*Learning objective: To understand how to collect, organise, and interpret data using frequency tables and bar charts to solve real-world problems.*

Kit the Fox is organising the harvest at the community orchard. He needs you to act as a Data Detective. Look at the data provided in the table and complete the tasks below. You will need to calculate totals, compare quantities, and justify your choices for how to display this information.

*Word bank: Frequency · Data · Bar Chart · Scale · Tally · Variable · Categorise · Axis*

**1. Kit collected 45 apples, 32 pears, and 18 plums. Create a frequency table to organise this data. Once finished, calculate the total number of fruits collected. (3 marks)**

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**2. If Kit wants to display this information on a bar chart, what would be an appropriate scale for the vertical axis? Justify your choice of scale. (3 marks)**

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**3. Compare and contrast the amount of apples to the amount of plums. What is the difference in value? (2 marks)**

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**4. Explain why it is important for Kit to use a clear title and labelled axes when he presents his findings to the other animals. (2 marks)**

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**5. What might happen to the accuracy of Kit's data if he accidentally counted some plums as pears? Explain the impact on the final total. (3 marks)**

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6. If each apple costs £0.20, each pear costs £0.15, and each plum costs £0.10, calculate the total value of the harvest in pounds (£). Show your working. (4 marks)

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**Draw:** Sketch a bar chart based on Kit's fruit harvest data. Ensure your X-axis (horizontal) shows the fruit types and your Y-axis (vertical) shows the quantity. Don't forget to give your chart a title and ensure your bars are of equal width.



*Extension challenge: Design a 'Data Collection Form' that Kit could use next time he visits the orchard. Think about what specific information he might need to record (e.g., date, weather, fruit condition) to make his data more useful for future harvests. Write a short paragraph explaining why these extra details are valuable.*