

DigiTech Scheme of Work

Unit 5.4 - Databases



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Introduction

For these sessions, the children will need to have their own individual logins to Purple Mash.

If you are currently using a single login per class or group and would like to set up individual logins yourself, then please see our guide to doing so at [Create and Manage Users](#). Alternatively, please contact support at support@2simple.com.au or Tel: +61 (0)380 015 024.

Children will be using the database program 2Investigate to learn about the functions of databases.

Medium-term Plan

Lesson	Title	Success Criteria
<u>1</u>	Searching a Database	<ul style="list-style-type: none"> Children understand the different ways to search a database. Children can search a database to answer questions correctly.
<u>2</u>	Creating a Class Database	<ul style="list-style-type: none"> Children can design an avatar for a class database. Children can successfully enter information into a class database.
<u>3 & 4</u>	Creating a Topic Database	<ul style="list-style-type: none"> Children can create their own database on a chosen topic. Children can add records to their database. Children know what a database field is and can correctly add field information. Children understand how to word questions so that they can be effectively answered using a search of their database.

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Lesson 1 – Searching a Database

Aim

- To learn how to search for information in a database.

Success Criteria

- Children understand the different ways to search a database.
- Children can search a database to answer questions correctly.

Resources

Unless otherwise stated, all resources can be found on the [main unit 5.4 page](#). From here, click on the icon to set a resource as a 2Do for your class. Use the links below to preview the resources; right-click on the link and ‘open in new tab’ so you don’t lose this page.

- [2Investigate tool](#): This is found in the Tools area of Purple Mash.
- Worksheets or online quizzes: There are two differentiated versions of the following worksheets and a sheet on which children create their own questions. Select the appropriate sheets to print for your children or set as a 2Do to open in the PDF Annotator tool. **Alternatively**, you can use the 2Quiz files with the same questions as the worksheets. Set these as 2Dos for the class and children’s scores will appear in the scores report.
- [Alien Simple Questions sheet](#) or [Aliens Database Simple Quiz](#)
- [Alien Advanced Questions sheet](#) or [Aliens Database Advanced Quiz](#)
- [Your Own Questions](#)
- [Answers](#)
- **Extension:** [Database Top Tips Poster](#). See extension activities and set as a 2Do if required.

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Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria
2Question compared to 2Investigate	Can children answer the questions on slides 4-5 ? Children were introduced to databases in unit 2.4 and 3.6. Clicking reveals the answers and further information.
Vocabulary	Use slide 6 to clarify the vocabulary that will be used.
2Investigate	Use slide 7 , clicking the icon will open the tool in Purple Mash. Open up the Aliens Database. Use slides 8- 17 to demonstrate the features of 2Investigate that children will be using in the lesson. Focus on Find (searches) for this lesson. Use the slides or demonstrate within 2Investigate itself. You do not have to go into detail on every point, children will be able to explore the effect of choosing each option. Ensure that children know how to find 2Investigate in the Tools area on Purple Mash. Clicking on each slide reveals the information gradually.
Activity 1	Use slide 18 to introduce the activity. Children should spend time using 2Investigate to answer the questions. Children could share some of the questions that they created and see whether the class can answer them.
Activity 2: Extension	Slide 19 is an extension activity that can be used for some children. Answer: The 'Favourite colour' and 'Age' fields were created as a free text answer choice, not a drop-down menu so children have spelled the words in different ways. Why is a drop-down menu option much better in a database?

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Review Success Criteria	Show Slide 20 . Review the success criteria from slide 3 . Children could rate how well they achieved this using a show of hands.
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Lesson 2 - Creating a Class Database

Aims

- To contribute to a class database.

Success Criteria

- Children can design an avatar for a class database.
- Children can successfully enter information into a class database.

Resources

Unless otherwise stated, all resources can be found on the [main unit 5.4 page](#). From here, click on the icon to set a resource as a 2Do for your class. Use the links below to preview the resources; right-click on the link and 'open in new tab' so you don't lose this page.

- Prior to the lesson ensure that you know how to create a **collaborative** 2Investigate database, see the [2Investigate User Guide](#) for more information.
- Purple Mash avatar creator: this is accessed by logging on to Purple Mash and clicking on the avatar image in the top right corner.

Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria.
Activity 1: Creating Avatars	Use slide 4 to show children how to create their avatars. Give them time to complete this before moving on.
A Class Database	Use slide 5 to decide as a class on the database structure. Clicking reveals more questions and suggestions.
	Use slide 6 to set up the database as a class on the whiteboard. Clicking the icon will open 2Investigate. Note: The 'Select a Class' option is only available for teacher users.

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	Use slide 7 to make the database collaborative.
Activity 2: Complete the database	Use slide 8 to guide the activity where children complete their own record on the collaborative database.
Activity 3: Extension	Use slide 9 to guide an extension activity.
Review Success Criteria	Display slide 10 . Review the success criteria from slide 3 . Children could rate how well they achieved this using a show of hands.

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Lessons 3 and 4 – Creating a Topic Database

Aim

- To create a database around a chosen topic.

Success Criteria

- Children can create their own database on a chosen topic.
- Children can add records to their database.
- Children know what a database field is and can correctly add field information.
- Children understand how to word questions so that they can be effectively answered using a search of their database.

Resources

- **There are alternative ways to proceed with activities in these lessons.**
- You could make use of the pdf resource [Lesson 3 - 4 – Worksheet](#) in which children write questions for others to answer about their database:
 - This could be set as a 2Do to use the PDF Annotator to type in the questions. Once this is handed in, the resulting file could again be set as a 2Do for a specific other pupil to fill in the answers.
 - You could also save the file in your own work folder and then open it with the PDF annotator and save in the class folder for children to open and save their own copy of. Other children could then access each other's questions to answer them.
 - The file could also be printed for children to write into and swap.
- Alternatively, children could create 2Quiz quizzes or 2Survey surveys for other children to complete. Use the table below to compare the advantages and disadvantages of these methods. Also consider children's existing familiarity with the tools when deciding which approach to take.

Method	Advantages	Disadvantages
Printed PDF	Might be logistically easier	Harder to assess children's level of competence.
2Do PDFs	You will have evidence about the children's ability to create questions and to answer questions.	Need to keep on top of handed in 2Dos and then set them as 2Dos for a peer.

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Shared folder PDF	Might be logistically easier. Evidence will be in the shared folder.	Danger of files being overwritten by children. Harder to sort work into children's folders.
2Quiz – set the app as a 2Do.	Easy to create quizzes that can then be shared in 2Blog or 2Email	Hard to access the results of children completing others quizzes to assess pupil ability.
2Survey	Children will be able to analyse the number of people answering their questions correctly for each question.	Children completing the survey will not get feedback about whether they are correct. Likely to be less familiar with this tool.

Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria.
Selecting a Topic for your Databases	Edit slide 4 to give some examples of topics that you think children within your class will be interested in and would make a good topic for a database. Children could use information from a game of Top Trumps. This could also be used to speed up the research time. Children should choose different topics for class variety.
Extended Activity 1: Creating the Database	Use either slide 5 <u>OR</u> slide 6 to outline the activity to be completed over the two lessons. Some of the lesson time will need to be used for the children to research and gather information for their database.
	Adapt slide 7 to show the method that you wish children to use for writing the questions, handing in and answering others' questions.
Activity 2: Extension	Use slide 8 to extend some children.
Review Success Criteria	Display slide 9 . Review the success criteria from slide 3 . Children could rate how well they achieved this using a show of hands.

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Assessment Guidance

The unit overview for Year 5 contains details of national curricula mapped to the Purple Mash Units. 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.

Assessment Guidance	
Emerging	<p>With support, children can contribute to the design of a collaborative (Unit 5.4 Lesson 2) and individual database, although this may be with limited success (Unit 5.4 Lesson 3 and 4).</p> <p>They can design and enter information accurately into their own simple database and create basic questions about their database for their classmates to answer. Furthermore, they can use the search functionalities to answer simple questions (Unit 5.4 Lesson 1, Lesson 3 and 4).</p>
Expected	<p>Children can contribute to the design of a collaborative (Unit 5.4 Lesson 2) and individual database (Unit 5.4 Lesson 3 and 4).</p> <p>They can design and enter information accurately into their own database and create questions about their database for their classmates to answer. Furthermore, they can use the search functionalities to answer questions (Unit 5.4 Lesson 1 and Lesson 3 and 4).</p> <p>Most children will be able to create a database within 2Investigate which contains contextualised information relating to a topic. They can add fields which are appropriate for the topic choice and present data using graphical tools, table views, and search for appropriate content to be displayed to answer a question (Unit 5.4 Lessons 3 & 4).</p> <p>Throughout this unit, children will be learning how to effectively utilise a database. They will respond to feedback from peers and the class teacher.</p> <p>Most children can interrogate a database, including the different ways the data can be sorted and displayed – Table view, Find, Sort, Charts (Unit 5.4 Lesson 1). They can use more advanced features such as the 'statistics tool' to display multiple pieces of statistical information at the same time and produce reports on specific criterion (Unit 5.4 Lesson 1 & 2).</p>
Exceeding	<p>Children demonstrating greater depth will lead a small group in the design and creation of a collaborative (Unit 5.4 Lesson 2) database. They can create an individual database with a greater number of fields and create complex search questions about their database for their classmates to answer (Questions using and/or statements). Furthermore, they can seamlessly use the search functionalities to answer complex questions (Unit 5.4 Lesson 1 and lesson 3 and 4.)</p>

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