



Purple Mash Computing Scheme

Data Detectives

Contents

Overview

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

Lesson 1: Filtering and Sorting Data

- Aim
- Success Criteria
- Resources
- Preparation
- Teaching Notes

Lesson 2: Graphing Using Databases

- Aim
- Success Criteria
- Resources
- Preparation
- Teaching Notes

Lesson 3: Linking Tables

- Aim
- Success Criteria
- Resources
- Preparation
- Teaching Notes

Lesson 4: Database Information Requests

- Aim
- Success Criteria
- Resources
- Preparation

Assessment

Overview

This unit introduces children to Data Detectives, an interactive set of databases challenges that children work through. Children will be expected to interpret information being requested and query databases to find the information.

Key Learning

- To find information in databases by filtering and sorting.
- To create graphs from data within a database.
- To be able to find information in linked table databases.
- To be able to find requested information using databases.

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: Filtering and Sorting Data

Aim

- To find information in databases by filtering and sorting.

Success Criteria

- I can explain what a database is and how they are used.
- I can use a range of filter rules to find information.
- I can use the sort tool to help find information.

Preparation

- Set **Aliens Study** as a 2Do.
- Set **Countries of the World** as a 2Do.

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 1](#)
- [Data Detectives Solutions](#)
- [Tutorial 1 - Alien Study](#)
- [Tutorial 2 - Countries of the World](#)

Teaching Notes

Answers for each challenge throughout this unit are found in the solutions document.

It is not essential that children have completed the Year 5 databases unit. However, if you feel there are gaps in children's learning, you may wish to teach lessons 1 and 3 from that unit if time permits.

Lesson 2: Graphing Using Databases

Aim

- To create graphs from data within a database.

Success Criteria

- I can group data together.
- I can apply calculations to data.
- I can use the group and calculation tools to display the correct data on a graph.

Preparation

- Set **The Solar System** as a 2Do.
- Set **Food Truck** as a 2Do.

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 2](#)
- [Data Detectives Solutions](#)
- [Tutorial 3 - The Solar System](#)
- [Tutorial 4 - Food Truck](#)

Teaching Notes

Answers for each challenge throughout this unit are found in the solutions document.

Lesson 3: Linking Tables

Aim

- To be able to find information in linked table databases.

Success Criteria

- I can explain why a database might have multiple tables.
- I can create queries using filter, sort, calculate and group.
- I can link tables together to use in queries.

Preparation

- Set **Pet Spa** as a 2Do.
- (Optional Extension) Set **School Scores** as a 2Do.

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 3](#)
- [Data Detectives Solutions](#)
- [Tutorial 5 - Pet Spa](#)
- [School Scores](#)

Teaching Notes

Answers for each challenge throughout this unit are found in the solutions document.

Lesson 4: Database Information Requests

Aim

- To be able to find requested information using databases.

Success Criteria

- I can identify information being requested.
- I can interpret information being requested.
- I can query a database based on information being requested.

Preparation

- Set **Weather Data** as a 2Do.
- Set **Bestselling Books** as a 2Do.
- Set **Deforestation** as 2Do.
- Solution videos are provided for all three activities. These can also be set as a 2Do.

Please find all lesson resources below.

Resources

- [Slideshow - Lesson 4](#)
- [Data Detectives Solutions](#)
- [Weather Data](#)
- [Bestselling Books](#)
- [Deforestation](#)
- [Weather Video Solution](#)
- [Bestselling Books Video Solution](#)
- [Deforestation Video Solution](#)

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 are able to explain what a database is used for and provide an example. They can comment on the different tools that can be used to help someone find information. With support, they can use the filter tool to find specific records requested. They experiment with combining multiple query tools and the effect this has on the records being displayed but might not accurately get the desired results. Children can comment on when someone might need more than one table in a database. With support, they can link a common field to combine tables. With support, children can identify information being requested and produce suitable queries to find this information.

Expected

- Children can explain what databases are and how they are used by individuals and organisations. They are able to understand the different common tools that are used for finding information and can create queries using a combination of these tools that provide requested information. Children recognise the different ways data can be extracted from databases to provide information, including the use of charting tools to present this. Children can link tables together using common fields and create queries that involve linked tables. Children show an ability to translate information requests into database queries and can methodically check for errors.

Exceeding

- Children can explain what databases are, how they are used and provide a range of different user case examples. They understand the range of tools that are available for creating queries and how they can be used individually or in a combined approach to produce queries. Children might begin to experiment with applying multiple conditions in a filter that contain brackets and observe the effect of this on results displayed when run. They are able to link suitable tables together based on the data they contain and run queries unsupported that contain data from more than one table. Children methodically work out information requests, translate this into a query and can justify their proposed methods.