



Purple Mash Computing Scheme

Databases

Contents

Overview

- Key Learning
- Knowledge Organiser and Learning Mat
- Concept Map and Quiz

Lesson 1: Understanding Databases

- Aim
- Success Criteria
- Resources
- Preparation

Lesson 2: Creating a Database

- Aim
- Success Criteria
- Resources
- Preparation

Lesson 3: Creating Queries

- Aim
- Success Criteria
- Resources
- Preparation

Lesson 4: Solving Problems

- Aim
- Success Criteria
- Resources
- Preparation

Assessment

Overview

This unit introduces children to databases beyond branching databases. Children will create their own databases as well as query existing databases to find information that they are being asked for. By the end of the unit, children would have explored single and multiple table databases to solve problems.

Key Learning

- To understand what a database is.
- To design and create a database.
- To build queries to find information.
- To solve problems using a database.

Knowledge Organiser and Learning Mat

These resources can be used to support learning across the unit.

- [Knowledge Organiser](#)
- [Learning Mat](#)

Concept Map and Quiz

Use these resources to gauge children's understanding before or after the unit has been taught.

- [Concept Map](#)
- [Quiz](#)

Lesson 1: Understanding Databases

Aim

- To understand what a database is.

Success Criteria

- I can explain what a database is.
- I can organise how information is presented in a database.
- I can use features of database software to find information.

Preparation

- Set **Aliens Database** as a 2Do
 - **Important:** Skip Step 1 'Set 2Do: Options'.
- Provide class copies of **Using a Database**.
- (Optional Extension) Set **Holiday Database** as a 2Do
 - **Important:** Skip Step 1 'Set 2Do: Options'.
- (Optional Extension) Provide class copies of **Creating Questions** for the extension.

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 1](#)
- [Aliens Database](#)
- [Using a Database](#)
- [Using a Database \(Answers\)](#)
- [Extension: Holiday Database](#)
- [Creating Questions](#)

Lesson 2: Creating a Database

Aim

- To design and create a database.

Success Criteria

- I can design a database suitable for the data I have.
- I can create and edit records within a database.

Preparation

- Set **2Investigate** as a 2Do.
 - **Important:** Skip Step 1 'Set 2Do: Options'.
- Print class copies of **Mythical Creature PDF**.
- Print copies of **Mythical Creature Card View PDF** for those children who may need scaffolded information.

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 2](#)
- [2Investigate](#)
- [Mythical Creatures](#)
- [Mythical Creatures - Card View](#)

Lesson 3: Creating Queries

Aim

- To build queries to find information.

Success Criteria

- I can explain what a query is.
- I can use a range of operators in queries that use a filter.
- I can build a query to find information.

Preparation

- Set **Deadliest Animals Database** as a 2Do.
 - **Important:** Skip Step 1 'Set 2Do: Options'.
- Print class copies of **Finding Questions** (1 per child or pair).
- Print enough copies of **Query Cards** for children to pick from (1 between 5).
- (Optional Extension) Provide whiteboards or print the **Building Complex Queries** recording sheet (1 per child or pair).

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 3](#)
- [Deadliest Animals Database](#)
- [Finding Questions](#)
- [Query Cards](#)
- [Query Cards - Possible Solutions](#)
- [Extension: Building Complex Queries](#)

Lesson 4: Solving Problems

Aim

- To solve problems using a database.

Success Criteria

- I can link separate tables together in a database.
- I can use linked tables in a query.
- I can use the Report tool to help generate meaningful information to solve problems.

Preparation

- Set **Vets Surgery Database** (**Below - not the inbuilt one in 2Investigate**) as a 2Do.
 - **Important:** Skip Step 1 'Set 2Do: Options'.
- Set **Solving Problems Template** as a 2Do.
- A **Vet Surgery - Solutions PDF** is available for each of the 9 problems. You might wish to share this with the children after the task.

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 4](#)
- [Vet Surgery Database](#)
- [Solving Problems](#)
- [Vet Surgery - Solutions](#)

Assessment

The following information is an exemplar of what a child at an expected level would be able to demonstrate when completing this unit with additional exemplars to demonstrate how this would vary for a child with emerging or exceeding achievements.

Emerging

- Children will be able to comment on what a database is and recognise the databases that they are working with are different to a binary database. They will be able to give a few examples of where databases are used in everyday life. Children can comment on the features common to databases – records, fields and search (query) tools. Children are able to set up a database, adding fields and choosing data types for the fields. They can attempt to apply some constraints. With support, children can produce queries to find information. They may use the AND operator to narrow down a search but might not be able to fully recognise how OR selects between conditions.

Expected

- Children develop their understanding of what a database is and recognise how it differs from a binary database. They can give examples of everyday practical uses of databases including single and multiple table databases. Children are able to set up a database selecting appropriate data types for fields and apply some constraints such as 'has choices.' They are able to enter data to create records and edit data within records. Children understand the function of sort, filter, group and calculate query tools. They are able to create queries including some that use the AND, OR operator between conditions. Children are aware of what linked tables means and can copy examples to try out in their queries. They will use the Report tool to help them produce notes or letters by inserting appropriate data fields.

Exceeding

- Children can design and set up a database with appropriate data types for fields and apply a range of constraints such as 'required' and 'has choices'. They can create records and edit them. Children understand the function and key differences between sort, filter group and calculate query tools. Children can create queries that include the AND/OR operator between conditions and are able to explain which records will show based on conditions created. Children will understand that tables can be linked together by a common field and used within queries. They can identify foreign fields due to the table prefix on linked tables. Children are able to use the report tool to inject key fields when producing bulk notes/letters and will identify only fields that are part of a query will be visible if a query is applied.