



Procedure: After reading the information below, correctly place the Alien elements in the periodic table based on the physical and chemical properties described.

Imagine that scientists have made contact with life on a distant planet. The planet is composed of many of the same elements as are found on Earth. However, the inhabitants of the planet have different names and symbols for the elements. The radio transmission gave data on the known chemical and physical properties of the first 30 elements that belong to Groups 1, 2, 13, 14, 15, 16, 17, and 18. SEE if you can place the elements into a blank periodic table based on the information.

You may need your Periodic Table as a reference for this activity.

Here is the information on the elements.

1. The noble gases are bombal (Bo), wobble, (Wo), jeptum (J) and logon (L). Among these gases, wobble has the greatest atomic mass and bombal has the least. Logon is lighter than jeptum.
2. The most reactive group of metals are xtalt (X), byyou (By), chow (Ch) and quackzil (Q). Of these metals, chow has the lowest atomic mass. Quackzil is in the same period as wobble.
3. The most reactive group of nonmetals are apstrom (A), volcania (V), and kratt (Kt). Volcania is in the same period as quackzil and wobble.
4. The metalloids are Ernst (E), highho (Hi), terriblum (T) and sississ (Ss). Sississ is the metalloid with the highest mass number. Ernst is the metalloid with the lowest atomic mass. Highho and terriblum are in Group 14. Terriblum has more protons than highho. The element yazzar (Yz) is near the zigzag line that divides the metals and nonmetals, but has properties that suggest it is a light metal.
5. The most reactive metal on the planet is xtalt. The most chemically active nonmetal is apstrom. The lightest element on the planet is called pfsst (Pf), while the heaviest element is called elrado (El).
6. The element doggone (D) has only 4 protons in its nucleus.
7. Floxxit (Fx) is a black crystal and has metalloid characteristics. Both rhaatrap (R) and doadeer (Do) are in the fourth period, but rhaatrap is a less reactive metal than doadeer.
8. Magnificon (M), goldy (G) and sississ are all members of Group 15. Goldy has fewer total electrons than magnificon.
9. Urrp (Up), oz (Oz) and nuuyte (Nu) all gain two electrons when they react. Nuuyte is found as a diatomic molecule and has the same properties as a gas found in Earth's atmosphere. Oz has a lower atomic number than urrp.
10. The element anatom (An) tends to lose 3 electrons when it reacts. The elements zapper (Z) and pie (Pi) both lose two electrons when they react, but pie reacts more vigorously than zapper.

Adapted from Prentice Hall's Science Explorer: Chemical Building Blocks.

Groups →

18

-gains 1 electron - inert
- most reactive non-metals

-gains 2 electrons

-loses 3 electrons

PERIODS ↓

-loses 2 electrons

- most reactive metals