

The logo for Purple Mash, featuring the word "purple" in a purple sans-serif font and the word "mash" in a white sans-serif font, both contained within a black rectangular box with a torn top-right corner.

**purple
mash**

Computing Scheme of Work

Unit 1.2 - Grouping & Sorting

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Introduction

In this unit, the children will sort items by different criteria away from the computer. At the computer, they will use Grouping on Purple Mash to sort items. This unit is categorised under the Computer Science strand as grouping and sorting is an early stage of logical, algorithmic thinking.

Notes

Children who are not familiar with how to log in to Purple Mash and open and save activities will probably need support with this initially.

These lesson plans make use of the facility within Purple Mash to set activities for children which they then complete and hand in online (2Dos). This enables you to assess their work easily as well as distribute resources to all children. If children have not opened 2Dos before, then they will need more detailed instructions about how to do this. If your children do not have individual logins for Purple Mash, we can help you with this. Contact your school Purple Mash administrator or email us at support@2simple.com.

A teacher's guide to 2Dos can be found in the Teacher section: [2Dos Guide](#).

Children who are using computers or laptops for the first time rather than tablets, will need extra support regarding the use of mice, touchpads and keyboards.

To force links within this document to open in a new tab, right-click on the link and then select 'Open link in new tab'.

Medium-Term Plan

Lesson	Title	Aims (Objectives)	Success Criteria
<u>1</u>	Sorting Away from the Computer	• To begin to think logically about the steps of a process. • To sort items using a range of criteria.	• Children can sort various items offline using a variety of criteria. • Children can follow a logical process to categorise objects.
<u>2</u>	Sorting on the Computer	• To sort items on the computer using the 'Grouping' activities in Purple Mash. • To bring together logical thinking and the use of technology. • To introduce the term 'algorithm' to describe logically following a process.	• Children have used Purple Mash activities to sort various items online using a variety of criteria. • Children have experienced logical sorting using technology where items either fit a category or do not.

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Lesson 1 – Sorting Away from the Computer

Aim

- To begin to think logically about the steps of a process.
- To sort items using a range of criteria.

Success Criteria

- Children can sort various items offline using a variety of criteria.
- Children can follow a logical process to categorise objects.

Resources

Unless otherwise stated, all resources can be found on the [main unit page](#). From here, click on the icon to set a resource as a 2do for your class.

- [Lesson 1 – Worksheet 1](#) – Objects to sort – print and cut out for each child or pair.
- [Lesson 1 – Worksheet 2](#) Print for each child or pair.
- Extension: Set [Shape Sorting](#) as a 2Do for children. Right-click and open in a new tab to preview this activity.

You can select the following suggested computing objectives when setting the 2Do to make future assessment easier:

Edit Objectives
×

Year:	Y1	▼
Subject:	Computing	▼
Strand:	Computer Science	▼

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
☒

Create and debug simple programs.
☐

Use logical reasoning to predict the behaviour of simple programs.
☐

Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria.
Vocabulary	Slide 4 can be used to introduce new vocabulary. The vocabulary is repeated at the end of the lesson where it can be used to review lesson vocabulary.

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Activity 1: Describing a shape	Display Slide 5. Ask the children to look at the shape and describe it using simple criteria, e.g.: • four sides • blue • all sides are equal • more than three sides • fewer than five sides.
Activity 2: Describing shapes	Display Slide 6. The 4 shapes will appear when you click the mouse. Ask the children to look at each shape and describe it using simple criteria, e.g.: • number of sides • colour • all sides are equal • more than three sides • fewer than five sides.
Activity 3: Sorting Shapes	Display Slide 7. Discuss with the children the different ways we can sort out these shapes into two. It doesn't have to be the same numbers in each pile. Criteria to sort may include: • colour • four sides • fewer than four sides • fewer than three sides • all sides the same length. The second question helps children to recognise this as a logical process (the word logical is not required at this stage, just the growing familiarity with a way to think) You would need to know the colour, what a side is, what a length is, how to count, how to compare, to pick one shape at a time to sort.
Activity 4: Sorting Objects into Two Groups.	Display Slide 8. Hand out the shapes from Worksheet 1 to the children and ask them to sort them out by various criteria. The children can stick them down on Worksheet 2. Ask the children to describe how they have sorted them when you bring the class back together.
	Display Slide 9. Ask the children to describe how they have sorted the shapes using words to order the steps. Click for some examples to read to the children. Which example does not give enough information for someone else to follow?
Activity 5: Extension Activity	Display Slide 10. Ask children to complete the task. Remind children how to open Purple Mash, login and go to their 2Dos. They sort into circles and squares. Once completed, discuss other ways that the same objects could be sorted by opening the activity on

	the whiteboard by clicking the icon on the slide. Remember the sorting does not have to give equal numbers.
Vocabulary Overview	Slide 11 can be used to review lesson vocabulary. Click on the words to reveal the definitions.
Review Success Criteria	Review the success criteria from slide 3 . Children could rate how well they achieved this using a show of hands.

Lesson 2 – Sorting on the Computer

Aim

- To sort items on the computer using the 'Grouping' activities in Purple Mash.
- To bring together logical thinking and the use of technology.
- To introduce the term 'algorithm' to describe logically following a process.

Success Criteria

- Children have used Purple Mash activities to sort various items online using a variety of criteria.
- Children have experienced logical sorting using technology where items either fit a category or do not.

Resources

All activities can be found on the [main page for this unit](#): To preview these activities yourself, right-click on the links and then click 'open in new tab' so this plan remains open in this tab.

- [Shape Colour Group](#)
- [Shapes Sides 1](#)
- [Shapes Sides 2](#)
- [Shapes and Colour](#)
- Extension: Set the [2Quiz Grouping Quiz](#) as a 2Do.

You can select the following suggested computing objectives when setting the 2Do to make future assessment easier:

Edit Objectives
×

Year: Y1
Subject: Computing
Strand: Computer Science

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
☒

Create and debug simple programs.
☐

Use logical reasoning to predict the behaviour of simple programs.
☐

Activities

Introduction	Display slide 2 and outline the lesson aims. Display slide 3 and outline the success criteria Recap the learning from the previous lesson.
Vocabulary	Slide 4 can be used to review previous words and introduce new vocabulary. The vocabulary is repeated at the end of the lesson where it can be used to review lesson vocabulary.

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Activity 1: Recap	Display slide 5. Recap the learning from the previous learning. Show the children the shapes and ask them how we could sort them into two groups. The groups do not have to be equal. Once the children have come up with some ideas explain to the children that we will be sorting items in a similar way to the last lesson but that, this week, we will be using the computer to do it.
Activity 2: Shape Colour Group	Show Slide 6. Open the Shape Colour Group example on the whiteboard. Go through the activity with the children. Click the icon to open the activity in Purple Mash.
Introducing algorithms	Show slide 7. Children have not encountered thinking about how computer programs are programmed before. This slide links the ideas of clear instructions to computer programs. Children will explore this more deeply in the Lego Builders unit and when they do unit 1.7 - Coding. Click for more prompts to help children focus their thoughts: Reveal the human algorithm, can children follow this? Does it make sense? Reveal the computer algorithm, can children follow this? Does it make sense? What would the computer do with the example answer shown?
Activity 3: Grouping at the Computer	Show Slide 8. Explain to the children that they will be working through the examples themselves. The children will work through the activities that you will previously have set as 2Dos. Click the icons to open the activities in Purple Mash.
Activity 4: Extension Task	Show Slide 9. Show the children how to open the grouping activity from 2Do It Yourself. To do this go to Tools – 2Do It Yourself – Grouping. Show children how to select the 2 groups of 6 sort option (2 groups of 2 option is available if preferred) and then draw (or use clipart) to create two sets of objects that will need to be sorted. Once completed and saved in class folder, can others in class complete their sorting challenge?
Vocabulary Overview	Slide 10 can be used to review lesson vocabulary. Click on the words to reveal the definitions.
Review Success Criteria	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 1 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, children can physically sort items using a limited number of given criteria (Unit 1.2 Lesson 1). Using Purple Mash, children can sort items into two clearly defined groups using given criteria (Unit 1.2 Lesson 2).
Expected	Children can physically sort, collate, edit, present, search through, re-order and re-structure items using a range of given criteria (Unit 1.2 Lesson 1). Using Purple Mash, children can sort items into three clearly defined groups using given criteria (Unit 1.2 Lesson 2). Most children can sort physical objects using a range of criteria e.g., shape: Number of sides, colour, equal length sides etc. They can apply this skill within Purple Mash using the range of sorting activities with more than one criterion (All of Unit 1.2).
Exceeding	Children demonstrate their depth of understanding by creating their own criteria for items against which they can physically sort, collate, edit, present, search through, re-order and re-structure and explain their reasoning (Unit 1.2 Lesson 1). Using Purple Mash, children can also sort items into Venn diagrams using given criteria (Unit 1.2 Lesson 2).

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