

Year 5 Computing: Mastering Databases with Kit the Fox

Learning objective: To demonstrate understanding of how databases store, organise, and retrieve information effectively.

Read each question carefully. Use your knowledge of fields, records, and search criteria to provide clear, detailed answers. Ensure your explanations are logical and use technical vocabulary.

Kit the Fox is building a digital database to help the BookFlik group organise their shared library of books. Each book has a specific 'Record'. Within these records, Kit has created 'Fields' for the Title, Author, Genre, and whether the book is currently 'In' or 'Out' of the library. Kit uses queries to find specific information, such as all the mystery books by a particular author, to help his friends find exactly what they need for their next adventure.

Word bank: Database · Record · Field · Query · Criteria · Sort · Filter · Attribute

1. Define the difference between a 'field' and a 'record' in the context of a database. Use an example from Kit's library. (2 marks)

2. If Kit wants to find all books in the 'Adventure' genre that are currently 'In' the library, what process is he performing, and what would his search criteria be? (3 marks)

3. Explain why it is important for the data in a database to be consistent (e.g., ensuring all dates are written in the same format). What might happen if the data is inconsistent? (4 marks)

4. Compare and contrast 'sorting' a database and 'filtering' a database. When would you use one over the other? (4 marks)

5. Kit is adding a new field to his database called 'Price' (in £). Why might it be useful to include this data, and how could Kit use a query to identify the most expensive books in his collection? (3 marks)

6. Extended Response: Imagine you are designing a database to track the wildlife that Nova the Owl spots in the forest. Describe the fields you would include, why you chose them, and justify how your database would help Nova analyse her findings over a full year. (5 marks)

7. Identify one potential error that could occur when entering data into a database and suggest a method to prevent it. (4 marks)

Draw: Draw a visual representation of a simple table-style database for a collection of fruit, including at least three columns (fields) and three rows (records). Label the 'Field' and the 'Record'.

Extension challenge: Total: /25. Think like a database architect: If you were tasked with building a database for the entire school's sports equipment, what potential security or privacy issues might you need to consider before adding fields related to students? Explain your reasoning.