PERIODICALLY ORGANIZED

Go to the website <http://www.chem4kids.com/files/elem_pertable.html> and find the answers to the questions below.

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/**

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

1. What is the group number? \_\_\_\_\_\_\_\_\_\_
2. Are these metals reactive? \_\_\_\_\_\_\_\_\_\_
3. Do these metals occur freely in nature? \_\_\_\_\_\_\_\_\_\_
4. How many electrons are in their outer shell? \_\_\_\_\_\_\_\_\_\_\_
5. What are the three characteristics of ALL metals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Are these metals soft or hard? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Name the two most reactive elements in this group? \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_
8. What happens when they are exposed to water? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. What is the group number? \_\_\_\_\_\_\_\_\_\_
2. Are these metals reactive? \_\_\_\_\_\_\_\_\_\_
3. Do these metals occur freely in nature? \_\_\_\_\_\_\_\_\_\_\_\_
4. How many electrons are in their outer shell? \_\_\_\_\_\_\_\_\_ (Hint: It’s the same as their oxidation number or group number.)

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

1. How many elements are in this group? \_\_\_\_\_\_\_\_\_\_\_\_
2. What are the group numbers? \_\_\_\_\_\_\_\_\_\_ through \_\_\_\_\_\_\_
3. What are valence electrons? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Because the valence electrons are present in more than one \_\_\_\_\_\_\_\_\_\_\_\_\_ transition metals often exhibit several common \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Name the three elements in this family that produce a magnetic field. \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_.

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

1. How many elements are in this group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the group numbers? \_\_\_\_\_\_\_\_\_ through \_\_\_\_\_\_\_\_\_\_
3. How are these other metals similar to the transition metals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. How are these metals different than the transition metals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. List three physical properties of these other metals. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the oxidation numbers for this group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. On your periodic table, draw the black stair-step line that distinguishes metals from nonmetals.
2. Metalloids have properties of both \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Define semiconductor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Name two metalloids that are semi-conductors. \_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_.
5. This property makes metalloids useful in \_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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

1. What are the group numbers? \_\_\_\_\_\_\_\_\_\_\_ through \_\_\_\_\_\_\_\_\_\_\_\_
2. List four characteristics of ALL nonmetals. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What two states of matter do nonmetals exist in at room temperature?

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

1. The nonmetals have no \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and do not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. What are the oxidation numbers of the nonmetals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. What is the halogen group number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Are halogens metals or nonmetals? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. The term “halogen” means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and compounds containing halogens are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. How many electrons are in their outer shell? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What is their oxidation number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What states of matter do halogens exist in at room temperature?

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

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

1. What is the group number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Why were these gases considered to be inert or stable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is their oxidation number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. On you periodic table, label the Lanthanide and Actinide series with your pencil.
2. How many Rare Earth elements are there? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Define trans-uranium. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. The Rare Earth metals are found in group \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and periods \_\_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**When you are finished go to** <http://www.pbslearningmedia.org/asset/phy03_int_ptable/> and do the Mystery Elements game.