



## Data Handling

### Level 1

Typically, pupils should show evidence of being able to:

- Access existing databases and take part in a teacher-led discussion about choosing information to include in a database, before selecting fields for a table the teacher has prepared. Explore basic features such as creating a new field in a table or populating a pre-existing table with a new record. *This might include adding a new pupil to a class database.* (Explore)
- Create a single table in a database package with the teacher's help. *This might include developing a table using a design the teacher has provided with direction during the process.* (Express)
- Be aware that digital methods can be used to communicate when working on a database. (Exchange)
- Talk about their database, led by the teacher. (Evaluate)
- Show their database with the teacher's help. (Exhibit)

### Level 2

Typically, pupils should show evidence of being able to:

- Choose the data types to include in their table. Carry out a series of instructions using the database software to answer a simple question. *This might include filtering data to identify the youngest pupil in a class database.* (Explore)
- Create a basic table with the teacher's help. *This might include entering data into a table using a design the teacher has provided with occasional prompting during the process.* (Express)
- Identify and talk about how to use different digital methods to communicate when working on a database. (Exchange)
- Talk about how to improve their database design, prompted by the teacher. (Evaluate)
- Save their database and/or show it to the class or group with the teacher's help. (Exhibit)

### Level 3

Typically, pupils should show evidence of being able to:

- Search for and choose information from a given source to enter into a table in the database. Select field names and data types for a given table design. Carry out and edit a series of instructions, such as filtering data, using the database software. *This might include creating a database of cities around the world. Pupils then decide what information they wish to store about each and then filter data based on a single criterion.* (Explore)



- Create, following the teacher's instructions, a table structure to help solve a given problem. *This might include entering data into the database and changing data types to see the impact on results.* (Express)
- Use a contemporary digital method to communicate or contribute to a supervised online activity related to the database. *This might include sending an email or making a post to a wiki, blog or discussion thread. The email or post might be to a teacher.* (Exchange)
- Make some modifications to improve their database. *This might include updating field types or sizes in a table or resizing text fields in a report so that the information is displayed correctly.* (Evaluate)
- Save their database with a filename and/or show it to the class or group. (Exhibit)

### Level 4

Typically, pupils should show evidence of being able to:

- Research and select information from a range of digital sources to help plan and include in their database. Investigate and solve the problem set in the task brief. *This might include using features such as simple queries to interrogate data organised in table format, for example designing a simple query that identifies all females in a class.* (Explore)
- Create a database that demonstrates an awareness of the audience and purpose defined in the task brief. *This might include creating a form for data entry, a table design that incorporates suitable data types and field sizes and/or a report to clearly display information required from a query.* (Express)
- Use one or more contemporary digital methods to communicate, exchange and collaborate in supervised online activities. *This might include sending an email with an attachment or making several relevant posts to a wiki, blog or discussion forum related to the design of or findings from the database.* (Exchange)
- Use appropriate ICT tools and features to improve work. *This might include using spellchecker, updating report or form labels, updating field types or names and documenting the improvements they made to their database.* (Evaluate)
- Save the database in a named folder or class e-portfolio. (Exhibit)

### Level 5

Typically, pupils should show evidence of being able to:

- Research, select, edit, use and evaluate information from a range of digital sources to help with designing and/or collecting data to store in the database. Use a range of software tools and features such as tables, queries, forms and reports to develop a database that solves a problem, showing a clear understanding of audience. *This might include designing a report that displays all pupils who have deposits outstanding based on information held in a database prepared for a school trip.* (Explore)



- Create a database that demonstrates a clear understanding of the audience and purpose defined in the task brief. *This might include using appropriate field names, types and sizes; selecting one or more suitable primary keys to help with storing data in the underlying tables and using queries with criteria to allow them to process the data into meaningful information displayed clearly in a report format, including a logo.* (Express)
- Use a range of contemporary digital methods to communicate, exchange and share their information and multimedia products, collaborating online with their peers. *This might include working online to collaboratively design a database, or discussing and/or debating online about which content to use to populate their database.* (Exchange)
- Use appropriate ICT tools and features to carry out ongoing improvements to their document and evaluate process and outcome. *This might include using a 'plan, do, review' cycle to describe their process, the ICT tools they used and the improvements they made to their database. They reflect on their database design and refine it in an ongoing way to make it relevant for the audience and purpose defined in the task brief. They demonstrate that they have used relevant features of the database software to make ongoing improvements and have evaluated some of the tools and features they used and the quality of the final database in relation to the audience and purpose defined in the task brief.* (Evaluate)
- Organise, store and maintain the database and any associated files and/or materials in a personalised area to showcase learning digitally across the curriculum. (Exhibit)

## Level 6

Typically, pupils should show evidence of being able to:

- Research, select, edit, use and evaluate more information from a range of digital sources to help with designing and/or collecting data to store in the database, justifying and referencing their sources. Use a range of software tools and features to develop a database that can be manipulated to provide customised forms or reports, using features such as parameter or multiple criteria queries, mail merge or calculated fields to meet the audience's needs. *This might include generating a report that displays information that meets two or more criteria based on a particular query.* (Explore)
- Create a customised database targeted at a specific audience and purpose. *This might include integrating a wide range of the software features such as a menu-based system with customised forms or subforms and reports with calculated fields that rely on validated data from multiple tables linked together by key fields and queries using a range of criteria. Output might take the form of reports using mail merge.* (Express)
- Use a range of contemporary digital methods to communicate, exchange and share their information and multimedia products, collaborating with peers, experts and end users. *This might include collaborating on a prototype with peers, for example sharing designs in a discussion forum and allowing contributors to use collaborative features of the software to add quality comments and justifications.* (Exchange)



- Justify the software application they chose to complete the database task, the alternatives they considered and the process they carried out in producing the publication. Justify why their database is effective for the specified audience and purpose. This might include identifying and describing the process of their work and identifying key points where they made value judgements that enhanced the final database. (Evaluate)
- Organise, store and maintain their database in a personalised area to showcase learning digitally across the curriculum. (Exhibit)

## Level 7

Typically, pupils should show evidence of being able to:

- Research and select the most relevant data collected from a range of sources, found and created, discriminating between these for relevance, reliability and accuracy, justifying and referencing their sources. Select and justify the most appropriate package and features to use to meet the requirements of the end user defined in the task brief. *This might include researching and selecting other database solutions and experimenting systematically with a range of layouts, deciding on the most appropriate to meet the target audience's expectations, using a development cycle to routinely test and adjust their prototype, and justifying choices and decisions based on their original intentions, group discussions and feedback from end users.* (Explore)
- Exploit a range of appropriate database software facilities, which might include integrating a menu-based system with access to customised forms or subforms validated for data entry and customer-driven reports, using a range of criteria and calculated fields. Output might also take the form of reports using mail merge, to produce a solution that meets user needs specified at the start of the project. *This might include generating letters for individuals based on a query where multiple criteria have been met, for example individuals who have payments outstanding.* (Express)
- Exploit contemporary communication methods to exchange, share and collaborate on their developed ideas and information with peers, experts and end users, contributing to a collaborative global environment. *This might include uploading the database to a blog to gather feedback from peers, experts and end users, acting on this in a discriminating way to further enhance the high quality and suitability of the product or information assembled for an end user defined in the task brief.* (Exchange)
- Identify, with increasing discernment, the end user's requirements and the database's purpose at the outset, and review systematically the final version against the requirements at the end of the process, clearly identifying which have been met and which have not. *This might include gathering end user feedback and making further refinements or setting out recommendations for improvement.* (Evaluate)
- Manage and present a logically structured digital bank of work to showcase learning across the curriculum, taking account of format, portability, size, copyright and versioning. *This might include considering the format, portability and size of the database and associated materials before storing them.* (Exhibit)

**Pupils should demonstrate, when and where appropriate, knowledge and understanding of e-safety, including acceptable online behaviour.**