

## Part 1

1. Color code the periodic table to represent metals, nonmetals, and metalloids (see p. 158). Make sure to draw the zigzag line on the staircase! Write a legend below the table for each class of elements.
2. Label each area on the table:
  - Number the groups 1-18
  - Number the periods 1-7
  - Group 1: Alkali metals
  - Group 2: Alkaline earth metals
  - Groups 3-12 Transition Metals
  - Inner Transition Metals
    - Elements 57-71 Lanthanides
    - Elements 89-103 Actinides
  - Group 17: Halogens
  - Group 18: Noble gases
3. Write the sublevel (orbital) & number of electrons above each group.
  - $s^1$ : group 1
  - $s^2$ : group 2
  - $p^1$ : group 13 (3A)
  - $p^2$ : group 14 (4A)
  - $p^3$ : group 15 (5A)
  - $p^4$ : group 16 (6A)
  - $p^5$ : group 17 (7A)
  - $p^6$ : group 18 (8A)
  - $d^1$ -  $d^{10}$ : group 3-12 (3B-2B)
  - $f^1$ -  $f^{14}$ : inner transition metal series starting with Ce & Th
4. Label the energy levels as labeled on the board.

## Part 2

1. What information can we find in each box of the periodic table?
2. Using the periodic table you created, write the electron configuration for elements 2, 14, 24, 47, and 79.
3. For shorthand, scientists write electron configuration as the previous noble gas [in brackets] with the rest of the configuration to the right. For example, Al would be written as  $[\text{Ne}]3s^23p^1$  in noble gas configuration.  
Write the noble gas configuration for elements 24, 47, and 63.