

## Honors Chemistry 2023 Summer Assignment

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_ Score \_\_\_\_ /25 Individual Practice Points

### Purpose:

This Honors Chemistry Summer Assignment will review Periodic Table concepts. This assignment is worth a total of 25 individual practice points. This assignment is graded for completion only.

### Due Date:

Print and complete this assignment due on the **second day of class**. Late assignments will be deducted 10 percentage points each day assignment is late i.e. 2.5 points each day.

### Information:

**The periodic table is over 150 years old!** Read the periodic table article titled [\*The Periodic Table turns 150\*](#). It is a terrific summary of how the periodic table organization has developed. There were so many attempts to create the perfect periodic table. However, one person stood out amongst the rest. Read the article to find out who it is and why the periodic table is organized the way it is. There is an opportunity at the end of the reading to jot down any additional questions you may have encountered throughout the reading as you complete the reading graphic organizer on page 2.

After reading ChemMatters article *The Periodic Table turns 150: Is the best yet to come?*, then review previous learned chemistry topics related to the periodic table. Using the provided periodic table on page 4, complete the table on pages 3-4 with the following; locate an element by its name and symbol, determine the amount of protons, electrons and neutrons of a neutral element, determine the location of an element by group and period number, and provide the general classification of each element.

### Web Links:

[\*ChemMatters Article: The Periodic Table turns 150\*](#)

### Helpful periodic table resource:

[www.webelements.com](http://www.webelements.com) or [www.ptable.com](http://www.ptable.com)

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### Periodic Table Article (8 pts)

**Directions:** Read the ChemMatters article [\*The Periodic Table turns 150: Is the best yet to come?\*](#) and complete the graphic organizer.

<b>New</b>	New things you learned about the periodic table	
<b>Ideas</b>	Ideas from the article that will help you in chemistry class.	
<b>Changes</b>	How do you think the periodic table might change in your lifetime? Why?	
<b>Etcetera</b>	Any questions that you have about the periodic table.	

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### Periodic Table Activity (17 pts)

Directions: Use the provided [periodic table](#) to complete missing information for each neutral atom.

Element	Symbol	Group Location (Roman numeral/ numerical)	Period Location	General Classification (metallic/ nonmetallic character)	State of matter (gas, liquid, solid) @ normal room conditions	Atomic number	Protons	Electrons
Example: nitrogen	N	VA 15	2	nonmetallic	gas	7	7	7
hydrogen								
silicon								
oxygen								
argon								
zinc								
calcium								
chlorine								
cesium								
sodium								
aluminum								
fluorine								
magnesium								

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Element	Symbol	Group Location	Period Location	General Classification (metal, nonmetal, metalloid)	State of matter	Atomic number	Protons	Electrons
neon								
helium								
copper								
sulfur								
phosphorus								

# The Periodic Table of the Elements

1	The Periodic Table of the Elements																2
<b>H</b> 1.008																	<b>He</b> 4.003
IA	IIA	IIIB	IVB	VB	VIB	VII B	VIII B			IB	IIB	IIIA	IVA	VA	VIA	VIIA	VIIIA
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3 <b>Li</b> 6.941	4 <b>Be</b> 9.012											5 <b>B</b> 10.81	6 <b>C</b> 12.01	7 <b>N</b> 14.01	8 <b>O</b> 16.00	9 <b>F</b> 19.00	10 <b>Ne</b> 20.18
11 <b>Na</b> 22.99	12 <b>Mg</b> 24.31											13 <b>Al</b> 26.98	14 <b>Si</b> 28.09	15 <b>P</b> 30.97	16 <b>S</b> 32.07	17 <b>Cl</b> 35.45	18 <b>Ar</b> 39.95
19 <b>K</b> 39.10	20 <b>Ca</b> 40.08	21 <b>Sc</b> 44.96	22 <b>Ti</b> 47.87	23 <b>V</b> 50.94	24 <b>Cr</b> 52.00	25 <b>Mn</b> 54.94	26 <b>Fe</b> 55.85	27 <b>Co</b> 58.93	28 <b>Ni</b> 58.69	29 <b>Cu</b> 63.55	30 <b>Zn</b> 65.38	31 <b>Ga</b> 69.72	32 <b>Ge</b> 72.64	33 <b>As</b> 74.92	34 <b>Se</b> 78.96	35 <b>Br</b> 79.90	36 <b>Kr</b> 83.80
37 <b>Rb</b> 85.47	38 <b>Sr</b> 87.62	39 <b>Y</b> 88.91	40 <b>Zr</b> 91.22	41 <b>Nb</b> 92.91	42 <b>Mo</b> 95.96	43 <b>Tc</b> (98)	44 <b>Ru</b> 101.1	45 <b>Rh</b> 102.9	46 <b>Pd</b> 106.4	47 <b>Ag</b> 107.9	48 <b>Cd</b> 112.4	49 <b>In</b> 114.8	50 <b>Sn</b> 118.7	51 <b>Sb</b> 121.8	52 <b>Te</b> 127.6	53 <b>I</b> 126.9	54 <b>Xe</b> 131.3
55 <b>Cs</b> 132.9	56 <b>Ba</b> 137.3	57-71 <b>La-Lu</b> ★	72 <b>Hf</b> 178.5	73 <b>Ta</b> 180.9	74 <b>W</b> 183.8	75 <b>Re</b> 186.2	76 <b>Os</b> 190.2	77 <b>Ir</b> 192.2	78 <b>Pt</b> 195.1	79 <b>Au</b> 197.0	80 <b>Hg</b> 200.6	81 <b>Tl</b> 204.4	82 <b>Pb</b> 207.2	83 <b>Bi</b> 209.0	84 <b>Po</b> (209)	85 <b>At</b> (210)	86 <b>Rn</b> (222)
87 <b>Fr</b> (223)	88 <b>Ra</b> (226)	89-103 <b>Ac-Lr</b> #	104 <b>Rf</b> (267)	105 <b>Db</b> (268)	106 <b>Sg</b> (271)	107 <b>Bh</b> (272)	108 <b>Hs</b> (270)	109 <b>Mt</b> (276)	110 <b>Ds</b> (281)	111 <b>Rg</b> (280)	112 <b>Cn</b> (285)	113 <b>Nh</b> (286)	114 <b>Fl</b> (289)	115 <b>Mc</b> (289)	116 <b>Lv</b> (293)	117 <b>Ts</b> (294)	118 <b>Og</b> (294)
★			57 <b>La</b> 138.9	58 <b>Ce</b> 140.1	59 <b>Pr</b> 140.9	60 <b>Nd</b> 144.2	61 <b>Pm</b> (145)	62 <b>Sm</b> 150.4	63 <b>Eu</b> 152.0	64 <b>Gd</b> 157.3	65 <b>Tb</b> 158.9	66 <b>Dy</b> 162.5	67 <b>Ho</b> 164.9	68 <b>Er</b> 167.3	69 <b>Tm</b> 168.9	70 <b>Yb</b> 173.0	71 <b>Lu</b> 175.0
#			89 <b>Ac</b> (227)	90 <b>Th</b> 232.0	91 <b>Pa</b> 231.0	92 <b>U</b> 238.0	93 <b>Np</b> (237)	94 <b>Pu</b> (244)	95 <b>Am</b> (243)	96 <b>Cm</b> (247)	97 <b>Bk</b> (247)	98 <b>Cf</b> (251)	99 <b>Es</b> (252)	100 <b>Fm</b> (257)	101 <b>Md</b> (258)	102 <b>No</b> (259)	103 <b>Lr</b> (262)