



Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

1 Compared to an atom of **potassium**, an atom of **calcium** has a

- A larger radius and lower reactivity
- B larger radius and higher reactivity
- C smaller radius and lower reactivity
- D smaller radius and higher reactivity

2 Elements in the Periodic Table are **arranged** according to their

- A atomic number
- B atomic mass
- C relative activity
- D relative size

3 Which **Group 15** element exists as a **diatomic molecule** at STP?

- A phosphorus
- B nitrogen
- C bismuth
- D arsenic

7	N	Nitrogen
15	P	Phosphorus
33	As	Arsenic
51	Sb	

4 Atoms of **metals** tend to

- A lose electrons and form negative ions
- B lose electrons and form positive ions
- C gain electrons and form negative ions

4	Be	Beryllium
12	Mg	Magnesium
20	Ca	Calcium
38	Sr	Strontium
56	Ba	



## PREVIEW

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7

B colorless ions in solution, multiple negative oxidation states

C colored ions in solution, multiple positive oxidation states

D colored ions in solution, multiple negative oxidation states

B increase in size as it forms a positive ion

C decrease in size as it forms a negative ion

D increase in size as it forms a negative ion

9 The properties of **carbon** are expected to be **most similar** to those of

- A boron
- B aluminum
- C silicon
- D phosphorus

18	He	1
2	H	
10	Ne	2
13	Al	3
14	Si	
15	P	
16	S	
17	Cl	
18	Ar	3
31	Ga	4
32	Ge	
33	As	
34	Se	
35	Br	
36	Kr	4
49	In	5
50	Sn	
51	Sb	
52	Te	
53	I	
54	Xe	5
81	Tl	6
82	Pb	
83	Bi	
84	Po	
85	At	
86	Rn	6

10 Which statement **best describes** **Group 2** elements as they are considered in order from **top to bottom** of the Periodic Table?

- The number of principal energy levels
- A increases, and the number of valence electrons increases.
  - B increases, and the number of valence electrons remains the same.
  - C remains the same, and the number of valence electrons increases.
  - D remains the same, and the number of valence electrons decreases.



## ANSWER KEY

Compared to an **atom of potassium**, an **atom of calcium** has a

- A larger radius and lower reactivity
- B larger radius and higher reactivity
- C smaller radius and lower reactivity
- D smaller radius and higher reactivity

(C)

Elements in the Periodic Table are **arranged** according to their

- A atomic number
- B atomic mass
- C relative activity
- D relative size

(a)

Which **Group 15** element exists as a **diatomic molecule** at STP?

- A phosphorus
- B nitrogen
- C bismuth
- D arsenic

7	N	Nitrogen
15	P	Phosphorus
33	As	Arsenic
51	Sb	Antimony
83	Bi	Bismuth

(b)

Atoms of **metals** tend to

- A lose electrons and form negative ions
- B lose electrons and form positive ions
- C gain electrons and form negative ions
- D gain electrons and form positive ions

4	Be	Beryllium
12	Mg	Magnesium
20	Ca	Calcium
38	Sr	Strontium
56	Ba	Barium
88	Ra	Radium

(b)



## PREVIEW

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- C colored ions in solution, multiple positive oxidation states
- D colored ions in solution, multiple negative oxidation states

- D increase in size as it forms a negative ion

The properties of **carbon** are expected to be **most similar** to those of

- A boron
- B aluminum
- C silicon
- D phosphorus

					18	He	1
5	6	7	8	9	10	Ne	2
13	14	15	16	17	18	Ar	3
31	32	33	34	35	36	Kr	4
49	50	51	52	53	54	Xe	5
81	82	83	84	85	86	Rn	6
Th	Pa	U	Np	Pu	Am	Cm	

(C)

Which statement **best describes** **Group 2** elements as they are considered in order from **top to bottom** of the Periodic Table?

- A increases, and the number of valence electrons increases.
- B increases, and the number of valence electrons remains the same.
- C remains the same, and the number of valence electrons increases.
- D remains the same, and the number of valence electrons decreases.

(b)