THE PERIODIC TABLE WEBQUEST!!

Answer the questions on the following pages using the information on the websites provided.

ON THE SHOULDERS OF GIANTS

CLICK HERE

Complete the following table using information from the website above.

Scientist Contribution to the development of the periodic table

Greek thinkers

Lavoisier - It was Lavoisier who wrote the first extensive list of elements - containing 33 elements.

John Dalton

Doberiner

Dechancourtois

Cannizaro

Newlands

Meyer

Mendeleyev

Moseley

Seaborg

GETTING THE LAY OF THE LAND: PERIODICALLY ORGANIZED

Click here to learn more.

1. Why are the elements placed in specific places on the Periodic Table?

2. Periods are \_\_\_\_\_\_\_\_ that run from \_\_\_\_\_\_\_ to \_\_\_\_\_\_\_.

3. Elements in the same period have the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. Every element in the first period has \_\_\_\_\_\_\_\_ shell for its \_\_\_\_\_\_\_. Every element in

the second period has \_\_\_\_\_\_\_\_\_\_ for its \_\_\_\_\_\_\_\_\_\_\_. See the pattern?

5. Groups are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that run from \_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_.

6. The elements of a group have the same number of \_\_\_\_\_\_\_\_\_\_\_\_ in their \_\_\_\_\_\_\_\_\_\_\_

shell.

7. Every element in group one has \_\_\_\_\_\_\_\_\_ electron in its outer shell. Every element in

group two has \_\_\_\_\_\_\_\_\_\_\_ electrons in its outer shell.

8. Hydrogen is special because it can act like two groups, \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_.

9. Hydrogen sometimes is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an electron and sometimes it has an

\_\_\_\_\_\_\_\_\_\_\_\_\_ electron.

10.Although helium has only \_\_\_\_\_\_\_\_\_\_ electrons in its outer shell, it is grouped with

elements that have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

11. The green elements on this table are called \_\_\_\_\_\_\_\_\_\_\_\_ elements. They each have

two electrons in their outer shell.

GETTIN'' TOGETHER WITH THE FAMILIES!!!!

Use this site to fill in the blanks below:

http.//chemicalelements.com/

12. **Click on Alkali Metals** (left bar) and answer the following questions.

a. What is the group number? \_\_\_\_\_\_\_\_\_\_

b. Are these metals reactive? \_\_\_\_\_\_\_\_\_\_

c. Do these metals occur freely in nature? \_\_\_\_\_\_\_\_\_\_

d. How many electrons are in their outer shell? \_\_\_\_\_\_\_\_\_\_\_

e. What are the three characteristics of ALL metals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f. Are these metals soft or hard? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

g. Name the two most reactive elements in this group? \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_

h. What happens when they are exposed to water? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. **Click on Alkaline Earth Metals** (left bar) and answer these questions.

a. What is the group number? \_\_\_\_\_\_\_\_\_\_

b. Are these metals reactive? \_\_\_\_\_\_\_\_\_\_

c. Do these metals occur freely in nature? \_\_\_\_\_\_\_\_\_\_\_\_

d. How many electrons are in their outer shell? \_\_\_\_\_\_\_\_\_ (Hint: It’s the same as their oxidation

number or group number.)

14. **Click on Transition Metals** (left bar) and answer these questions.

a. How many elements are in this group? \_\_\_\_\_\_\_\_\_\_\_\_

b. What are the group numbers? \_\_\_\_\_\_\_\_\_\_ through \_\_\_\_\_\_\_

c. What are valence electrons? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. Because the valence electrons are present in more than one \_\_\_\_\_\_\_\_\_\_\_\_\_ transition metals

often exhibit several common \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

e. Name the three elements in this family that produce a magnetic field. \_\_\_\_\_\_\_\_\_,

\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_.

15. **Click on Other Metals** (left bar) and answer these questions.

a. How many elements are in this group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. What are the group numbers? \_\_\_\_\_\_\_\_\_ through \_\_\_\_\_\_\_\_\_\_

c. How are these other metals similar to the transition metals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. How are these metals different than the transition metals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e. List three physical properties of these other metals. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f. What are the oxidation numbers for this group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. **Click on Metalloids** to answer these questions**.**

a. On your periodic table, draw the black stair-step line that distinguishes metals from nonmetals.

b. Metalloids have properties of both \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_.

c. Define semiconductor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

d. Name two metalloids that are semi-conductors. \_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_.

e. This property makes metalloids useful in \_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

17. **Click in Nonmetals** to answer these questions**.**

a. What are the group numbers? \_\_\_\_\_\_\_\_\_\_\_ through \_\_\_\_\_\_\_\_\_\_\_\_

b. List four characteristics of ALL nonmetals. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. What two states of matter do nonmetals exist in at room temperature?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. The nonmetals have no \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and do not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

e. What are the oxidation numbers of the nonmetals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18. **Click on the Halogens** (left bar) to answer these questions**.**

a. What is the halogen group number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Are halogens metals or nonmetals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. The term “halogen” means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and compounds containing halogens are

called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

d. How many electrons are in their outer shell? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e. What is their oxidation number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f. What states of matter do halogens exist in at room temperature?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19. **Click on Noble Gases** (left bar) and answer these questions**.**

a. What is the group number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Why were these gases considered to be inert or stable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. What is their oxidation number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

20. **Click on Rare Earth Elements ( Inner Transition)** (left bar) and answer these questions.

a. On you periodic table, label the Lanthanide and Actinide series with your pencil.

b. How many Rare Earth elements are there? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. Define trans-uranium. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. The Rare Earth metals are found in group \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and periods \_\_\_\_\_\_\_\_\_\_\_\_\_\_and

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.