

Name:

Period:

ALIEN PERIODIC TABLE

BACKGROUND

The periodic table is a way of organizing elements. As scientists, memorizing the periodic table is silly. Knowing how to use the table, however, is very important. There is a lot of information on the table and knowing how to access it and what it means is critical to being able to use the table efficiently and effectively.

OBJECTIVE

Imagine that scientists have made contact with life on a distant planet called Koergon. Koergon is composed of many of the same elements as are found on Earth, but the inhabitants of the planet (called Koergonians) have different names and symbols for the elements. The transmission gave data on the known chemical and physical properties of 30 elements that belong to Groups 1, 2, 13, 14, 15, 16, 17 & 18. You need to use the information provided to place the elements into a blank periodic table based on these properties.

MATERIALS

Textbook

Periodic table

Blank periodic table

PROCEDURE

1. Examine the data from the Koergonian transmission that describe the chemical and physical properties of the 30 elements.
2. Place the elements in their proper position on the blank periodic table.

SUMMARY

1. The list below is of the first 30 elements. Put the Koergonian names of the elements in the corresponding box.

Earth	Koergon
Hydrogen	
Helium	
Lithium	
Beryllium	
Boron	
Carbon	
Nitrogen	
Oxygen	
Fluorine	
Neon	
Sodium	
Magnesium	
Aluminum	
Silicon	
Phosphorus	
Sulfur	
Chlorine	
Argon	
Potassium	
Calcium	
Gallium	
Germanium	
Arsenic	
Selenium	
Bromine	
Krypton	
Rubidium	
Strontium	
Indium	
Tin	

2. Were you able to place some elements on the periodic table with just a single clue?
 - a. Give an example of how you did.

3. Why did you need multiple clues to place some elements on the table.
 - a. Explain your answer with an example.

4. Why could you use clues about atomic mass to place elements on the table, even though the table is based on atomic number?

5. Which elements are not included on the periodic table? Is it likely that these elements would not be present on Koergon?

CHALLENGE

1. Notice that Period 5 is incomplete on the alien periodic table. Create names and symbols for each of the missing elements. Then compose a series of clues that would allow another student to identify these elements. Make your clues as precise as possible.