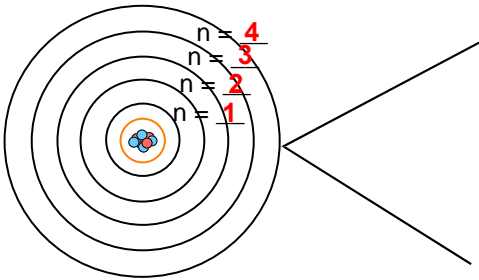


## CONCEPT: ELECTRON ARRANGEMENTS

- The **Electron Arrangement** of an atom gives the number of \_\_\_\_\_ in each energy level.
  - Recall, as the value for  $n$  increases then both the size and energy level of an atomic orbital will \_\_\_\_\_.
  - At \_\_\_\_\_ energy levels the number of electrons within a given orbital will \_\_\_\_\_.
  - The energy levels (shell numbers) of an atom can be tied to the \_\_\_\_\_ or rows of the Periodic Table.

**EXAMPLE:** Complete the electron arrangements for the following elements of the Periodic Table.



|   | 1A<br>(1)   | 2A<br>(2) |  | 3A<br>(13) | 4A<br>(14) | 5A<br>(15) | 6A<br>(16) | 7A<br>(17) | 8A<br>(18) |
|---|-------------|-----------|--|------------|------------|------------|------------|------------|------------|
| 1 | 1<br>H      |           |  |            |            |            |            |            | 2<br>He    |
| 2 | 2-<br>Li    |           |  | 2-<br>B    |            |            |            | 2-<br>F    |            |
| 3 | 2-8-<br>Na  |           |  | 2-8-<br>Al |            |            |            |            |            |
| 4 | 2-8-8-<br>K |           |  |            |            |            |            |            |            |
| 5 |             |           |  |            |            |            |            |            |            |
| 6 |             |           |  |            |            |            |            |            |            |
| 7 |             |           |  |            |            |            |            |            |            |

- Elements beyond  $Z > \rule{1cm}{0.4pt}$  can have partially filled orbitals and are beyond the scope of this course.

**PRACTICE:** Write the electron arrangement for the following element: Calcium ( $Z = 20$ )