

KS4 - Spreadsheets

Lesson 2: The RSC Live Event

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Materials from the Teach Computing Curriculum created by the National Centre for Computing Education



Task 1 - Who uses spreadsheets?

- Open the **starter activity spreadsheet**
- Look at the list of jobs in the **Who?** column
- Select a task from the list in column **J**
- There is more than one 'correct' answer here, but you can only write *one* answer in the **What For?** Column



Task 2 - Add seating prices

Open the spreadsheet called '**RSC Live event seating**'.

There are three types of seating and three price points. Students pay **25%** of Adult price; Over 60s pay **75%** of Adult price.

Use formulae to calculate the discounts and add the seating prices.



Task 3 - Conditional formatting - part 1

First, colour code each section of the seating but keep in mind that you'll need a fourth colour for indicating sold seats. I used the following colours:

- Premier seating cells H8–Q9 **#8064A2** (RGB: 128, 100, 162)
- First Class seating cells F10–S11 **#1155CC** (RGB: 17, 85, 204)
- Standard seating cells D12–U13 **#9bbb59** (RGB: 155, 187, 89)
- Sold seat **#F79646** (RGB: 247, 150, 70)



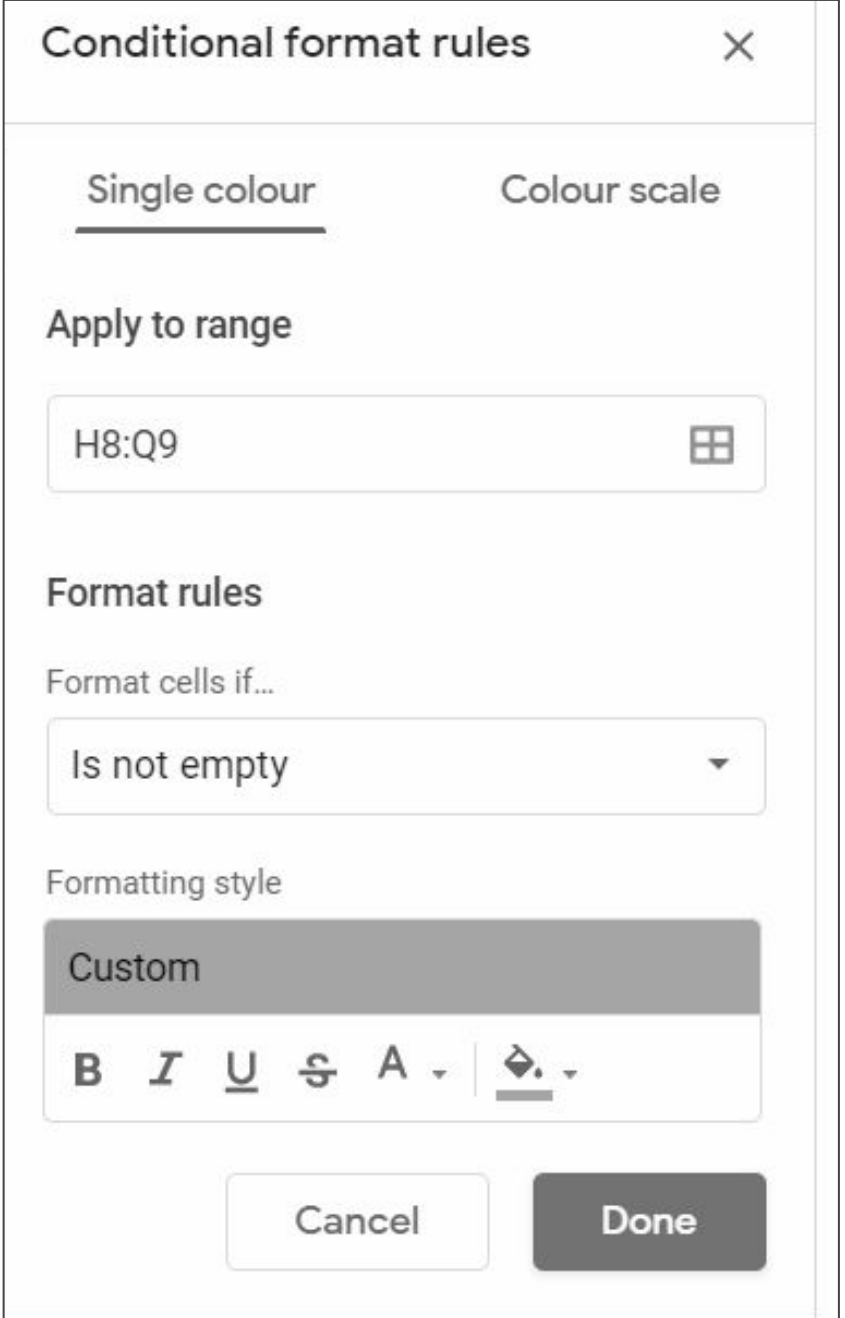
Task 3 - Conditional formatting - part 2

Highlight the **Premier seating** cells **H8–Q9**, fill them with a **colour**.

Then, with cells still highlighted, click on:

Format -> Conditional Formatting.

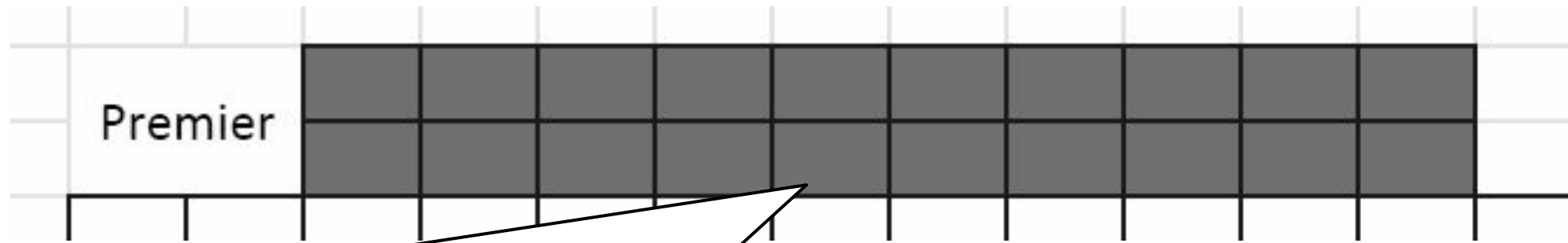
Check that the selected **range** is correct.
We want to change the cell colour if the cell **is not empty**. Select a **fill colour** then click done.



The screenshot shows the 'Conditional format rules' dialog box. It has a title bar with a close button (X). Inside, there are two tabs: 'Single colour' (selected) and 'Colour scale'. Below the tabs is the 'Apply to range' section with a text box containing 'H8:Q9' and a grid icon. The 'Format rules' section has a dropdown menu labeled 'Format cells if...' with 'Is not empty' selected. The 'Formatting style' section shows a 'Custom' style with a toolbar containing icons for Bold (B), Italic (I), Underline (U), Strikethrough (ABC), Font Color (A), and Fill Color (a color box with a downward arrow). At the bottom are 'Cancel' and 'Done' buttons.



Task 3 - Conditional formatting - part 3



The diagram shows a spreadsheet grid. The first column contains the text 'Premier'. The next 10 columns are highlighted in grey, representing a range of cells. A callout box points to one of these grey cells.

Premier											
---------	--	--	--	--	--	--	--	--	--	--	--

You want to change the cell colour if the cell **is not empty**.

Repeat for the First Class and Standard seating sections.

Enter any letter into any of these cells. The cell is now *not empty* and it should change colour.



Task 3 - Conditional formatting - part 4

Highlight the **First Class** seating cells **F10–S11**, fill them with a colour. **Repeat** step 2.

Highlight the **Standard seating** cells **D12–U13**, fill them with a colour. **Repeat** step 2.

Enter any letter into any of these cells; the cell is now not empty and it should change colour.



Task 4 - Data validation - part 1

Data validation is a way to prevent user error by limiting the data a user can input.

For this task, you will create a drop-down list from a range of cells so that the user will be directed to select data from this list.

Three seating sections need data validation adding.



Task 4 - Data validation - part 2

Select the Cell range and then click on:

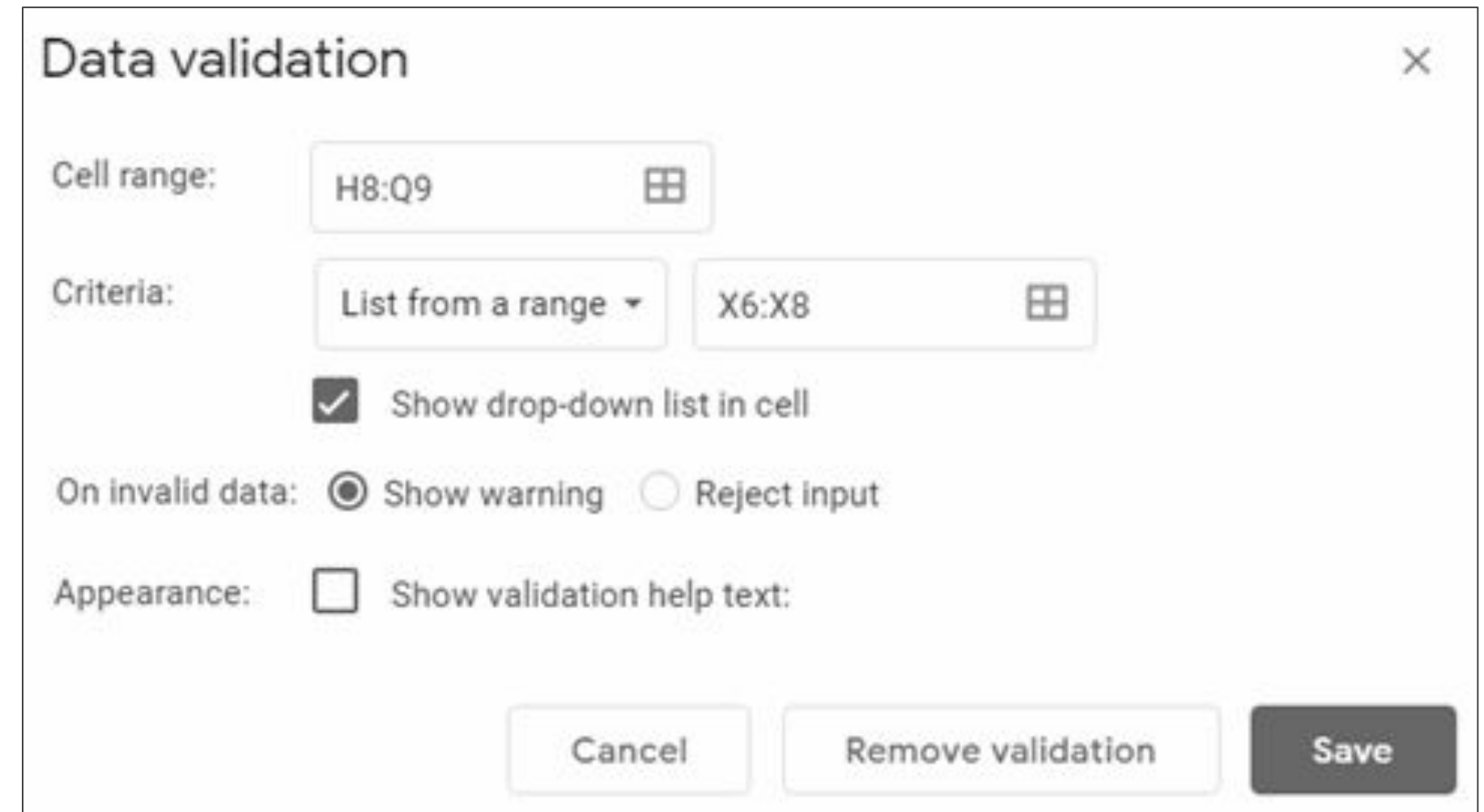
Data -> Data Validation

Criteria

Click on the waffle to select the cells to be used for the list. (X6:X8)

once done, click **Save**

Repeat for First Class and Standard seating areas



The screenshot shows the 'Data validation' dialog box with the following settings:

- Cell range:** H8:Q9 (with a waffle icon to select the range)
- Criteria:** List from a range (with a dropdown arrow) and X6:X8 (with a waffle icon to select the range)
- ☒ Show drop-down list in cell
- On invalid data:** ☒ Show warning ☐ Reject input
- Appearance:** ☐ Show validation help text:
- Buttons:** Cancel, Remove validation, Save



Task 5 - Counting seats - part 1

Below are the remaining activities for this lesson

Cell X13 a
COUNTIF formula

Enter a SUM
formula

Premier seats = 20
First Class = 28 seats
Standard = 36 seats

Cells X13–Z15 will all need
similar formulae

Enter a formula to
calculate how many
seats remain in each
section

	Seats sold			
	Adult	Student	Over 60s	Total sold
Premier				
First Class				
Standard				



Task 5 - Counting seats - part 2

Begin with cell **X13**.

Cell **X13** requires a formula that will count all the cells in the Premier seating area that have the letter A in them. The formula looks like this:

=COUNTIF(H8:Q9,"A")

	Adult	Student
Premier	=COUNTIF(H8:Q9,"A")	
First Class		
Standard		



Task 5 - Counting seats - part 3

As the **data** we are counting is **text**, we need to use " " speech marks around the letter **A**.

Cell **Y13** requires a similar formula to count cells containing **S**, and cell **Z13** requires a formula to count cells containing **O**.

This pattern needs to be repeated for the **First Class seats (X14–Z14)**

	Adult	Stud
Premier		
First Class	=COUNTIF(F10:S11,"A")	
Standard		



Task 5 - Counting seats - part 4

Repeat the pattern for the Standard seats (X15–Z15)

	Adult	Student
Premier		
First Class		
Standard	=COUNTIF(D12:U13,"A")	



Task 5 - Counting seats - part 5

Cells **AA13–AA15** require a **SUM** formula to add together the seats sold for each section. Example formula: **=SUM(X13:Z13)**

Seats sold					
	Adult	Student	Over 60s	Total sold	Seats Remaining
Premier				=SUM(X13:Z13)	
First Class				=SUM(X14:Z14)	
Standard				=SUM(X15:Z15)	



Task 5 - Counting seats - part 6

You need to calculate how many seats are still available for sale. Each section has a different number of seats.

- Premier = 20 seats
- First Class = 28 seats
- Standard = 36 seats

The rule here is seats available minus total seats sold in section.
Example formula: =20-AA13

Seats sold					
	Adult	Student	Over 60s	Total sold	Seats Remaining
Premier	0	0	0	0	=20-AA13
First Class	0	0	0	0	=28-AA14
Standard	0	0	0	0	=36-AA15



**Resume the video
now**



Task 6 - Calculate income - part 1

For Now that the spreadsheet is almost complete you can use some of the cells you've already set up to help calculate the income from seat sales.

There's a lot of repetition in this section so make sure you work methodically. The rule here is: **number of seats sold multiplied by seat price**. Example formula for cell **X20**:

=X13*AB6



Task 6 - Calculate income - part 2

Cells **X20–Z22**

Enter a formula to calculate the income from selling Premier seats to adults, then use a similar formula to calculate the income from selling seats to students and the over 60s.

Income from seats				
	Adult	Student	Over 60s	Total
Premier	=X13*AB6	=Y13*AC6	=Z13*AD6	=sum(X20:Z20)



Task 6 - Calculate income - part 3

Cells AA20–AA22

Enter a **SUM** formula in cell **AA20** to add together the totals for Premier seating sales then use the fill handle to drag this formula down.

You could enter the formulae in cells **X20–Z20** then use the fill handle to drag down the formula.



Task 6 - Calculate income - part 4

Cell **AA23**

Enter a **SUM** formula to add together the totals for each seating section for a final total.

Total	=sum(AA20:AA22)
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**Resume the video
now**

