

Periodic Table Scavenger Hunt

Goal • Demonstrate your understanding of the periodic table.

What to Do

Use your periodic table to answer the following questions.

1. Complete the following paragraph with the correct terms.

The element called _____ has an atomic number of 24. Its symbol is

_____. When an atom of this element has a mass number of 52, the atom contains

_____ protons and _____ neutrons. The most common ion charge of this

element is _____.

2. Identify each element.

(a) the element in group 5 and period 5 _____

(b) only halogen that is a liquid at room temperature and pressure _____

(c) alkali metal with the most massive atoms _____

(d) synthetic element in period 5 _____

(e) metal in group 16 and period 4 _____

(f) alkaline earth element with the least massive atoms _____

(g) noble gas that has atoms with 54 protons _____

3. Complete the following table. The first row is completed as an example.

Name of element	Symbol of isotope	Atomic number	Mass number	Number of protons	Number of electrons	Number of neutrons
silicon	$^{28}_{14}\text{Si}$	14	28	14	14	14
		8	16			
chromium			52			
sodium						12
				13		14
					19	20
	^9_4Be					

BLM 1-4

SKILL BUILDER

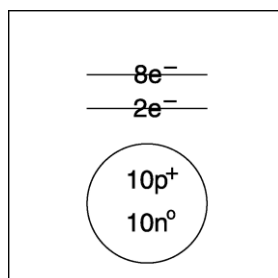
Periodic Table Scavenger Hunt (continued)

4. Shade in the following chemical families, as indicated, on the outline of the periodic table.

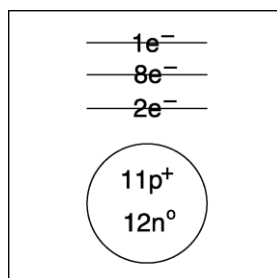
<input type="checkbox"/> red	halogens	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> yellow	noble gases	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> green	alkali metals	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> blue	alkaline earth metals	<input type="checkbox"/>	<input type="checkbox"/>

5. Identify each isotope represented by the diagram below.

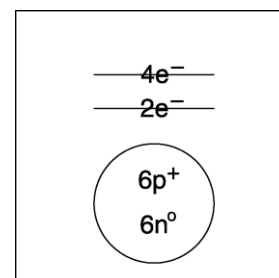
(a)



(b)



(c)



6. Draw an energy level diagram, as shown in question 5, for each ion.

(a) potassium ion, K⁺(b) chloride ion, Cl⁻(c) beryllium ion, Be²⁺

7. What two major families of elements does the bold “staircase” line in your periodic table separate?

8. List at least three ways in which an alkali metal is different from a halogen.
