

INTRODUCTION TO FORMULAE

One of the most important reasons for using a spreadsheet is to use formulae. These are like sums that work out the answer automatically.

Look at this sum: $1 + 2 = 3$ We add the numbers together to get the answer.

Now this sum: $3 = 1 + 2$ The answer is the same. Why?

It does not matter how we write this sum we know that we will always get the answer 3 when we add 1 and 2.

The sum equals the answer and so the answer must equal the sum.

Now look at this: $1 + 2 = \boxed{1 + 2}$

This sum is correct but it does not help us with the answer to $1 + 2$

Imagine that you don't know how to work out the answer to $1 + 2$. Then the answer in the box makes sense. The $\boxed{1 + 2}$ in the box is the formula for working out the sum. i.e. it tells you what to do. A computer can not do sums unless it knows what to do. The formula tells it what to do.

Now try putting the formula for each of these sums in the boxes that go with them.

$7 + 5 =$

$25 + 10 =$

$8 - 3 =$

$100 - 10 =$

$2 \times 3 =$

$10 \times 10 =$

The formulae that you have entered in to the boxes would enable a computer to work out the answer for each of the sums.

In the spreadsheet below the sum $1 + 2 = 3$ is shown as it might appear in Starting Grid. You can see that the $+$ and $=$ are missing. The formula has been used to calculate the answer 3 but only the answer is shown.

	A	B	C	D	E	F
1						
2		1	2	3		
3						

In this spreadsheet the numbers in B2 and C2 are entered and the answer in D2 is calculated using a formula entered. But what if the numbers in B2 or C2 were to change the formula $1 + 2$ would be wrong. What you need is a formula that will add up the numbers in B2 and C2 regardless of what numbers they are:

If $B2 + C2 = D2$ then $D2 = B2 + C2$ With this formula you add together any two numbers automatically.

Now try working out these sums using the formula $B2 + C2$

- 1 If $B2 = 3$ and $C2 = 4$ what does $D2 =$
- 2 If $B2 = 10$ and $C2 = 5$ what does $D2 =$
- 3 If $B2 = 50$ and $C2 = 100$ what does $D2 =$

In this spreadsheet we need a formula to work out the number of Mars Bars left. Write the formula in this box and then put the answer in D2.

	A	B	C	D	E	F
1		Bought	Ate	Have Left		
2	Mars Bars	5	2			
3						

Does your formula work regardless of the quantity in B2 and C2?

In this spreadsheet you need to write a formula that will calculate the total number of pencils in the stock cupboard. Write your formula in cell D2.

	A	B	C	D	E	F
1		Number in Packet	Number of Packets	Total		
2	Pencils	10	7			
3						

Now that you know what formulae are and how to use them, next time, you can try writing formulae using the Spreadsheet program on the computer.