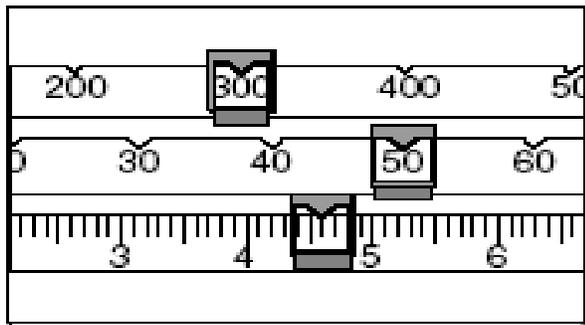


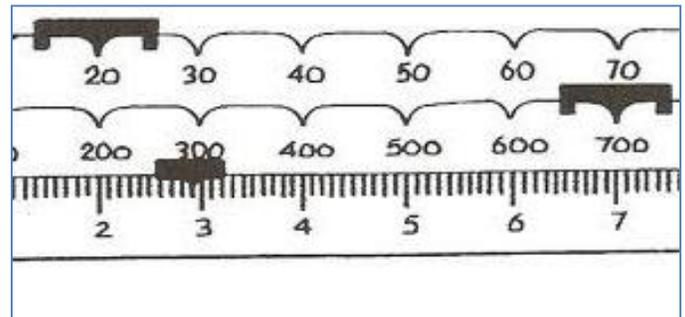
1<sup>st</sup> Six Weeks Test Study Guide

1. List the function of the following science equipment.
  - a. Beaker- **Used to measure large amounts of liquids in ml**
  - b. Graduated Cylinder- **Used to measure small amounts of liquids in ml**
  - c. Hot Plate- **Used to heat glassware**
  - d. Meter Stick- **Used to measure length in cm and mm**
  - e. Safety goggles- **Protects eyes from splashing and falling objects**
  - f. Thermometer- **Used o measure temperature**
  - g. Spectroscope – **An instrument that uses a prism to separate and catalog light waves**

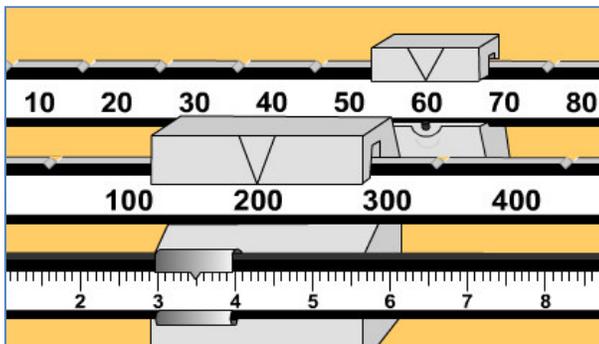
2. Calculate the mass in grams for the following examples:



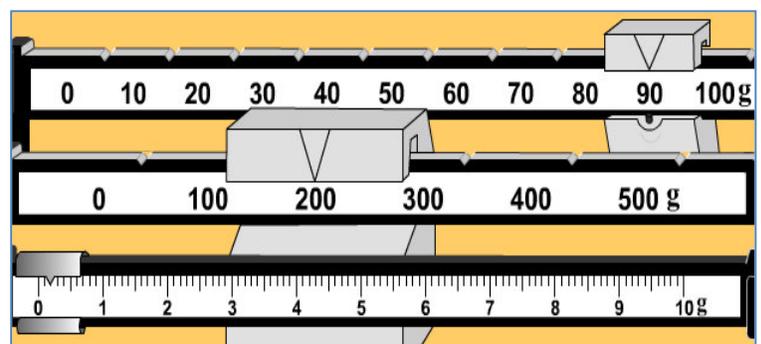
Mass= **354.6** g



Mass= **722.9** g



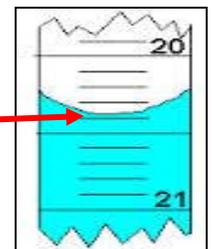
Mass= **263.5** g



Mass= **290.2** g

3. When looking at a graduated cylinder do you look at the top or bottom of the meniscus?

The bottom



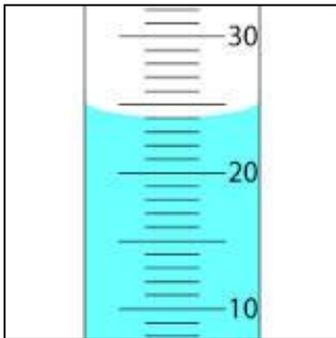
4. What is the volume in ml for the following examples:



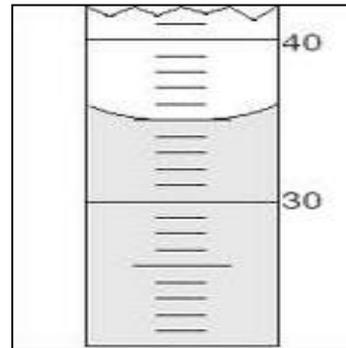
Volume= 53 ml



Volume= 38 ml

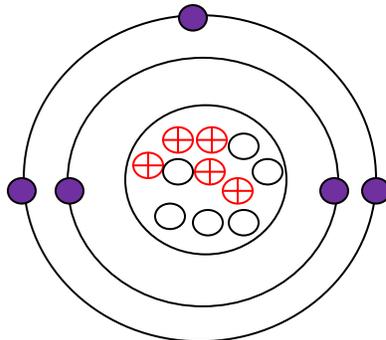


Volume= 24 ml



Volume= 35 ml

5. Draw a Bohr Model of an element with 5 protons, 6 neutrons, and 5 electrons.



Element Name Boron

1. What element has 19 electrons and 20 neutrons?

**Potassium (K)**

2. What element has 20 electrons and 20 neutrons?

**Calcium (Ca)**

3. What element has 9 electrons and 10 neutrons?

**Fluorine (F)**

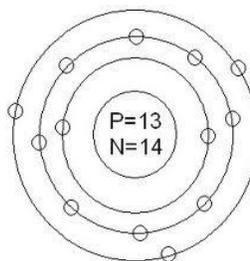
4. What subatomic particle has to be the same for EVERY atom of an element?

**Number of Protons**

5. What scientist is this model named after?

**Neils Bohr**

**Bohr Model**



6. What element has 23 protons and 28 neutrons in its nucleus?

**Vanadium (V)**

7. What element has 16 protons and 16 neutrons in its nucleus?

**Sulfur (S)**

8. What element has 36 protons and 48 neutrons in its nucleus?

**Krypton (Kr)**

9. What is the atomic number and atomic mass of an element that has 6 protons and 6 neutrons?

**Atomic Number – 6**

**Atomic Mass - 12**

10. What is the atomic number and atomic mass of an element that has 54 protons and the 77 neutrons?

**Atomic Number – 54**

**Atomic Mass – 131**

11. How many electrons does an atom with 13 protons and an atomic mass of 27 have?

**13**

12. How many electrons does an atom with 20 protons and an atomic mass of 40 have?

**20**

13. How many electrons does an atom with 64 protons and an atomic mass of 167 have?

**64**

14. Which subatomic particles do you ADD together to get the atomic mass?

**Protons + Neutrons = Atomic Mass**

15. Which two subatomic particles are always equal?

**Protons and Electrons**

16. Complete the table.

	<b>Protons</b>	<b>Neutrons</b>	<b>Electrons</b>
<b>Location</b>	<b>Nucleus</b>	<b>Nucleus</b>	<b>Electron Cloud</b>
<b>Charge</b>	<b>+</b>	<b>Neutral</b>	<b>-</b>

11. What subatomic particle determines an element's identity?

**Protons**

12. What does the atomic number tell you?

**Number of Protons**

13. What are valence electrons?

**Electrons in the outermost shell of an atom**

14. What are the 6 Noble/Unreactive/Inert gases?

**Helium, Neon, Argon, Krypton, Xenon, Radon**  
**He, Ne, Ar, Kr, Xe, Rn**

15. Why are noble gases unreactive?

**They have a full outer electron shell**

16. What do you need to look at to determine the reactivity of an element?

**Number of valence electrons**

17. What are the 3 major classes of elements on the periodic table?

**Metals, Non-Metals, Metalloids**

18. The LEFT side of the periodic table consists of which type of elements?

**Metals**

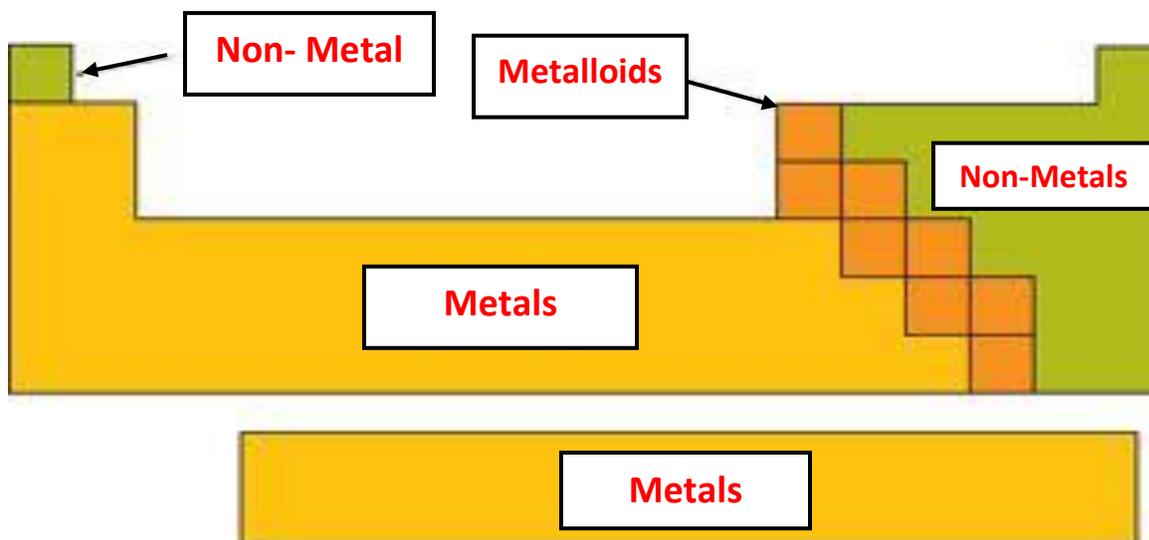
19. What type of elements make up the ZIG-ZAG line on the periodic table?

**Metalloids**

20. The RIGHT side of the periodic table consists of which type of elements?

**Non-Metals**

21. Use the periodic table to correctly label the 3 major classes of elements.



22. Use the periodic table to correctly number the GROUPS 1-18.

<b>1</b>																															<b>18</b>				
hydrogen 1 H 1.0079																		helium 2 He 4.0026																	
lithium 3 Li 6.941	beryllium 4 Be 9.0122														boron 5 B 10.811	carbon 6 C 12.011	nitrogen 7 N 14.007	oxygen 8 O 15.999	fluorine 9 F 18.998	neon 10 Ne 20.180															
sodium 11 Na 22.990	magnesium 12 Mg 24.305														aluminum 13 Al 26.982	silicon 14 Si 28.086	phosphorus 15 P 30.974	sulfur 16 S 32.065	chlorine 17 Cl 35.453	argon 18 Ar 39.948															
potassium 19 K 39.098	calcium 20 Ca 40.078	scandium 21 Sc 44.956	titanium 22 Ti 47.867	vanadium 23 V 50.942	chromium 24 Cr 51.996	manganese 25 Mn 54.938	iron 26 Fe 55.845	cobalt 27 Co 58.933	nickel 28 Ni 58.693	copper 29 Cu 63.546	zinc 30 Zn 65.39	gallium 31 Ga 69.723	germanium 32 Ge 72.61	arsenic 33 As 74.922	selenium 34 Se 78.96	bromine 35 Br 79.904	krypton 36 Kr 83.80																		
rubidium 37 Rb 85.468	strontium 38 Sr 87.62	yttrium 39 Y 88.906	zirconium 40 Zr 91.224	niobium 41 Nb 92.906	molybdenum 42 Mo 95.94	technetium 43 Tc [98]	ruthenium 44 Ru 101.07	rhodium 45 Rh 101.91	palladium 46 Pd 106.42	silver 47 Ag 107.87	cadmium 48 Cd 112.41	indium 49 In 114.82	tin 50 Sn 118.71	antimony 51 Sb 121.76	tellurium 52 Te 127.60	iodine 53 I 126.90	xenon 54 Xe 131.29																		
cesium 55 Cs 132.91	barium 56 Ba 137.33	lanthanum 57-70 Lu [71]	hafnium 72 Hf 178.49	tantalum 73 Ta 180.95	tungsten 74 W 183.84	rhenium 75 Re 186.21	osmium 76 Os 190.23	iridium 77 Ir 192.22	platinum 78 Pt 195.08	gold 79 Au 196.97	mercury 80 Hg 200.59	thallium 81 Tl 204.38	lead 82 Pb 207.2	bismuth 83 Bi 208.98	polonium 84 Po [209]	astatine 85 At [210]	radon 86 Rn [222]																		
francium 87 Fr [223]	radium 88 Ra [226]	actinium 89-102 Lr [103]	rutherfordium 104 Rf [261]	bohrium 105 Bh [262]	seaborgium 106 Sg [266]	bohrium 107 Bh [264]	hassium 108 Hs [269]	meitnerium 109 Mt [268]	unnilium 110 Uun [271]	ununium 111 Uuu [272]	unbinium 112 Uub [277]	ununseptium 114 Uuq [289]																							

23. Use the periodic table to correctly number the PERIODS 1-7.

<b>1</b>	hydrogen 1 H 1.0079																		helium 2 He 4.0026		
<b>2</b>	lithium 3 Li 6.941	beryllium 4 Be 9.0122														boron 5 B 10.811	carbon 6 C 12.011	nitrogen 7 N 14.007	oxygen 8 O 15.999	fluorine 9 F 18.998	neon 10 Ne 20.180
<b>3</b>	sodium 11 Na 22.990	magnesium 12 Mg 24.305														aluminum 13 Al 26.982	silicon 14 Si 28.086	phosphorus 15 P 30.974	sulfur 16 S 32.065	chlorine 17 Cl 35.453	argon 18 Ar 39.948
<b>4</b>	potassium 19 K 39.098	calcium 20 Ca 40.078	scandium 21 Sc 44.956	titanium 22 Ti 47.867	vanadium 23 V 50.942	chromium 24 Cr 51.996	manganese 25 Mn 54.938	iron 26 Fe 55.845	cobalt 27 Co 58.933	nickel 28 Ni 58.693	copper 29 Cu 63.546	zinc 30 Zn 65.39	gallium 31 Ga 69.723	germanium 32 Ge 72.61	arsenic 33 As 74.922	selenium 34 Se 78.96	bromine 35 Br 79.904	krypton 36 Kr 83.80			
<b>5</b>	rubidium 37 Rb 85.468	strontium 38 Sr 87.62	yttrium 39 Y 88.906	zirconium 40 Zr 91.224	niobium 41 Nb 92.906	molybdenum 42 Mo 95.94	technetium 43 Tc [98]	ruthenium 44 Ru 101.07	rhodium 45 Rh 101.91	palladium 46 Pd 106.42	silver 47 Ag 107.87	cadmium 48 Cd 112.41	indium 49 In 114.82	tin 50 Sn 118.71	antimony 51 Sb 121.76	tellurium 52 Te 127.60	iodine 53 I 126.90	xenon 54 Xe 131.29			
<b>6</b>	cesium 55 Cs 132.91	barium 56 Ba 137.33	lanthanum 57-70 Lu [71]	hafnium 72 Hf 178.49	tantalum 73 Ta 180.95	tungsten 74 W 183.84	rhenium 75 Re 186.21	osmium 76 Os 190.23	iridium 77 Ir 192.22	platinum 78 Pt 195.08	gold 79 Au 196.97	mercury 80 Hg 200.59	thallium 81 Tl 204.38	lead 82 Pb 207.2	bismuth 83 Bi 208.98	polonium 84 Po [209]	astatine 85 At [210]	radon 86 Rn [222]			
<b>7</b>	francium 87 Fr [223]	radium 88 Ra [226]	actinium 89-102 Lr [103]	rutherfordium 104 Rf [261]	bohrium 105 Bh [262]	seaborgium 106 Sg [266]	bohrium 107 Bh [264]	hassium 108 Hs [269]	meitnerium 109 Mt [268]	unnilium 110 Uun [271]	ununium 111 Uuu [272]	unbinium 112 Uub [277]	ununseptium 114 Uuq [289]								

24. What are VERTICAL columns in the periodic table called?

**Columns/Family/Group**

25. What are HORIZONTAL rows in the periodic table called?

**Row/Periods**

26. What do elements in the same GROUP have in common?

**Same number of Valence Electrons**

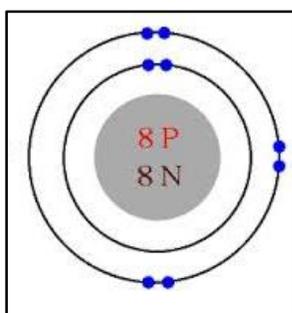
27. What do elements in the same PERIOD have in common?

**Same number of Energy Levels/Electron Shells**

28. Elements that have similar chemical and physical properties can be found in the same Groups?

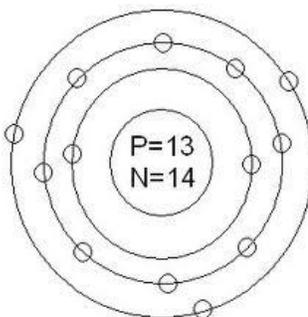
29. Elements that react in similar ways are found in the same Groups.

30. What is the atomic mass of the following elements?



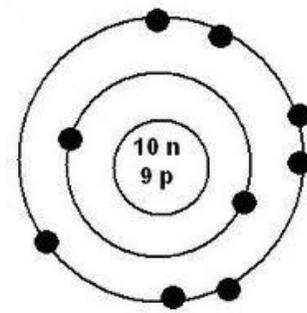
**Atomic Mass**

**16**



**Atomic Mass**

**27**



**Atomic Mass**

**19**