

Lesson 7	Study Module 4: Working with structured data (2/3)	Time
Lesson objective	In this lesson students are learning how to: <ul style="list-style-type: none"> <li>• search structured data</li> </ul>	
Learning outcomes	At the end of the lesson students will be able to: <ul style="list-style-type: none"> <li>• use Find to locate data</li> <li>• set and customise Filters (AutoFilter)</li> <li>• use Filters on single and multiple columns</li> </ul>	
Specification coverage	L1: 2.1, 5.1, 7.1, 8.3, 8.4 L2: 2.1, 4.1, 6.1, 7.3, 7.4	
Resources Study Module 4 SAM Mark Scheme Key vocabulary Search criterion Search operator Logical	<b>Starter</b> Read out or display the following serial number: EE27 545098. Tell students that it is the serial number of a UK bank note Ask them how they could find the denomination of the bank note if they had a spreadsheet with data about all UK bank notes. (It happens to be a £10 note in circulation). Answer: don't look through the many records one by one but make the spreadsheet search for it in the DENOMINATION field (not any others).	5 mins
Relational Filter Wildcards	<b>Share lesson objectives</b> Introduce the lesson and share learning objective and outcomes.	5 mins
Data validation Drop-down list	<b>Using search criteria</b> Remind students of the internet searches they conducted. Is searching a table or spreadsheet the same on a smaller scale? Are the outcomes the same? For example, how many hits would they get if they entered just the serial number into: <ol style="list-style-type: none"> <li>1. a search engine</li> <li>2. the search field of a spreadsheet with UK bank notes.</li> </ol> Use the term 'more than' to describe the likely outcome: more hits on the internet than in the spreadsheet. Lead from this example to the table with other search operators on page 5 in Study Module 4.	5 mins

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	<p><b>Using wildcards</b></p> <p>What if you did not have the complete serial number of the bank note but only the beginning, middle or end of it? Introduce placeholders (? and *). Use the example on page 8 to show students how wild cards work with text.</p>	5 mins
	<p><b>Using AutoFilter</b></p> <p>Point out that spreadsheets have a special feature called Filter. Ask students to describe what filters do, e.g. a coffee filter. Answer: filters divide liquids, solids, etc into two - those they hold back and those they let through.</p> <p>Explain that in a spreadsheet, users can design their own filters to find records and groups of records.</p> <p><i>Note: Use <u>D</u>ata, <u>F</u>ilter to recap with students what they learnt about keyboard short cuts in Lesson 1.</i></p> <p>Using the Customer Loyalty Scheme spreadsheet, demonstrate to students how to set filters, show all records (<u>D</u>ata, <u>F</u>ilter, Show All), and remove filters (<u>D</u>ata, <u>F</u>ilter).</p> <p>Point out to them that - on default - some filters are more useful than others: a filter on Card number shows all entries, a filter on Gender only two: male and female).</p> <p>Demonstrate how to:</p> <ul style="list-style-type: none"> <li>• customise filters</li> <li>• use a single filter</li> <li>• a combination of filters (members living in St Leonards with more than 550 points).</li> </ul> <p>Ask students to complete <b>Skill Builder 4.4</b>. Tell students to first use <u>E</u>dit, <u>F</u>ind to identify all those living in St Leonards, then <u>D</u>ata, <u>F</u>ilter, AutoFilter.</p>	20 mins
	<p><b>Feedback</b></p> <p>Discuss with the class (a) the difference between Find and Filter, and (b) answers to the search tasks.</p>	5 mins
	<p><b>Entering data</b></p> <p>Ask students how they think the data for the customer loyalty scheme was entered and how it is maintained (keyboard entries, drag &amp; drop, imports, automatic updates, e.g. for points earned). Ask students to give you advantages and disadvantages of each data entry method.</p> <p>Ask students to complete <b>Skill Builder 4.5</b> and also to add themselves, with 0 in the Points field and the current date as the joined date.</p>	10 mins

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	<b>Plenary</b> Remind students of the learning objective and recap on what they have learnt in this and previous lesson.	5 mins
	<b>Homework</b> Ask students to complete <b>Skill Builder 4.5</b> .	15 mins