Name: KEY Period: _____ Date: _____

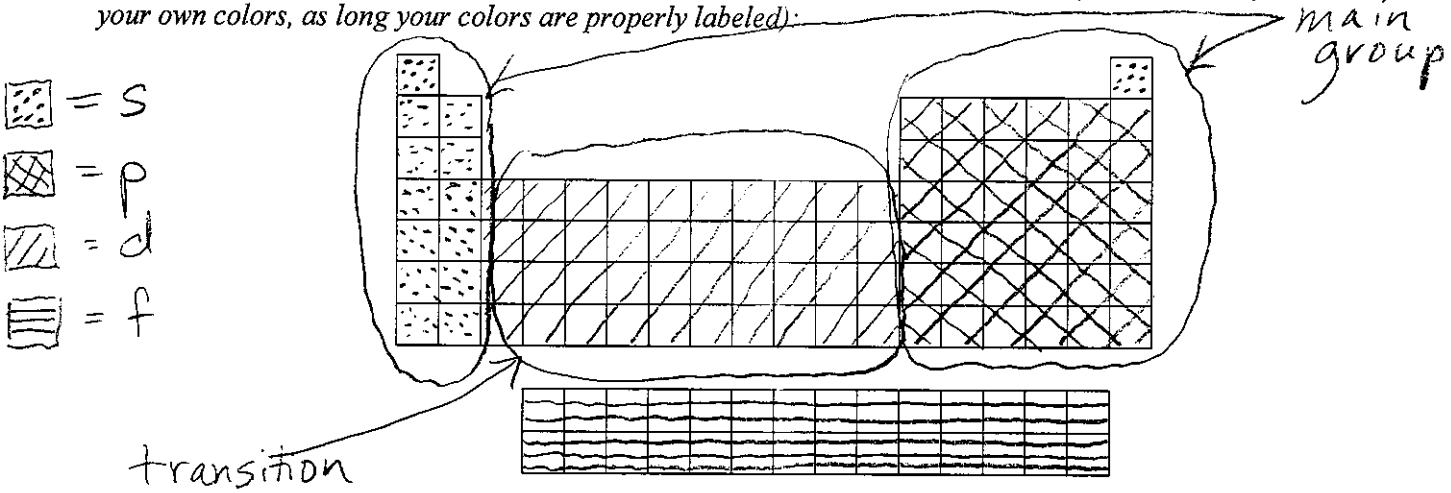
Exploring the Periodic Table

→ Go to: www.tinyurl.com/explorePT

Blocks

1. Under the drop-down box for Groups, select the **Blocks** option. This colors the periodic table in four distinct colors. The key to the color code is listed at the bottom of the window.

2. Using colored pencils, shade and label the **s-, p-, d-, and f-blocks** on the following periodic table *(you can choose your own colors, as long your colors are properly labeled)*:

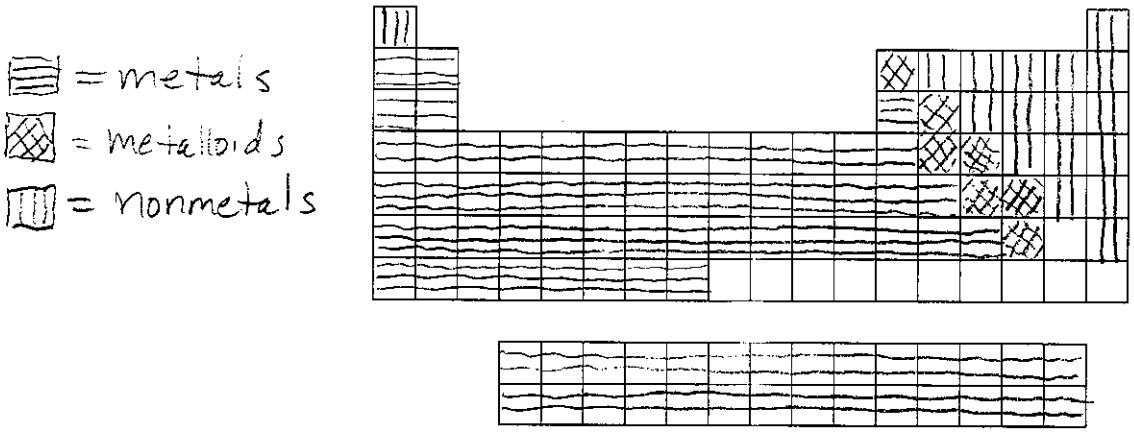


3. The **main group** elements include all of those elements found in the **s and p blocks**. Select **Main Group** under the drop-down menu for Blocks. Outline and label the main group elements above.

4. The **transition** elements refer to all elements within the **d** block. Select **Transition metals** under the drop-down menu for Blocks. Label and outline the transition elements above.

Metals, Nonmetals, and Metalloids

5. Now switch to **Metals**. Color and label the metals below. Repeat for **nonmetals** and **metalloids.**

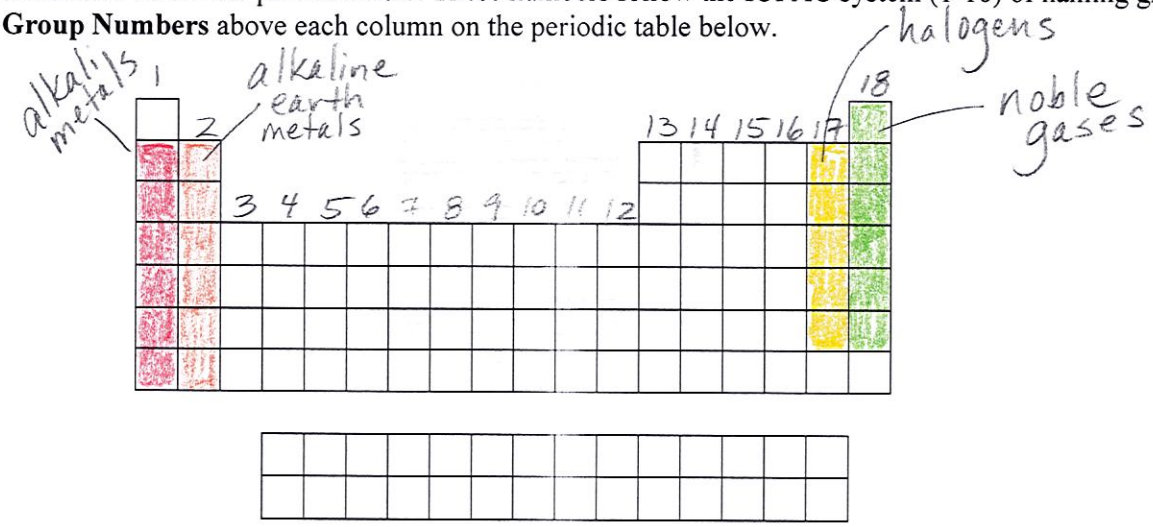


Groups

6. Switch the drop-down box to all of the following groups: **Alkali Metals, Alkaline Earth Metals, Halogens, and Noble Gases**. Based on the shading you see, what do you think represents groups on the periodic table?

Columns

7. Look at the numbers above the periodic table. These numbers follow the IUPAC system (1-18) of naming groups. Label the **Group Numbers** above each column on the periodic table below.



8. Group 1 elements are called the **Alkali Metals**. Label the group above, and shade it red.
9. Group 2 elements are named the **Alkaline Earth Metals**. Label the group above, and shade the column orange.
10. Group 17 elements are called the **Halogens**. Label the group above, and shade it with the color yellow.
11. Group 18 elements are called the **Noble (or Inert) Gases**, because they rarely react with any other elements. Label the group above, and shade the column green.
12. Group 11 is sometimes (unofficially) referred to as the *coinage metals*. Why might this be the case?

used to make coins

Periods refer to the rows on a periodic table.

13. On the periodic table *below*, label all of the **atomic numbers** for the elements. What pattern do you notice?

increasing left to right and top to bottom

14. Did you notice anything unusual when you were writing the atomic numbers? Explain.

56 → 71
88 → 103
] Usually the atomic number goes up by 1 each time, but not at 56 & 88

15. Look back to the "Blocks" section of this activity. Where was the f-block? How many periods does it span?

at bottom; 2 periods

16. The upper period of the f-block is called the **Lanthanide Series.** Label it in the periodic table below.
17. The lower period of the f-block is called the **Actinide Series.** Also label it below.

1																	2
3	4											5	6	7	8	9	10
11	12											13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
55	56	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
87	88	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118

lanthanide series → 57 58 59 60 61 62 63 64 65 66 67 68 69 70

actinide series → 89 90 91 92 93 94 95 96 97 98 99 100 101 102