

IONIZATION ENERGY - INTRODUCTION TO COLLEGE CHEMISTRY FORMATIVE ASSESSMENT



STUDENT CHECK FOR UNDERSTANDING

Concepts:
Ion Formation,
Octet Rule, Ionic
Radii, Ionization
Energy Trends,
Electron
Affinity
Trends

i

PART I

Use the periodic table to help you determine which element(s) in Period 2 fit each description on the second page. Briefly justify why each answer you have given is correct using your knowledge of periodic trends and atomic structure. You may use some elements more than once. Once you have finished, use the sandbox to check your answers.

Group →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
↓ Period																		
1	1 H																	2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba		72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra		104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og
Lanthanides	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu			
Actinides	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr			

IONIZATION ENERGY - INTRODUCTION TO COLLEGE CHEMISTRY FORMATIVE ASSESSMENT

Forms a 2+ Ion	Has three valence electrons	Has one valence electron
Element:	Element:	Element:
Justification:	Justification:	Justification:
Highest First Ionization Energy	Forms a 2- Ion	Most Energy Released When Gaining Electron
Element:	Element:	Element:
Justification:	Justification:	Justification:
Forms a 1+ Ion	Lowest First Ionization Energy	Ion Would Have 8 Protons & 10 Electrons
Element:	Element:	Element:
Justification:	Justification:	Justification:
Its complete octet generally prevents it from forming an ion.	Gains three electrons to complete octet	Gains one electron to complete octet
Element:	Element:	Element:
Justification:	Justification:	Justification: