purple mash

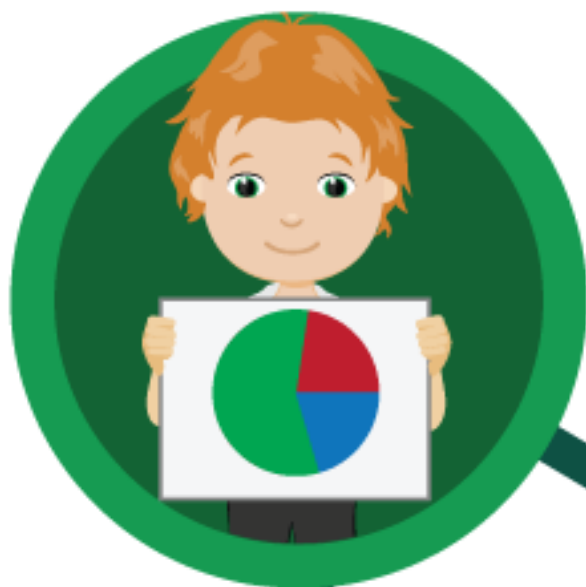## Computing
Scheme of Work

Unit 3.8 – Graphing

Year Group: 3
Number of Lessons: 2

From 2simple

Contents

Introduction

For these two lessons, we will be using 2Graph. There is an option to link Lesson 2 to a topic being studied in maths, science or another curriculum area.

Year 3 - Medium-term Plan

Lesson	Aims	Success Criteria
1	To enter data into a graph and answer questions.	• 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.
2	To solve an investigation and present the results in graphic form.	• Children have solved a maths investigation. • Children can present the results in a range of graphical formats.

Lesson 1

Aims

- 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.

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 by saving it in your work folder and then clicking on the share button .

Activities

1. Share the learning objectives and success criteria with the children.

2. If appropriate, remind the children of their work using 2Count and 2Graph in Year 1 (Unit 1.4).

3. Show the children how to open 2Graph. Open the example graph 'Favourite Colours'.

4. With the children, show them:

   - How to sort items alphabetically by clicking on the arrows.
   - How to sort the numbers from smallest to largest, and vice versa.
   - How to add/edit the title of the graph.
   - How to change the block size from units of 1 to units of 2, 3 etc.
   - How to add another row, e.g. if another child comes into the class and chooses 'Orange' as his favourite colour .
   - How to select the different graph types using the top toolbar.

5. Instruct the children to open the same graph on their own computers from the 2Dos. The children should then spend time editing the graph, as above.

6. Bring the class back together and collect class data on the board for children's favourite colours. Can children adapt the graph for their own class?

Lesson 2

Aims

- 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.

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 by saving it in your work folder and then clicking on the Share button . A printout of this file is shown in Appendix 1 if you wish to have children fill it in by hand and cut and paste their graph.

Activities

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 lesson plan below.

1. Share the learning objectives and success criteria with the children. Recap the learning from the last lesson.

2. Explain that the children will be undertaking an investigation and then inputting the results into a graph. If there are no appropriate curriculum links:

   - Roll a dice 30 times (link to Maths)
   - Consider the favourite fruits in the class (link to healthy eating)
   - Consider how the children travel to school (link to Walk to School Week)
   - Consider what time children go to bed (link to PSHE).

3. The children should devise a way to collect the data, do the investigation and then plot their results on a graph. They need to remember to:

   - Choose the appropriate block size
   - Include an informative title
   - Record and enter all data correctly.

4. The children can then save the graphs in their folder.

5. The children can then share their graphs on a class display board or a class 2Blog. In their blog post, they should explain how they went about their investigation. They should also comment on what the results show and whether there were any surprising outcomes. If you are not using a blog, children could download their graph as an image and then insert it into the My Investigation document.

Name:

Aim: Title of my investigation	Write in here..
Method: How I collected the data?	

Results: My Graph

Conclusion: What I found out?

Write in here..

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.
	Children can then present their data as a simple bar chart (Unit 3.8 Lesson 1. Point 4).
	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. Point 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. Point 4). 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. Point 2). Furthermore, children present their graph by sharing it on a class blog (Unit 3.8 Lesson 2. Point 5).
	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 Point 4). 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 Point 5).
	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 Point 3).
	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 Point 5).
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. Point 4). 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.