

Kit's Digital Library: Mastering Databases

Learning objective: To understand how data is organised into records and fields within a database to enable efficient searching and sorting.

Kit the fox is organising the BookFlik library. A database is like a digital filing cabinet. Each row is a 'record' (an entry for one item) and each column is a 'field' (a specific category of information). Study the table provided below, then complete the tasks to help Kit sort his collection.

Library Database Table:

Book Title	Author	Genre	Price (£)	In Stock
Starry Skies	Nova Owl	Science	£7.99	Yes
Jungle Maths	Max Monkey	Maths	£5.50	No
Ocean Maps	Finn Dolphin	Geography	£8.25	Yes
Word Magic	Pip Caterpillar	Fiction	£4.99	Yes

Word bank: Record · Field · Data · Query · Database · Attribute

1. Identify the 'Field' names present in Kit's database. Why is it important for these to be consistent across every record? (2 marks)

2. If Kit wants to find all books that are 'In Stock' and cost less than £6.00, what search criteria should he use? Explain the benefit of this. (2 marks)

3. Add a new record to the database for a book titled 'Art Patterns' by Zara Zebra, Genre: Art, Price: £6.50, In Stock: Yes. Why is this a 'Record' and not a 'Field'? (2 marks)

4. Compare and contrast a paper-based filing system with a digital database. Justify why a digital database is more efficient for a large library. (2 marks)

5. What might happen if the 'Price' field accidentally contained text like 'Five pounds' instead of the numerical value £5.00? How would this affect a search query? (2 marks)

6. If you were designing a database for a school canteen, list three 'Fields' you would include. Justify your choices. (2 marks)

Draw: Draw a visual representation of how a database stores information, using a grid layout. Label one row as a 'Record' and one column as a 'Field'.



Extension challenge: Design a 'Query' plan. Imagine the library grows to 1,000 books. Write a set of instructions for Kit on how he could use 'Sort' and 'Filter' tools to find the most expensive Geography book quickly.