# Computing Scheme of Work

# Unit 3.8 – Graphing

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# Introduction

These two lessons use the Purple Mash 2Graph tool which can be found in the Tools area of Purple Mash. There is an option to link Lesson 2 to a topic being studied in maths, science or another curriculum area.

# Medium-term Plan

| Lesson | Title | Success Criteria |
|---|---|---|
| 1 | Introducing 2Graph | • Children can set up a graph with a given number of fields.<br>• Children can enter data for a graph.<br>• Children can produce and share graphs made on the computer.<br>• Extension: Children can select most appropriate style of graph for their data and explain their reasoning. |
| 2 | Using 2Graph to Solve an Investigation | • Children have solved a maths investigation.<br>• Children can present the results in a range of graphical formats.<br>• Children can use the sorting option to make analysis of their data easier.<br>• Extension: Children can select most appropriate style of graph for their data and explain their reasoning. |

# Lesson 1 – Introducing 2Graph

## Aim

- To enter data into a graph and answer questions.

## Success Criteria

- Children can set up a graph with a given number of fields.
- Children can enter data for a graph.
- Children can produce and share graphs made on the computer.
- Extension: Children can select most appropriate style of graph for their data and explain their reasoning.

## Resources

Unless otherwise stated, all resources can be found on the main unit 3.8 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.

- Example graph – Favourite Colours. This should be set as a 2Do.
- 2Graph tool which can be found in the Tools area of Purple Mash

## Activities

| | |
|---|---|
| Introduction | Display **slide 2** and outline the lesson aims.<br><br>Display **slide 3** and outline the success criteria<br><br>If appropriate, remind the children of their work using 2Count and 2Graph in Year 1 (Unit 1.4). |
| Opening 2Graph | Display **slide 4.** Show the children how to open 2Graph |
| Favourite Colours | Display **slide 5.** Open the example graph 'Favourite Colours' which is found in the resource section for unit 3.8 on Purple Mash or by clicking on the link in the presentation. What information can the children find on the graph and associated table? |

| | |
|---|---|
| Features of 2Graph | Display **slide 6.** Look at the features of a 2Graph graph. Clicking highlights each feature. |
| Collecting Data | Display **slide 7.** As a class complete the table to show what their favourite colours are. |
| Activity 1 – Editing a Graph | Display **slide 8.** Instruct the children to open the same graph on their own computers from the 2Dos. The children should then spend time editing the graph using the data from their own class. |
| Checking the Work | Display **slide 9.** Bring the class back together and then look at their finished graphs. Have the children edited their graphs correctly? |
| Activity 2 – Extension: Which Graph? | Display **slide 10 and 11.** Look at the data presented on the slide. Which graph is the most appropriate form to show the information? |
| Review Success Criteria | Display **slide 12.** Review the success criteria from **slide 3.** Children could rate how well they achieved this using a show of hands. |

# Lesson 2 – Using 2Graph to Solve an Investigation.

## Aim

- To solve an investigation and present the results in graphic form.

## Success criteria

- Children have solved a maths investigation.
- Children can present the results in a range of graphical formats.
- Children will use the sorting option to make analysis of their data easier.
- Extension: Children can select most appropriate style of graph for their data and explain their reasoning.

## Resources

Unless otherwise stated, all resources can be found on the main unit 3.8 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.

- It would be useful to set up a class 2Blog for children to share their investigations (see 2Blog user guide).
- Alternatively, the file My Investigation could be used to record their investigation and insert an image of their graph. This can be set as a 2Do.

## Activities

| | |
|---|---|
| Introduction | Display **slide 2** and outline the lesson aims. Display **slide 3** and outline the success criteria.<br><br>This lesson could be linked to work being undertaken in Maths or Science. The aim is for the children to have some data they can use to input into a graph. If there are no suitable links to Maths or Science, then there are some ideas for investigations in the next slide. . |

| | |
|---|---|
| Choosing a Topic to Investigate. | Display **slide 4.** Explain that the children will be undertaking an investigation and then inputting the results into a graph. If there are no appropriate curriculum links:<br>• Roll some dice 30 times (link to Maths)<br>• Consider the favourite fruits in the class (link to healthy eating)<br>• Consider how the children travel to school (link to Walk to School Week)<br>• Consider what time children go to bed (link to PSHE).<br><br>The children could come up with their own topic or the class could all complete the same one. |
| Collecting the Data. | Display **slide 5.** The children need to consider how they will collect the date for their graph? |
| Completing the Graph. | Display **slide 6.** Use 2Graph to complete the graph using the information they have collected. Remember to save the graph when they have finished. |
| Sharing Graphs | Display **slide 7.** The children need share their graphs to a display board, via email or to a class blog? |
| Completing my Investigation Worksheet | Display **slide 8.** If you are not using a blog, children could download their graph as an image and then insert it into the My Investigation document which has been set as a 2Do. |
| 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. |

# Assessment Guidance

The unit overview for Year 3 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 | With support throughout, children use 2Graph to enter a simple data range on a limited number of fields.<br>Children can then present their data as a simple bar chart (Unit 3.8 Lesson 1).<br>In a small, supported group, children will complete an investigation of an everyday event, linked, where possible to the curriculum (Unit 3.8 Lesson 2.). |
| Expected | Children use 2Graph to enter data on a given number of fields and then present their data as a graph (Unit 3.8 Lesson 1). Children can select the most appropriate graph format to present their data. Independently, children can apply their graphical knowledge to an investigation of an everyday event, linked, where possible to the curriculum (Unit 3.8 Lesson 2). Furthermore, children present their graph by sharing it on a class blog (Unit 3.8 Lesson 2).<br>Most children can set up a graph within 2Graph with a given number of fields, enter data and manipulate the presentation of it using: Sort, block size, additional rows and editing of labels (Unit 3.8. Lesson 1). They can create further digital content within the context of the data they have collected by importing it into a pre-made writing template (Unit 3.8. Lesson 2).<br>Most children can present information in a range of graphical formats which includes attention to detail regarding appropriate labelling and block sizing (Unit 3.8. Lesson 2).<br>Children can use 2Graph to enter collected data and represent it using an appropriate graph type. They can sort data using sort features for easier analysis (Unit 3.8 Lesson 1) and can share their graphs with other children via 2Blog, appropriately commenting on their results e.g., from a maths investigation, particularly any surprising results (Unit 3.8 Lesson 2). |
| Exceeding | Children demonstrating greater depth will select the most appropriate graph format to present their data and explain their reasoning behind this (Unit 3.8 Lesson 1). They will experiment with different types of charts and determine the most suitable. They will also explore the ways of presenting data so that it can be graphically represented. |