

KNOWLEDGE ORGANISER

KS3 COMPUTING: Year 9 Summer Term : Unit 5 Spreadsheets

Overview:

Keywords:

Absolute cell reference	The reference remains the same, even if copied or moved.
Conditional formatting	Similar to formatting, but using a pre-programmed function to change the appearance based on a condition, e.g. displaying a negative number in red or a positive number in green. Conditional formatting will automatically update the information.
COUNTIF statement	Counts the cells that meet the specified criteria in the defined area.
Data Validation	A control of what type of data can be entered into a specific cell, e.g. making sure that the number entered is valid, that a letter has not been entered in error.
Formatting	Changing the appearance of the spreadsheet to make it more attractive and easier to read. Formatting can relate to changing the font/colours to meet a house style and/or changing the data to make it relevant, such as making the data appear as currency if relevant.
Formula	Tells the spreadsheet what operation to perform, e.g. add together the values in cell A1 to the value in cell A2.
Function	A predefined formula programmed into excel, e.g. COUNTIF
Nested If Statement	More than one ifstatement within an ifstatement
If statement	Checks whether a condition has been met and returns a value, similar to true/false, e.g. IF a score is greater than 50 display 'pass'.

Key Learning that will take place in this unit:

- Use of formatting and conditional formatting within spreadsheets.
- Different data types and formatting of these data types.
- Validation of data
- Use of images and image formatting.
- Application of the IF and COUNTIF functions within excel.
- Formula and creation use and application.
- Learning the different options available in the AutoSum function and their applications to spreadsheets.
- Use and application of goal seek analysis.

Software and resources that will be used:

- Microsoft Excel

Microsoft excel is a software program that allows users to organise, format and calculate data with formulas using a spreadsheet system.



Key stroke shortcuts (an alternative to the right mouse button):

Ctrl + x – Cut selected data
Ctrl + C – Copy the selected data
Ctrl + v – Paste copied/cut data

Ctrl + a – Select all (entire workbook)

Ctrl + s – Save

Shift + arrow key – selects a single cell at a time in the direction of the arrow key pressed

Spreadsheet examples from the unit:

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A

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Spreadsheet Skills - Comedy Club

Ticket Price

£12.36

Month

Number of Tickets Sold

Income from Ticket Sales

January

302

£3,732.24

February

456

£5,635.43

March

453

£5,598.35

April

445

£5,499.49

May

456

£5,635.43

June

596

£7,365.60

July

567

£7,007.21

August

503

£6,216.27

September

507

£6,265.71

October

502

£6,203.91

November

343

£4,238.93

December

802

£9,911.43

Expenses

Staff

£43,000.00

Rent

£25,000.00

Promotion

£3,000.00

Insurance

£1,500.00

Telephone

£560.00

Web Hosting

£250.00

LATE NIGHT
COMEDY
CLUB

COMEDY

Expenses	
Staff	£43,000.00
Rent	£25,000.00
Promotion	£3,000.00
Insurance	£1,500.00
Telephone	£560.00
Web Hosting	£250.00



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This unit will build on your knowledge gained in the year 7 spreadsheet unit. It will help you to learn the skills to create a useful and functional spreadsheet by focusing on formatting and formula creation.

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Nested IF Statement:

Exam boards use Grade Boundaries in order to award students with a final grade depending on what they got in their exam. Below is the grade boundary for GCSE Music. To get a grade 9 you have to get 49 or more out of 80!

1MU0	Music	Raw	80	49	42	35	29	23	18	14
	Paper 3									

Nested IF Statement continued:

In order to create a spreadsheet document that simply calculates what grade you got based on what mark you type in, we would use an IF Statement, to say IF a student got 50/80 then it is a grade 9. However we have more than 1 grade to look up so we would use more than one if statement within the same if statement!

=if(B1>=49,"9", if(B1>=42,"8", if(B1>=35,"7", if(B1>=29,"6", if(B1>=23,"5", if(B1>=18,"4", if(B1>=14,"3", "U"))))))))

A VERRY long nested if statement!

Functions can be typed in or added from the insert function button:

SUM (type as '=SUM' followed by the cell range)	Adds all the numbers in a range of cells, i.e. =SUM(A2:A11) adds together all the numbers in cells A2 to A11.
COUNTIF (type as '=COUNTIF' followed by the cell range, then the criteria)	Counts a given criteria within a given range, i.e. =COUNTIF(B4:F8,"A") would count the numbers of 'A's in cells B4 to F8
AVERAGE (type as '=AVERAGE' followed by the cell range)	Calculates the average value within a given range, i.e. =AVERAGE(K5:K8) would work out the average value of data in cells K5 to K8.

TEST YOURSELF

- How would you edit cell reference H7 to make it an absolute cell reference?
- Describe what would happen if you used the formula =SUM(A2:A11)
- Which function would you select to change the fill colour of a cell that contained information about a product that was available to buy to indicate that it had been sold?
- Write the formula that you would use to automatically indicate whether a person had passed a test when the minimum pass mark is 50.
- Give an example of where you could use the goal seek function.

Useful Links

Office 365 free online

<https://www.microsoft.com/en-gb/microsoft-365/free-office-online-for-the-web>

BBC Bitesize

Spreadsheets:

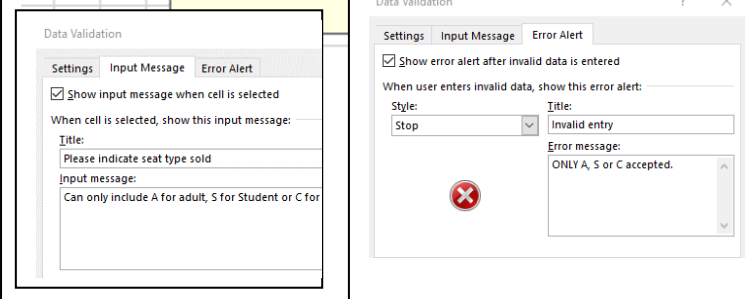
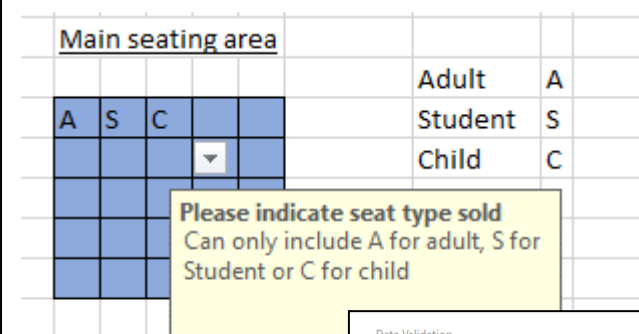
<https://www.bbc.co.uk/bitesize/guides/zdydmp3/revision/1>

Test yourself: <https://www.bbc.co.uk/bitesize/guides/zdydmp3/test>



Data validation example:

Data validation has been applied to the main seating area (the blue cells) to ensure when seats are sold the only information that can added is valid – that it is only sold as an Adult ticket (A), a student ticket (S) or a child ticket (C). No other information will be accepted and an error message will appear – created in the data validation menu.



At Home

Imagine that you are creating a spreadsheet to keep track of your spending – include pocket money, money received as gifts etc.

- Could you use a function to calculate how long it would take you to save up for something that you want?

Could you create a test for someone else who has completed this unit to check their knowledge of the key terms learnt?

Could you create your own 'house style'? What font would you use? What colour scheme?