

Pioneer Federation
Medium term plan
Cycle 1, Term 3
ICT



Subject: Purple Mash unit 1.2 Grouping and Sorting

Key Concept/ Theme: • To sort items using a range of criteria. • To begin to think logically about the steps of a process. • To sort items on the computer using the 'Grouping' activities in Purple Mash. • To introduce the term 'algorithm' to describe logically following a process.

Prior Learning links: EYFS: Children have been exposed to the layout of purple mash and have had experience of using a variety of technology including interactive whiteboards, ipads and using a keyboard.

Cycle 2

Unit 1.3 pictograms

- Presenting data in a picture format.

Unit 2.4 Questioning

- Enquiry into different data handling tools. • Use of questioning to separate and group information. • Identifying items using a binary tree. • Using a database for more complex search questions.

Key Vocabulary

Criteria

A way in which something is judged.

Groups

Objects arranged and put together because they have features in common.

Sort

Put things together by features they have in common.

Algorithm

A precise, step-by-step set of instructions used to solve a problem or achieve an objective.

Vocabulary:

Key Images: None

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Resources needed for each lesson – 2dos to set.

Lesson 1:

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.

Lesson 2

All activities can be found on the main page for this unit: To preview these activities yourself, rightclick 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.

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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.	<input checked="" type="checkbox"/>
Create and debug simple programs.	<input type="checkbox"/>
Use logical reasoning to predict the behaviour of simple programs.	<input type="checkbox"/>

<p>1. Unit 1.2 Lesson 1</p>	<p>Deeper learning questions: How might we describe these shapes? How could you group the objects? Can you sort more than one way?</p> <p>Reconnection: Go over online safety rules and remind them of why this is important.</p> <p>LO: • To begin to think logically about the steps of a process. • To sort items using a range of criteria.</p> <p>Activity: Outline the lesson aims.</p> <p>Go over new vocab for the lesson</p> <p>Ask the children to look at the shape and describe it using simple criteria, e.g.:</p> <ul style="list-style-type: none">• four sides• blue• all sides are equal• more than three sides
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- fewer than five sides.

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 side
- colour
- all sides are equal
- more than three sides
- fewer than five sides.

Discuss with the class 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.

Try sorting the shapes into two groups. It is up to you how you decide to sort them.

Can you label your table to explain how you have sorted them?

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 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?

Go over main vocab.

Extension: Try sorting these shapes into two groups using Purple Mash.

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	<p>Ask children to complete the task. Remind children how to open Purple Mash, login and go to their 2Dos.</p> <p>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.</p>
2. Unit 1.2 Lesson 2	<p>Deeper learning questions: Have you ever thought about how a computer ‘knows’ whether you put the correct answer?</p> <p>Reconnection: Go over online safety rules and remind them of why this is important. Go over how we grouped shapes last time. 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.</p> <p>Once the children have come up with some ideas explain to the pupils 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.</p> <p>LO: • 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.</p> <p>Activity: Outline the lesson aims.</p> <p>Go over new vocab for the lesson</p> <p>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.</p> <p>Once the children have come up with some ideas explain to the pupils 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.</p> <p>Open the Shape Colour Group example on the whiteboard. Go through the activity with the pupils.</p> <p>Click the icon to open the activity in Purple Mash.</p>

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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?

Explain to the children that they will be working through the examples themselves. The pupils will work through the activities that you will previously have set as 2Dos.

Click the icons to open the activities to demonstrate in Purple Mash.

Go over main vocab.

Extension: Show the children how to open up the grouping activity from 2Do It Yourself. To do this go to Tools – 2Do It Yourself – Grouping. Show pupils 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?

End of unit quiz & reflect on gaps from the unit:

Unit 1.2 Quiz – found on unit page on PM

Questions:

What does 'sorting' mean?

What is a 'criteria'?

Choose the criteria that apply to the object in the picture.

Choose the criteria that apply to the object in the picture.

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By which criteria have these objects been sorted?
How could you sort the objects in the picture below into two groups?

End Points:

In what ways can we sort objects? We can sort objects by different criteria. These include the size of the objects, the colour of the objects or the number of sides the object has. The criteria will depend on the type of objects being sorted.

Evaluation: What have the end of unit quizzes, pupil self-reflections and termly work told you about what the children can remember and recall? What are the gaps? Ensure that the areas that need further reinforcement are documented in the next subject unit MTP. **Plan in time to revisit gaps within units, determined by the quizzes.**

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Subject: Purple Mash unit 1.2 Grouping and sorting

Key Concept/ Theme: To understand the terminology associated with searching. • To gain a better understanding of searching on the Internet. • To create a leaflet to help someone search for information on the Internet.

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Prior Learning links: EYFS: Online Safety

<u>Cycle A</u>	<u>Cycle B</u>
Unit 1.1 Online Safety • Safe logins • Using Purple Mash search functionality	Unit 1.1 Online Safety • Safe logins • Using Purple Mash search functionality Unit 2.2 • Sharing to a display board • Sharing online • Digital footprint

Key Vocabulary

Digital Footprint

The information about a person that exists on the Internet as a result of their online activity.

Domain

Part of the Internet owned by an individual, company or organisation.

Internet

A way to send information from one computer to another anywhere in the world using technology such as phones, satellites and radio links.

Network

Connected devices that can send and receive information, voice and video.

Search Engine

A program to help you find web pages on the Internet.

Web Address

Identifying address for a file or web page on the Internet. Also known as URL.

Web Page

A single page which can include images, videos and charts.

World Wide Web

The web pages and documents you see when you are browsing online. It is just one part of the Internet.

Web Site

A collection of web pages that belong to one domain.

Vocabulary:

Resources needed for each lesson – 2dos to set.

Lesson 1:

- Internet quiz; this is available as a Purple Mash quiz that you can set as a 2Do for your class. It is also available in the appendix as a paper-based version to photocopy for your class: Internet Quiz – Lesson 1 – Worksheet 1.
- The answers are in the appendix at Internet Quiz – Lesson 1 – Worksheet 1 – Answers.
- Extension: Set the Developing Tray activity Can you decode? as a 2Do for children. If you are not familiar with the Developing Tray tool, refer to the User Guide. • You can select the following objectives when setting the 2Dos to make future assessment easier:

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Year:	Y2	▼
Subject:	Computing	▼
Strand:	IT	▼

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Year:	Y2	▼
Subject:	Computing	▼
Strand:	Digital Literacy	▼

Recognise common uses of information technology beyond school.

Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when concerned about content or contact on the internet or other online technologies.

Lesson 2

- A search engine. For the lesson screen shots, Google has been used as this is what many of the children will be familiar with at home.
- Finding Out Dinosaur Facts - Each child will need a copy.
- Finding out about dinosaurs – Answers found in the appendix.
- Dinosaur Quiz: Set this as a 2Do for the class. You can select the following objectives when setting the 2Dos to make future assessment easier:

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Year:	Y2	▼
Subject:	Computing	▼
Strand:	IT	▼

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Year:	Y2	▼
Subject:	Computing	▼
Strand:	Digital Literacy	▼

Recognise common uses of information technology beyond school.

Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when concerned about content or contact on the internet or other online technologies.

Lesson 3

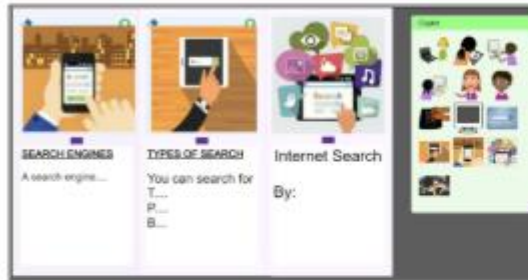
- Search Leaflet Example.pdf (Example PDF)
- Search Leaflet Example (Example Purple Mash)
 - Set one of the following templates as a 2Do for the children in your class. There are three differentiated templates, so you could set different ones for different ability groups within the class.
 - o Search Leaflet 1: This template has the pictures in place and requires the children to complete the simple sentences.
 - o Search Leaflet 2: This template has heading for each of the sections on the leaflet
 - o Search Leaflet 3: This template is blank and has a clipart bank of suitable resources.

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Search Leaflet 1

Search Leaflet 2

Search Leaflet 3



You can select the following objectives when setting the 2Dos to make future assessment easier:

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Year:	Y2	▼
Subject:	Computing	▼
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Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Year:	Y2	▼
Subject:	Computing	▼
Strand:	Digital Literacy	▼

Recognise common uses of information technology beyond school.

Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when concerned about content or contact on the internet or other online technologies.

1. **Deeper learning questions: What is the internet? What is the difference between World Wide Web and the Internet?**

Unit
2.5 **Reconnection:** Go over basic internet safety rules and why we have them. – Go over previously learnt Vocab

Lesson
1 **LO:** To understand the terminology associated with the Internet and searching

Activity:

Explain to the children that we will be finding out about the internet how we access the Internet to find content. Reveal each question by clicking and then the answers as discussions evolve.

Use the slide to share what a browser is and see how many children can name different well known browsers.

Ensure the children have an understanding of what a website is and that it contains individual pages (webpage).

Identify what a web address is and that these are also called URLs. Show children a few examples. Go through what a search engine is. It's important that children understand that a browser and a search engine are different. Browsers allow access to the World Wide Web and often default to a search page. From a browser such as Google Chrome you can still access other search engines such as Yahoo.

Share the activity. Children to complete the quiz which you set as a 2Do testing their knowledge.

Clicking the icon will open the quiz on the board for review or demonstration.

Go over vocab and review success criteria.

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	<p>Extension: Share the extension activity. Children should use the developing tray activity to try and develop a text with missing words and characters based on their learning this session. You might choose to do this as a whole class or have this set as individual 2Dos. Clicking the icon will open the activity.</p>
2. Unit 2.5 Lesson 2	<p>Deeper learning questions: What does a search engine do? How do you use it? Why are these tools useful?</p> <p>Reconnection: Go over basic internet safety rules and why we have them. – Go over previously learnt Vocab</p> <p>LO: To gain a better understanding of searching the Internet.</p> <p>Activity: Before starting the session, it might be appropriate to remind the children about online safety and your school approach. Explain that we will be finding out how to search using the Internet. Discuss and find out what children know about search engines. Go through the layout of the search engine home page as you reveal the slide. Demonstrate on a live browser entering a search term such as ‘dinosaurs’. Ask the children to observe what happens when you press enter, click ‘Google Search’ and click ‘I’m Feeling Lucky.’ Go through the search results page with the children. You might wish to do this live instead of using the slide. Focus the children on the key areas of the results page. Focus in on the use of the ‘Search Tools’. Again, you may wish to demonstrate this live. Discuss the key questions on the slide with the children and explore the different results they produce. Reinforce the need to be cautious when searching, particularly if clicking on the image or video tool as these could display inappropriate content incorrectly tagged. Explain to the children that as well as putting in a word as a search query we can also ask a question. You may wish to do this live on a search engine to show and compare results. Find out what the children know about how search engines give results. Lead onto a short discussion about Digital Footprint and how every online interaction almost always leaves a lasting Digital Footprint. Link to online safety approach within school. Share the main activity. You should have provided each child or pair with the worksheet Finding Out Dinosaur Facts. Children to use a search engine to help answer the questions. You might want them to use two different search engines to compare results. After completing the worksheet, they can have a go at testing if their answers are correct by using the quiz (set as a 2Do).</p> <p>Go over vocab and review success criteria.</p> <p>Extension: Can you create a list of questions where you have to use the different search tools?</p>

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<p>3. Unit 2.5 Lesson 3</p>	<p>Deeper learning questions:</p> <p>Reconnection: Go over basic internet safety rules and why we have them. – Go over previously learnt Vocab</p> <p>LO: To create a leaflet to help someone search for information on the Internet.</p> <p>Activity: Explain to the children that they will be creating their own leaflets to share their knowledge with others about their learning. Ask the children what the leaflet would need to include. You could reveal the slide or thought shower using 2Connect (Link on slide). After you have agreed contents and layout of the leaflet, show them the example leaflet (Link on slide). Children to then create leaflet using one of the templates you have set as a 2Do.</p> <p>Go over vocab and review success criteria.</p> <p>Extension: Share the extension activity with the children. Children to have a go at creating a quiz based on their learning. Reveal the steps and the tips needed to create a successful quiz. After completing, children could share their quiz to a blog for others to play and comment on.</p>
	<p>End of unit quiz & reflect on gaps from the unit:</p> <p>Unit 2.5 Quiz – found on unit page on PM</p> <p>Questions:</p> <p>What is the name of the global network of computers?</p> <p>Fill in blanks about WWW</p> <p>A _____ is a tool to help us access the World Wide Web</p> <p>Match the icon to the browser.</p> <p>What using a search engine you can also search by typing in a question. True/ False</p> <p>Information on a webpage may include?</p> <p>True/Flase www.purplemash.com is an eample of a web address</p>

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Another word for web address is _____

True/False Google and Bing are examples of search engines?

Look at the picture What do you type in the box?

End Points: How can I search the Internet? The easiest way to search the Internet is using a search engine. The search engine crawls the Internet looking for answers to the search enquiry. Google is a popular search engine.

Evaluation: What have the end of unit quizzes, pupil self-reflections and termly work told you about what the children can remember and recall? What are the gaps? Ensure that the areas that need further reinforcement are documented in the next subject unit MTP. **Plan in time to revisit gaps within units, determined by the quizzes.**

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