

## Logic Activity #1

In this activity we will be working with Google Sheets. Some of the concepts you will be doing is from previous activities, so the steps will not be given, but for the new concepts, they will be provided. The only time you have to include the “” is in the formulas, usually after the =.

1. Make a copy of the “Logic” data from google classroom and make a copy naming it something that includes your name.
2. To decide whether the students have passed or failed their test, you will use logic commands to have the computer decide it. Using an IF command you’ll use =If(logical expression, value if true, value if false)  
The cut off point for passing is 400. Anything greater than or equal to 400 is a pass.

In cell C2 type: =IF(B2>=400, “Pass”, “Fail”)

3. Fill down to give all students a pass or fail.
4. To give the level for each students we will be using the breakdowns as follows.  
Limited: 0-349  
Basic: 350 - 399  
Proficient: 400 - 449  
Accelerated: 450 - 499  
Advanced: 500 - 580

In cell D2 type: =IF(B2 < 350, “Limited”, IF(B2<400,”Basic”, IF(B2<450, ”Proficient”, IF(B2<500, “Accelerated”, IF(B2<580, “Advanced”))))))

5. Fill down to give all students a level
6. To give the point value, a limited level gets a 1, basic gets a 2, proficient gets a 3, accelerated gets a 4, and advanced gets a 5

In cell E2 type: =IF(D2=”Limited”, “1”,IF(D2=”Basic”,”2”,IF(D2=”Proficient”,”3”,IF(D2=”Accelerated”,”4”,IF(D2=”Advanced”,”5”))))))

7. To sort the students with the scores going from lowest score to highest, highlight all the data (from A2 to E17), go to the data tab and select “sort range”, Sort by dropped down box, choose Column B. If you included row 1, check the Data has a header row on the top. Then hit sort.
8. I would like everything except the names to be centered in their cells.
9. Bold print and italicize the header row (Row 1)

10. Make the columns B and E smaller (thinner)
11. In Cell G2 type "Number of Students"
12. In Cell G3 type "Number of Passes"
13. In Cell G4 type "Number of Failures"
14. In Cell G5 type "Percent of Passes"
15. In Cell G6 type "Percent of Failures"
16. In Cell G7 type "Percent of Limited"
17. In Cell G8 type "Percent of Basic"
18. In Cell G9 type "Percent of Proficient"
19. In Cell G10 type "Percent of Accelerated"
20. In Cell G11 type "Percent of Advanced"
21. In Cell G13 type "Average Score"
22. Since all the words do not fit in column G, select column G and on the top choose the  $\rightarrow$  and in the drop down box choose  $\leftarrow$  to wrap the text.
23. To count how many students (this is going to count how many numerical values there are in the selected area) in cell H2 type =count(b1:b17)
24. To count how many passes, in cell H3 type =countif(c2:c17, "Pass")
25. To count how many failures, in cell H4 type =countif(c2:c17, "Fail")
26. To find the percent of passes, in cell H5 type =h3/h2  
 Select cell and choose to make it a percent by hitting the % on the top
27. Find the percent of failures and put it in H6
28. To find the Percent of Limited, in cell H7 type =countif(d2:d17,"Limited")/h2
29. Find the percent of all the other levels and make sure they are all in Percents
30. In cell h13, find the average score (mean) from the data in column B
31. Highlight cells A2 to E4 and change the cell color by hitting the fill color (looks like a paint can spilling). Choose any color you'd like.
32. Now sort the data again, (make sure you highlight A2 to E17) and sort it by name (column A).
33. Another way to do this is by Conditional formatting. To color only the proficient scores yellow. Select the range of data you want to apply conditional formatting to. So highlight A2:E17
34. Choose Format ->Conditional formatting in the top menu

35. Choose Custom formula is and click on Cell is not empty and in the drop down box scroll down to Custom Formula is
36. In input box type in `=D2="Proficient"` and under formatting style change the color by hitting the paint can and choosing a yellow.
37. Select Done and then + Add Another Rule
38. Now we want the accelerated and advanced scores to be another color. So in the custome formula is box type in `=B2>=450` and change the color to a green and **bold print** and hit done.
39. Highlight G2 to H13 and put a border around the whole block. On top line next to the fill color, it looks like a window. Choose that and then choose the border that just goes around the whole thing and no lines in between.
40. Share it with Mrs. Beck