

Name: Key  
Alien Periodic Table

Period:

Date:

You are a part of a collection of scientists who have been chosen to assist a group of alien scientists. In order to be able to converse scientifically, you must learn their language, and most importantly, you must arrange their elements according to the trends that exist in the periodic table. Below are clues for the alien's elements. So far, the aliens have only discovered elements in groups 1, 2, and 13-18, and periods 1-5. Although the names of the elements are different, they must correspond to our elements if our belief of universal elements holds true. Read each clue carefully, and then place the symbol for that clue's element in the blank periodic table provided.

1. Livium (Lv): This element is responsible for life. It has 2 electron energy levels and 4 electrons available for bonding in the outermost energy level.
2. Lightium (L): This is the lightest of the elements; aliens previously used it in their aircraft until their aircraft caught fire in a horrific accident.
3. Breathium (Br): When combined with lightium (L), it makes the alien's most common liquid whose formula is  $L_2Br$ . It also needs 2 electrons to fill its 2<sup>nd</sup> energy level.
4. Francium (F): A metal found in period 4 group 13.
5. Moonium (Mo): An element with an atomic number of 34. It is also in the same family as Breathium.
6. Sparkium (Sp) and Burnium (Bu) are members of the alkali metal group, along with Violetium (V) and Explodium (Ex). Violetium is found as part of a compound in bananas. When burned, it has a violet colored flame. Their reactivity, from least to greatest, is Sp, Bu, V, Ex with Explodium is the most reactive element on the alien's table.
7. Balloonium (Ba): A noble gas used to fill balloons. It only needs 2 electrons to fill its outer shell.
8. Toothium (To): This alkaline earth metal is added to juices to help build strong bones and teeth. Its valence electrons are in the same energy level as Violetium (V).
9. Metalloidium (M) and Poisonium (Po): Two metalloids found in period 4. Po is more massive than M.
10. Darkbluium (Dk): Has an atomic mass of 115. Its outer electron configuration is  $[Sm]5s^25p^1$ .
11. Hugium (Hu): The element on the alien's periodic table that has the most mass.
12. Glucinium (Gl): This element is an Alkaline Earth Metal in period 2.
13. Reactinium (Re): The most reactive non-metal on the periodic table. It is the lightest halogen.
14. Balloonium (Ba), Signium (Si), Stableium (Sb), Supermanium (Sm), and Hugium (Hu) are all noble gases. They are arranged above from smallest to largest atomic radius.
15. Cannium (Cn): This is the only metal in group 14. It helps preserve foods; it is used in can manufacturing.
16. Bauxitium (Xi): The only metal that is touching the metal/non-metal barrier.
17. Burnium (Bu), Blue-whitium (Bw), Bauxitium (Xi), Computerchipium (Cc), Bringthelightium (Bl), Stinkium (Sk), Purium (P) and Stableium (Sb) are all found in period 3. Bu has 1 valence electron, Bw has 2, Xi has 3, Cc has 4, Bl has 5, Sk has 6, P has 7 and Sb has 8 valence electrons.
18. Lowigium (Lo): A halogen whose ionization energy is lower than Purium's.
19. Scottishium (Sc): A metal element found in group 2.
20. Infectium (If): This element is the most massive halogen on the alien's table. A solution of this element can be used to clean out cuts.
21. Abundantcium (Ab): One of the most abundant gases in the universe. It has 7 protons and 7 electrons, 5 of which are located in its outer shell.
22. Some additional clues: The number after each symbol indicates the number of valence electrons: Notalonium (No): 5 valence electrons; Earthium (E): 6 valence electrons; Boracium (B): 3 valence electrons.
23. Moonium's atomic radius is smaller than that of Earthium's.

**Procedure:** Fill in the blank periodic table below with the correct alien planet symbol for each element. The symbol is given in parenthesis after the element name in the data statements and in the list above.

List of Elements

- |                                 |                            |                            |
|---------------------------------|----------------------------|----------------------------|
| <del>Abundantium (Ab)</del>     | <del>Expodium (Ex)</del>   | <del>Purium (P)</del>      |
| <del>Balloonium (Ba)</del>      | <del>Francoisium (F)</del> | <del>Ronatinium (Ro)</del> |
| <del>Baucium (Xi)</del>         | <del>Glucinium (Gl)</del>  | <del>Scotchium (Se)</del>  |
| <del>Bicentennium (Bw)</del>    | <del>Hugium (Hu)</del>     | <del>Signium (Si)</del>    |
| <del>Boranium (B)</del>         | <del>Infotium (If)</del>   | <del>Sparkium (Sp)</del>   |
| <del>Breathium (Br)</del>       | <del>Lightium (L)</del>    | <del>Stableium (St)</del>  |
| <del>Bringthlightium (Bl)</del> | <del>Livium (Lv)</del>     | <del>Stinkium (Sk)</del>   |
| <del>Bananium (Ba)</del>        | Levigium (Lo)              | Supermanium (Sm)           |
| <del>Gannium (Gn)</del>         | Metallidium (M)            | <del>Toothium (To)</del>   |
| <del>Computeranium (Ce)</del>   | <del>Moonium (Mo)</del>    | <del>Violetium (V)</del>   |
| <del>Darkblanium (Dk)</del>     | <del>Neutronium (No)</del> |                            |
| <del>Earthium (E)</del>         | Poisonium (Po)             |                            |

	1									18
1	L									Ba
2	Sp	2	Gl		13	14	15	16	17	Si
3	Bu	Bw			Xi	Ce	Bl	Sk	P	St
4	V	To			Fo	M	Po	<del>Lo</del>	Lo	Sm
5	Ex	Sc			<i>Transition Metals</i>			<del>Lo</del>	IF	Hu