

Name: _____

Physical Science Unit 5 Study Guide

Chapter 5:

Know all of the vocabulary from Chapter 5.

1. How did Mendeleev arrange his periodic table?
2. How is the modern periodic table arranged?
3. What is a group?
4. What is a period?
5. What is atomic mass and what is the unit?
6. Where are the metals on the periodic table? Where are the nonmetals?
7. Which two groups contain the most reactive elements?
8. Which one group contains the least reactive elements?

9. What is the reactivity of an element based on?

10. List the number of valence electrons in each group on the periodic table below. (Only label groups 1, 2, and 13 – 18.)

1																	2		
H 1.01																	He 4.00		
3	4													5	6	7	8	9	10
Li 6.94	Be 9.01													B 10.81	C 12.01	N 14.01	O 16.00	F 19.00	Ne 20.18
11	12													13	14	15	16	17	18
Na 22.99	Mg 24.31													Al 26.98	Si 28.09	P 30.97	S 32.07	Cl 35.45	Ar 39.95
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
K 39.10	Ca 40.08	Sc 44.96	Ti 47.87	V 50.94	Cr 51.99	Mn 54.94	Fe 55.85	Co 58.93	Ni 58.69	Cu 63.55	Zn 65.38	Ga 69.72	Ge 72.63	As 74.92	Se 78.97	Br 79.90	Kr 83.80		
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54		
Rb 85.47	Sr 87.62	Y 88.91	Zr 91.22	Nb 92.91	Mo 95.95	Tc 98.91	Ru 101.07	Rh 102.91	Pd 106.42	Ag 107.87	Cd 112.41	In 114.82	Sn 118.71	Sb 121.76	Te 127.6	I 126.90	Xe 131.29		
55	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86		
Cs 132.91	Ba 137.33		Hf 178.49	Ta 180.95	W 183.84	Re 186.21	Os 190.23	Ir 192.22	Pt 195.09	Au 196.97	Hg 200.59	Tl 204.38	Pb 207.2	Bi 208.98	Po [208.98]	At 209.99	Rn 222.02		
87	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118		
Fr 223.02	Ra 226.03		Rf [261]	Db [262]	Sg [266]	Bh [264]	Hs [269]	Mt [270]	Ds [281]	Rg [280]	Cn [285]	Nh [286]	Fl [289]	Mc [289]	Lv [293]	Ts [294]	Og [294]		
																		119	120
																		121	122
129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146		
Lr 138.91	Ce 140.12	Pr 140.91	Nd 144.24	Pm 144.91	Sm 150.36	Eu 151.96	Gd 157.25	Tb 158.93	Dy 162.50	Ho 164.93	Er 167.26	Tm 168.93	Yb 173.06	Lu 174.97					
151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168		
Ac 227.03	Th 232.04	Pa 231.04	U 238.03	Np 237.05	Pu 244.06	Am 243.06	Cm 247.07	Bk 247.07	Cf 251.08	Es 257.10	Fm 257.10	Md 258.1	Nm 259.10	Lr 262.1					

11. Within group 1, what is the most reactive element?

12. Within group 17, what is the most reactive element?

13. Why are noble gases so stable?

14. Name the following groups:

- a. group 1
 - b. group 2
 - c. groups 3-12
 - d. stair-step elements
 - e. group 17
 - f. group 18

15. Label each element as a metal, nonmetal, or metalloid.

a. hydrogen

d. iron

b. calcium

e. silicon

c. bromine

f. neon

Chapter 6:

Know all of the vocabulary words from Chapter 6.

16. Why do certain atoms lose or gain electrons?

17. Which elements have the most stable electron configurations?

18. What is the difference between an ionic bond and a covalent bond?

19. What are three properties of ionic compounds?

20. How can you tell from a formula if a compound is made of ions or molecules?

21. How are the charges of transition metals different from other elements?

22. Name the following compound: MgCl_2 .

23. What does the roman numeral mean in the name iron (III) oxide?

24. When aluminum and fluorine bond, what is the formula?

25. What is the formula for diphosphorus trioxide?

26. What is a metallic bond?

27. Why are metals good conductors and malleable?

28. Draw the electron dot diagram for the following elements.

a. H

c. P

b. Br

d. Ba

29. What is the name of SO_3 ?

30. Draw an example of a single bond, double bond, and triple bond.

