

# Excel Tutorial 1:When Zombies Attack!

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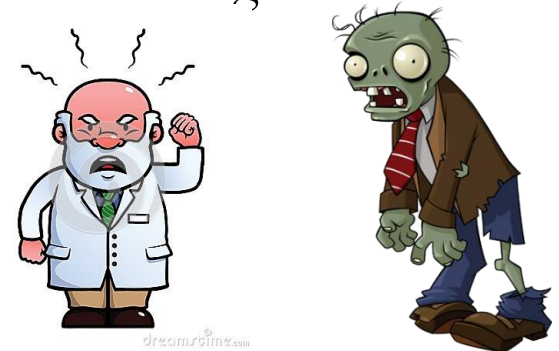
# Tutorial learning objectives

- By the end of the tutorial, you should:
  - Understand the basics of worksheets and workbooks
  - Know how to do simple calculations in excel
  - Understand how to use and find functions in excel
  - Know how to create graphs from your data in excel
  - Be able to format your graphs in excel
  - Format your graphs for transfer into a word document
- Also: KNOW HOW TO CALCULATE THE END OF THE HUMAN RACE IN THE EVENT OF A ZOMBIE APOCALYPSE!

# The Story/data



- It was a pleasant day in the top 25 cities (by pop) of the world.
- The citizens were going about their business unaware that somewhere in the middle of their cities, experiments were underway to create a new type of bioweapon
- Unfortunately, an absent minded scientist left his petridish open....and released the zombie pathogen to the world
- Now with months on the clock, humanity struggles to survive against the growing army of the undead
- Some economists, being economists decided to estimate the time to the end of the human population and amount of revenue from the bullets black market instead in the areas with the highest food supply for our zombie friends....
- And that is where our story begins...



Our cities (can you guess which is where?)



# Basics of worksheets and workbooks

- Using the zombie data excel file
- Start with Sheet 1, rename the sheet 'population'
- [Worksheets vs. Workbooks](#)
- [Saving a Workbook](#)
- [Naming a Worksheet](#)
- Find more ways of managing worksheets on the [Worksheet Basics Tutorial page](#)



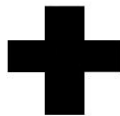
# Examine the data: Zombies, bullets and cities

- Familiarize yourself with the sheets in the Zombie dataset. Look at headers, rows and columns and ask yourself the following:
  - What are the variables?
  - What measures are being used (percent, number etc)?
  - Where is the data from? Is it from a reliable source?



# Make some calculations: Mafia and Zombies

- Series Fill- fill in the Bullets and prices for all years in Bullets sheet
- So the mafia has taken over in our cities and are selling bullets (we all know how zombies are killed) to the desperate populace. Calculate the revenue gained by these mafiosos in the Revenues column in the Bullets sheet. (remember  $\text{Revenue} = \text{price} \times \text{quantity}$ )
- Note: Absolute vs. Relative Referencing (or the power of the \$)
- Label a new column rev2, and multiply your Revenue by 10
- Now calculate the average revenue over 5 years in a new cell. Turn it into percentages form
- Find functions in excel (use a function for averages instead)



# Line Graphs: population over time

- Line graphs are useful for seeing changes over time
- Fill in the data for the other years in the population sheet. Do the same for the zombie sheet
- Now select the data in the population sheet for the graph. We want to see the population in our cities over time.
- 'Insert' tab, 'Line' drop-down box to insert the line chart
- You can 'select data' by right clicking on the chart and choosing 'Select data'. When do the zombies kill us all?
- Now we can add labels to our axes.





# Format the chart

- Formatting the chart makes the information clear
- Format the horizontal and vertical axes
- Add chart title and axis titles
- Change the chart size
- Format the legend and plot area
- Format the data series
- The economists now have a well formatted chart to present to the mafia leaders on when demand for their business will come to an end



# Scatter Plot

- Scatter plots are useful for looking at the relationship between 2 variables. For example do variables increase together or decrease together.
- What is the relationship between the birth rate and the zombie growth rate? The birth rate and the price of bullets?
- 'insert' tab. 'Scatter' drop-down box. Select the one with the bunch of dots
- You can do the same thing as last time to [select data](#). Which variable goes on the x-axis?
- Don't forget to format the chart!



# Copying and Pasting into Word

- You can copy and paste your chart into a word document by::
- Select the chart. Copy (CTRL C) and paste (CTRL V) it. Double check the formatting of your chart.
- Did formatting change? Excel changes word and word changes excel if they're open
- You can also paste it as a picture in word to prevent formatting changes when you copy and paste. Right click the Word document and other 'paste options' select 'Picture'



# QUESTIONS?

(don't worry, I'm sure the economists would save the world before it ended...maybe... ;))