Name:	Per:

1. Write in the space, "metals", "metalloids", or "nonmetals" to indicate which type of element the statement describes. The statement may apply to more than one type of classification.

a.	Located on the left side of the P.T.
b.	Located on the right side of the P.T.
C.	Solids are brittle
d.	Majority of the elements
e.	Gain electrons to form negative ions
f.	Located along the "staircase"
g.	Have luster
h.	Malleable
i.	Lose electrons to form positive ions
j.	Ductile
k.	Fair/Good Conductors of heat & electricity
I.	Poor electrical & heat conductors
m.	Many are gases at STP
n.	All elements are solids.
Ο.	Typically have high electronegativities
p.	Typically have low ionization energies

2. Use Table S to fill in the names and states of each element below. Check all the boxes which describe the element.

		Physical Properties				Chemical Properties		
	Name	State at	Brittle	Malleable	Conductor		Electrons	
	Name	STP (s, l, or g)		Brittle	/ductile	Good	Poor	Lose
С								
Ag								
Mg								
I								
S								
Au								
Fe								
Br								
Ar								
Н								
Hg								

3. Put a check in each box that correctly describes the element given.

	Metal	Metalloid	Nonmetal	Alkali Metal	Alkaline Earth Metal	Transition metal	Halogen	Noble gas	Monatomic	Diatomic
Sb										
Sr										
Rn										
Р										
Pt										
Cs										
S										
Fe										
Br										
Ar										
Н										
Si										
В										
F										
He										
Se										
Zn										
Ra										

4. Write in the space, "alkali metals", "alkaline earth metals", "transition metals", "halogens", or "noble gases" to indicate which group each statement is describing.

	Elements Typically Form
a.	Colored compounds and
	solutions
b.	Full valence shell
C.	Most active (reactive) metals
d.	Most active nonmetals
e.	Monatomic gases
f.	Diatomic elements
g.	Stable and unreactive
h.	7 valence electrons
i.	2 valence electrons
j.	Form ions with a +1 charge
k.	Elements rarely gain or lose
K.	electrons
	Elements tend to have multiple
1.	oxidation numbers (charges)

m.	Elements always form +2 ions when bonding with other
	elements
n.	Have negligible electronegativity
11,	values

5.	Give 2 Expected Properties of Each Element Listed Below:
	a. Sulfur
	b. Calcium
	c. Argon
6.	Would an element with the electron configuration 2-8-6 be expected to have a low or high ionization energy? Explain your answer.

## 18. Group Properties: Practice Problems

Concept Task: Be able to ide group name	ntify an element based on	Concept Task: Be able to identify and classify an element based on group properties.  Practice 26				
Which element is a noble gas  1) Neon 2) Oxygen	? 3) Fluorine 4) Nitrogen	Which set contains elements that are never found in nature in their atomic state?  1) K and Na  3) Na and Ne 2) K and S  4) Na and C				
Practice 23		Practice 27				
Which of these element is an  1) Na  2) H	alkaline earth element? 3) K 4) Ra	Element X is a solid that is brittle, lack luster, and has six valence electrons. In which group on the Periodic Table would element X be found?  1) 1 3) 15 2) 2 4) 16				
Practice 24		Practice 28				
Iron is best classified as a(n) 1) transition nonmetal 2) transition metal practice 25	3) alkali metal 4) alkaline earth metal	Element Z is in Period 3 of the Periodic Table. Which element is Z if it forms an oxide with a formula of Z <sub>2</sub> O <sub>3</sub> ?  1) Na  3) Mg  2) Al  4) Cl				
The element in Group 17 Peri	od 4 is a(n)	Practice 29	4) 61			
transition metal     halogen	<ul><li>3) alkali metal</li><li>4) noble gas</li></ul>	Which of these oxides wil solution when dissolved i	of these oxides will likely form a colored on when dissolved in water?			
		1) Na <sub>2</sub> O 2) SO <sub>2</sub>	3) CaO 4) FeO			
A	s (a-g) on the following set or, <b>Na, S, Si</b> ents be expected to have si		Explain.			
b. How many energy	shells do all of these eleme	nts have?				
c. Which element(s) are non-metals?						
d. Which element(s) are metals?						
e. Which element(s)	e. Which element(s) are metalloids?					
f. Which element ha	s the greatest electronegati	vity?				
g. Which element(s)	is/are brittle at STP?					
h. Which element we	ould be expected to be mos	t reactive? Explain.				