Matter, Chemical Trends, and Chemical Bonding — Practice Test

Ontario Chemistry, Grade 11, University Preparation (SCH3U) • 10 questions

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1 **The shape of a molecule with three bonding pairs and one lone pair on the central atom is**

- A tetrahedral
- B linear
- C trigonal pyramidal
- D square planar

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2 **The shape of a water molecule is bent mainly because**

A hydrogen atoms repel each other only

B oxygen has no lone pairs

C the bonds are ionic

D oxygen has two lone pairs that repel bonding pairs

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3 **Carbon dioxide is nonpolar overall because**

A its polar bonds are arranged symmetrically and their dipoles cancel

B its bonds are nonpolar

C it has no bonds

D it is ionic

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4 **Which pair of elements is most likely to form an ionic compound?**

- A Carbon and hydrogen
- B Sodium and chlorine
- C Oxygen and oxygen
- D Nitrogen and hydrogen only

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5 **In the Bohr model, electrons**

- A are spread evenly through the atom
- B are inside the nucleus
- C occupy fixed energy levels around the nucleus
- D move randomly with no energy levels

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6 **The first energy level of an atom can hold at most**

A 8 electrons

B 18 electrons

C 1 electron

D 2 electrons

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7 **The second energy level of an atom can hold at most**

A 8 electrons

B 2 electrons

C 18 electrons

D 32 electrons

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8 **Which element is a noble gas?**

- A Oxygen
- B Neon
- C Chlorine
- D Sodium

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9 **Elements in the same group have similar chemical properties because they have**

- A the same atomic mass
- B the same number of neutrons
- C the same number of valence electrons
- D the same density

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10 **An element in group 17, such as chlorine, tends to**

A lose one electron

B lose seven electrons

C gain seven electrons

D gain one electron to fill its outer level

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ANSWER KEY

1.	C	**5.**	C	**9.**	C
2.	D	**6.**	D	**10.**	D
3.	A	**7.**	A		
4.	B	**8.**	B		

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