

AFTERSCHOOL TRAINING TOOLKIT

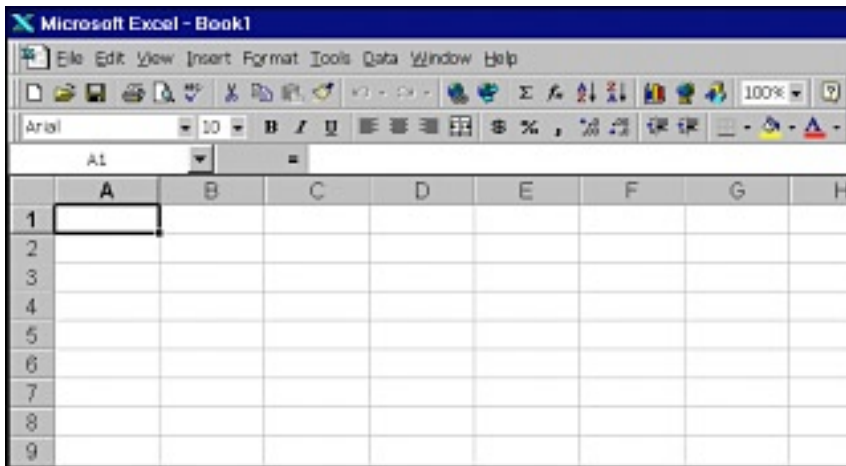
Math Tools

Data Analysis and Probability: Graphing Candy with Excel

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The M&M® candy makers claim there is a certain percentage of each color in every bag. Let's see if they are right. Make a spreadsheet to calculate the number of each color that should be in each bag, based on the percentages that the candy maker tells us. Then you will then open a bag of M&M®'s, count them, and make a comparison to see if the M&M® candy makers are right.

1. First open up your spreadsheet application (Microsoft Excel®).
2. Click on Start...Programs...Microsoft Excel®.
3. When Microsoft Excel opens, a blank spreadsheet will appear like the one below. If it does not automatically appear, you can click on File...New...New Workbook to start a new spreadsheet file.



4. The M&M® candy makers say that a bag contains the following color of candies:
10% blue 30% brown 10% green 20% red
10% orange 20% yellow
5. Create a spreadsheet to do some counting and comparisons.

Set up your table by following the steps below:

1. Create a title in A 1 – *M&M® Color Comparisons*
2. Create a label for cell A2 and enter the total number of M&Ms in your bag in cell B2 (don't eat any yet!)
3. Create and label columns A3 (color) and B3 (% of total).
4. Enter the colors and the company percentage in the columns and rows (A4 – A9 and B4 – B9)

	A	B
1	M&M Color Comparisons	
2	Total M&M	65
3	Color	%of total
4	Blue	0.10
5	Brown	0.30
6	Green	0.10
7	Red	0.20
8	Orange	0.10
9	Yellow	0.20

Counting and Comparing:

First, figure how many of each color should be in your bag (Column C) based on the company's formula. For example, to determine the number of blue, multiply the total number (in the example show, the total is 65 (B2) by .10 (10%)(B4). Place your cursor in cell C4 and type this formula =sum(\$B\$2*B4) and press the Return key. The correct sum will appear in C4. Use the same procedure to determine the number of other colors. Be sure to use the correct cell numbers in your calculations.

	A	B	C	D	E
1	M&M Color Comparisons				
2	Total M&M	65		How many of that color?	
3	Color	%of total			
4	Blue	0.10	6.50	Blue	4
5	Brown	0.30	19.50	Brown	19
6	Green	0.10	6.50	Green	1
7	Red	0.20	13.00	Red	17
8	Orange	0.10	6.50	Orange	7
9	Yellow	0.20	13.00	Yellow	17
10	Total M&M		65.00		65

Now, count the actual number of each color and enter those numbers as comparison with what the candy maker said should be in the bag.

Determine the actual percentage of each color in your bag of M&M's.

1. Use this formula which will divide the number of an individual M&M color by the total number of M&M[®]'s (to determine its percent of the total) =SUM(E4/E10)
2. Use the same formula for each color. Be sure to use the correct cell number in your calculation.
3. Create a new column to display your results.
4. Were the percentages the same?
5. Create another column to calculate the difference.
6. What formula did you use to do this?
7. What might explain the difference?

Explore on your own

1. Create a Chart from your data. Insert ... Chart ... follow the instructions that appear.
2. Change the look of your spreadsheet with Word Art, borders, or clip art.

Save your work

Click on File...Save As...select the a: drive (your diskette) or the Desktop...enter a file name for your document.