# Spreadsheets

Lesson 3 & 4

100

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### Starter

- What is a Budget
- Why do we set a budget
- What sort of budget will you set for your party.



## **Simple Functions**

Cell Range for Total, Max &Min (Jan Sales). <u>Cell Range</u> for Total & Average (Monthly Sales).

,		Jan darv	Febuary	March	April	Mav	June	otal	Average		
j	lphone 6	15	15	15	40	15	15	115	19.167		
7	Samsung s5	18	18	18	18	18	18	108	18		
;	Sony Xperia	5	5	5	5	5	5	30	5		
1	Other	6	2	30	4	1	10	53	8.8333		
0	Total:	44	40								
1	Max:	18	18								
2	Min	5	2								

f<sub>∞</sub> =MAX(B6:B9)

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

 $f_x$  =MIN(B6:B9)

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

=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.

Functions are predefined formulas and are already available in Excel.

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## **Lesson Overview**

#### **Objectives**

Understand the effects of changing data within your spreadsheet (modelling).

Understanding cell referencing and the use of simple formulas.

Understanding the use of functions and absolute cell referencing

Outcomes							
Task 1	You will complete the second expenditure sheet.						
Task 2	You will use absolute cell referencing to work out the total Expenditure including Tax.						
Task 3	You will insert functions (max, min, average) to help you reduce costs – change data.						

## Task 2 – Simple formulas

 You will complete the second expenditure sheet using the items from the catalogue provided.

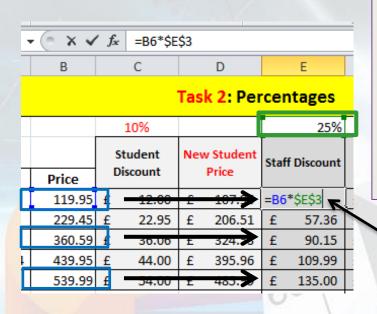
		Р	arty	- [
Decoration	Shop	Amount	Cost	Tota
			Decoration Total	
Entertainment	Hours	Cost P/H	Total	
Entertailment	nours	COSCITI	Total	
		Entertainment Total		
Venue	Hours	Cost P/H	Total	

- 1. Enter Item and shop name.
- 2. Enter the amount you want for each item.

For Entertainment and Venue enter the amount of hours.

- 3. Enter the cost or cost per hour.
- 4. Use a formula to work out the total cost for each item.
- 5. Use the Sum Function to work out the Decoration and Entertainment total.

#### **Absolute Reference & Relative Reference**



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\*\$E\$3

All the prices will be multiplied by the % in E3.

The Price is relative referencing. When the formula is dragged down the formula references to the next price in the cell below.



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.

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## Task 2 – Absolute Cell Referencing

- Complete the Total Expenditure table. You need to insert the total Costs and work out the VAT (Absolute Cell referencing).
- Insert a formula to work out the Total (Cost + VAT).
- Insert a Function work the expenditure total.

120
Needs to be
absolute cell
referenced
by pressing
F4 on your
keyboard.

**Cell Reference** 

	Total	Expenditure									
Type	Cost		VAT		-	VAT					
Drinks	£	382.75	=	J14*\$I\$20		£	1	57.4	41	50	1
Food	£	1,055.00			_ '				-		
Decoration	£	5,796.00		Left Click	n the square in th						
Entertainment	£	1,950.00		bottom right corner of the cell							
Venue	£	675.00		and drag down to replicate the					e the		
				formula.					VAT	1	
									£	57.41	<u>L</u>
									£	158.25	5
15.0%	1								£	869.40	)
									£	292.50	)
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Total

### Task 3 – Functions

 Insert the Min, Max and Average function for the Food and Drink tables. Try and reduce your overall costs.



### Plenary – Refer to the Lesson Objectives

#### **Objectives**

Understand the effects of changing data within your spreadsheet (modelling).

Understanding cell referencing and the use of simple formulas.

Understanding the use of functions and absolute cell referencing

#### Plenary Task (Q&A)

- 1. What is the main advantage of using a spreadsheet for modelling purposes.
- 2. Have you managed to reduce costs?
- 3. Describe how the use of formulas and Functions has enabled you to reduce your overall costs.