

Spreadsheets

Skills Lesson Part 1



Skills Lesson Part 1 Overview

Objectives

To understand the use of basic formatting techniques in spreadsheets.

To understand the use of basic formulas and functions.

To understand the need to use absolute cell referencing in some calculations.

Outcomes

Pupils will complete the skills lesson Part 1 Excel sheet.

Time

Overview – Cell Referencing

Columns

Rows

Yellow Cell Reference – B2

Green Cell Reference – D3

This is a **range** of cells. More than one cell has been selected.
G6:G11

A range will be typically used when you are calculating values from a number of cells.

	A	B	C	D
1				
2				
3				

	F	G
1		
2		
3		
4		
5		
6		35
7		53
8		3
9		52
10		35
11		31
12	Total	200

Task 1 - Formatting

Adjusting Column and Rows

5		Height: 15.00 (20 pixels)
6	40098	13 Hours In A Warehouse
7	39475	3.10 To Yuma
8	39475	3.10 To Yuma
9	40714	Alice In Murderland
10	40686	Alice In Murderland

Task 1: Formatting		
A	B	C
1		

Text formatting including alignment and wrapping.

Format Cells

Number Alignment Font Border Fill Pr

Text alignment

Horizontal: Center Indent: 0

Vertical: Center

Justify distributed

Text control

Wrap text

Shrink to fit

Merge cells

Right-to-left

Text direction: Context

Merging Cells

Merge & Center

Merge & Center

Merge Across

Release Date	Title	No of Disc's	Format	Cat No.	RRP	UK Cert	Irish Cert	Region Code	Genre
40098	13 Hours In A Warehouse	1	DVD	LGD94135	£ 9.99	18	tbc	2	Horror
39475	3.10 To Yuma	1	DVD	LGD93952	£ 19.99	15	tbc	2	Western
39475	3.10 To Yuma (BLU RAY)	1	Blu Ray	LGB93952	£ 24.99	15	tbc	2	Western
40714	Alice In Murderland	2	DVD	LGD94409	£ 9.99	tbc	tbc	2	Film
40686	Alice In Murderland (RENTAL)	2	RENTAL	LGDR94409	n/a	tbc	tbc	2	Film
40651	Boy In The Striped Pyjamas	2	DVD	MIRLGD94437	£ 19.99	12	12	2	Drama
40658	Boys & Girls	2	DVD	MIRLGD94438	£ 19.99	12	tbc	2	Drama
40651	Boys Are Back, The	2	DVD	MIRLGD94439	£ 19.99	12	12	2	Drama
40112	Happily N'Ever After 2	1	DVD	LGD94189	£ 7.99	U	12	2	Drama
40112	Happily N'Ever After Double Pack	2	DVD	LGD94212	£ 9.99	U	tbc	2	Drama
40651	Hard Days Night	1	DVD	MIRLGD94491	£ 19.99	12	tbc	2	Music
40259	Harry Brown	1	DVD	LGD94206	£ 19.99	18	12	2	Drama
40679	Heartlands	1	DVD	MIRLGD94493	£ 19.99	12	tbc	2	Drama
40266	Imaginarium of Doctor Parnassus, The (BLU RAY)	1	BLU RAY	LGB94208	£ 24.99	12	PG	2	Adventure
40266	Imaginarium of Doctor Parnassus, The (RENTAL)	1	RENTAL	LGDR94208	n/a	12	PG	2	Adventure
40658	In the Bedroom	1	DVD	MIRLGD94501	£ 19.99	15	tbc	2	Drama
40252	Ninja (RENTAL)	1	RENTAL	LGDR94196	n/a	18	tbc	2	Action

Borders and Shading

Borders

- Bottom Border
- Top Border
- Left Border
- Right Border
- No Border
- All Borders
- Outside Borders
- Thick Box Border

Currency

Conditional Formatting

- £ English (U.K.)
- \$ English (U.S.)
- € Euro (€ 123)
- More Accounting Formats...

Theme Colors

Standard Colors

Formulas Part 1

The screenshot shows a spreadsheet with a formula bar at the top containing `=A4+C4`. Below the formula bar is a grid of cells. Row 4 is highlighted in yellow. Cell D4 contains the value 60. The grid contains the following data:

	A	B	C	D
1				
2				
3				
4	6	+	54	60
5				
6	4	-	65	-61
7				
8	3	x	45	135
9				
10	29	-	23	6

- **Formulas** always begin with an **equal sign =**
- Refer to the **cell reference (A4)** before you write your formula.
- You can create simple formulas to **add, multiply, subtract** and **divide**.
- Even if you **update the numbers** in the cell the formula will **automatically** work out the **new value**.

The screenshot shows a spreadsheet with a table of numbers. The table has two columns of numbers and a 'Total' row at the bottom. The 'Total' row is highlighted in yellow.

Addition	
35	634
53	53
3	12
52	41
35	2
31	63
Total 209	Total 805

- To find the total for a range of cells you would use the **Sum Function**.

The screenshot shows a spreadsheet formula bar containing `=SUM(G6:G11)`. An arrow points from a yellow box labeled "Cell Range" to the range `G6:G11` in the formula.

Functions

Cell Range for Total, Max & Min (Jan Sales).

Cell Range for Total & Average (Monthly Sales).

	January	February	March	April	May	June	Total	Average
iPhone 6	15	15	15	40	15	15	115	19.167
Samsung s5	18	18	18	18	18	18	108	18
Sony Xperia	5	5	5	5	5	5	30	5
Other	6	2	30	4	1	10	53	8.8333
Total:	44	40						
Max:	18	18						
Min	5	2						

```
=SUM(B6:G6)
```

The **=Sum Function** will calculate the **total (Sum)** of the numbers in the **range**.

```
=AVERAGE(B6:G6)
```

The **=Average Function** will calculate the average of the numbers within the range.

```
=MAX(B6:B9)
```

The **=Max Function** will find the **highest** number in the **range**.

```
=MIN(B6:B9)
```

The **=Min Function** will find the **lowest** number in the **range**.

Absolute Cell Referencing

Formula Bar: `=B6*E3`

Task 2: Percentages				
		10%		25%
	Student Discount		New Student Price	Staff Discount
Price				
119.95	£ 12.00	£	107.96	=B6*\$E\$3
229.45	£ 22.95	£	206.51	£ 57.36
360.59	£ 36.06	£	324.53	£ 90.15
439.95	£ 44.00	£	395.96	£ 109.99
539.99	£ 54.00	£	485.99	£ 135.00

When you use **AutoFill** to **duplicate a formula** into the cells **below** then you must use **absolute cell referencing** if you want the cells to be **referencing to one particular cell**.

Absolute cell referencing will **lock** in a particular cell. To absolute cell reference you must insert a **dollar sign before Letter and number of the cell**.

`=B6*E3`

Task 2: Percentages						
		10%		25%		
	Student Discount		New Student Price	Staff Discount	New Staff	
Mobile Phone	Price				Price	
Sony Xperia M	119.95	£ 12.00	£ 107.96	£ 29.99	£ 89.96	
Nokia Lumia 1320	229.45	£ 22.95	£ 206.51	=B7*E4	#VALUE!	
HTC One	360.59	£ 36.06	£ 324.53	£ -	£ 360.59	

In the example to the left if you do not use **absolute cell referencing** on the **25%** then the Price will be multiplied against the content in **E4**.

Graphs

	A	B	C	D	E	F	G
1	Task 1: Mobile Phone Sales						
2							
3							
4	Sales						
5		January	February	March	April	May	June
6	Iphone 6	15	15	15	40	15	15
7	Samsung s5	18	18	18	18	18	18
8	Sony Xperia	5	5	5	5	5	5

- Highlight the cells that will be required to create the chart.
- Select the a chart option (Bar, Pie, line etc.)
- You can add labels to your graph by selecting Layout 9 from the Quick Layout menu.

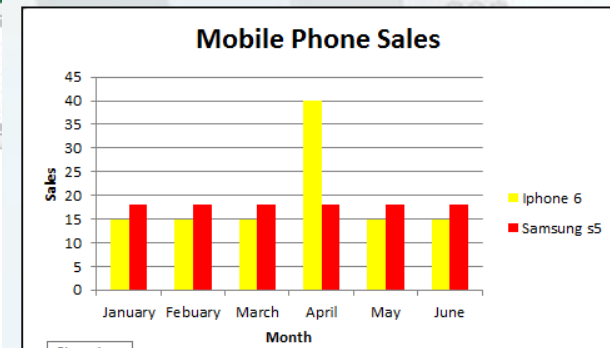
Insert Column or Bar Chart

Use this chart type to visually compare values across a few categories.

Click the arrow to see the different types of column and bar chart available and pause the pointer on the icons to see a preview in your document.

Chart 3

Layout 9



Plenary – Refer to the Lesson Objectives

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Plenary Task (Q&A)

1. What is the main advantage of using formula's in completing this task on a spreadsheet.