STRAW LAB
Chem IH

I. Theory: Periodicity
II. Purpose: To investigate the trend of atomic radii

III. Procedure: Using the 96 well spotplate you are going to make a periodic table showing the atomic radii of the atoms to help relationship of the table to element properties.

Orient the spotplate so that the numbers1-12 are across the top. The letters along the side are the periodic. Since the spotplate has only 12 recesses across, do not include groups 5,6,8,9, and 16. Do not do the lanthanide and actinide series.

Convert the atomic radius (table in chapter 6) to cm using the conversion of 1 cm= 40 pm. For example, the atomic radius of hydrogen is 78 pm. To convert the cm divide by 40. Cut a piece of straw to length of each element. Using the spotplate to hold the straws, insert them in periodic order (period 1, row A, etc)

IV. **Data**: Sketch or take a picture and print with appropriate labels when finished.

V. Discussion:

1. How do the atomic radii change from left to right across a period? Explain your observation on the basis of the electron structure of the elements.
2. How does the atomic radii change from top to bottom down a group? Explain your observation on the basis of the electron structure of the elements.
3. How would the general shape of the model change if you included all the groups?
4. Why could the atomic radius considered a periodic property?

VI. Conclusion: