Onion Root Tips Computer Activity

1. Log onto:
   http://www.biology.arizona.edu/cell_bio/activities/cell_cycle/cell_cycle.html

2. Read the text on this page.
3. Click on "Next." Read through this page. (It should be review.)
4. Click on "Next." Read the information on this page.
5. Put the information in the chart on this page into an Excel Document. (Have the information like this:

6. Click on "Next." And answer the 36 questions.
7. Copy your results into a Word document. (Highlight, copy and paste it.)
8. Put your name in the header. Change the margin sizes so that the information prints to one page.
9. Write a formula in your Excel document to calculate the percent of cells in each phase of the cell cycle. (Based on your data.)
10. Use the Computer to graph your results. Graph them as a 3-D pie graph. Titile it "Percent of Cells in the Phases of the Cell Cycle." Insert it "as object in" so it appears on the same "sheet" as your data. (Be sure to move it so it fits on the page below your data and will print to one page.)
11. Type your name into a cell below your graph on the Excel sheet.
12. Print your Excel worksheet (with the graph) and also print the pictorial results that you copied to Word from the web.
13. Answer the questions in another word document and print it:
    a. Which phase of the cell cycle does your data show the cells are in the longest?
    b. Which phase of the cell cycle does your data show the cells are in the shortest?
    c. Does your data agree with the model diagram of the cell cycle? How or how not?
    d. Which phase of mitosis does your data show the cells are in the longest?
    e. Which phase of mitosis does your data show the cells are in the shortest?
    f. The cell cycle of onion cell is 12 hours (720 min.), how long is the cell in each phase of mitosis? (not the entire cell cycle, just mitosis; remember also that you should calculate the number of cells in that phase/total number of cells * number of minutes for cell cycle in order to tell how long each phase was.)