Deep Run High School

CHEMISTRY I: 1(A), 5(A), 7(A)

Unit 5 Chemical Bonding Test

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ID: **8529**

Name: _____ Score: / 100

Instructions:

This test covers Ionic Bonding, Covalent Bonding, nomenclature, and writing formulas. You will have **45 minutes** to complete this test.

Question 1 /1

Choose the correct name for: $Ca(OH)_2$

- ☐ calcium peroxide
- ☐ calcium oxide
- ☐ calcium hydroxide
- ☐ calcium oxalate

Question 2 /1

Choose the correct name for: $Ba_3(PO_4)_2$

- ☐ barium phosphate
- ☐ barium II phosphide
- ☐ barium phosphide
- ☐ barium II phosphate

Name: _____

Question 3 /1

The d-block elements are called Transition Elements because they

- ☐ multiple valence orbitals.
- ☐ have multiple oxidation numbers.
- ☐ have similar valence electrons.
- ☐ have similar atomic numbers.

Question 4 /1

How many valence electrons does an atom of carbon contain?

- ☐ 12
- ☐ 4
- ☐ 2
- ☐ 6

Name: _____

Question 5 /1

Choose the correct name for: Na_3P

- ☐ sodium phoshporus
- ☐ sodium phosphate
- ☐ trisodium phosphate
- ☐ sodium phosphide

Question 6 /1

Choose the correct name for: Ag_2S

- ☐ argon II sulfide
- ☐ silver II sulfide
- ☐ silver sulfide
- ☐ argon sulfide

Name: _____

Question 7 /1

Choose the correct formula for: iron III iodide

- ☐ Ir_3Io
- ☐ Fe_3I
- ☐ FeI_3
- ☐ $IrIo_3$

Question 8 /1

Choose the correct formula for: nickel I phosphide

- ☐ $NiPO_4$
- ☐ Ni_3P
- ☐ NiP
- ☐ Ni_3PO_4

Name: _____

Question 9 /1

Choose the correct name for: CO_2

- ☐ carbon dioxide
- ☐ carbon oxide II
- ☐ carbonate
- ☐ carbon monoxide

Question 10 /1

Choose the correct name for: ICl_7

- ☐ iodine chloride VII
- ☐ iodine heptachloride
- ☐ iodine sevenchloride
- ☐ iodide decachloride

Name: _____

Question 11 /1

Choose the correct formula for: lithium bromide

- ☐ $LiBrO_2$
- ☐ Li_2Br
- ☐ $LiBr$
- ☐ $LiBr_2$

Question 12 /1

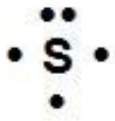
Choose the correct formula for: barium sulfide

- ☐ Ba_2SO_4
- ☐ Ba_2S_2
- ☐ $BaSO_2$
- ☐ BaS

Name: _____

Question 13 /1

Which of the following is the correct Lewis Dot Structure for Sulfur?

☐ 

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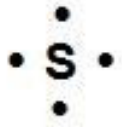
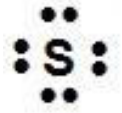
☐ 

☐ 

Name: _____

Question 14 /1

The dots in Lewis structures represent

- ☐ number of protons minus electrons
- ☐ total number of electrons
- ☐ total number of protons
- ☐ number of outer electrons

Question 15 /1

Choose the correct name for: CuOH

- ☐ copper I oxalate
- ☐ copper I hydride
- ☐ copper I peroxide
- ☐ copper I hydroxide

Name: _____

Question 16 /1

Choose the correct name for: $Cu_3(PO_4)_2$

- ☐ copper III phosphide
- ☐ copper III phosphate
- ☐ copper II phosphate
- ☐ copper II phosphide

Name: _____

Question 17 /1

Electronegativity differences are often helpful in determining the bond character between two atoms. A general rule states that if the electronegativity difference between two atoms is greater than 1.67, an ionic bond would most likely be formed. Using the chart below, which pair of atoms would probably form the strongest ionic bond?

Electronegativity Values of Some Atoms

2.1 H						
1.0 Li	1.5 Be	2.0 B	2.5 C	3.0 N	3.5 O	4.0 F
0.9 Na	1.2 Mg	1.5 Al	1.8 Si	2.1 P	2.5 S	3.0 Cl
0.8 K	1.0 Ca				2.4 Se	2.8 Br

- ☐ Al-P
- ☐ Na - Cl
- ☐ Mg - Br
- ☐ Ca-O

Name: _____

Question 18 /1

In order for ionic bonding to occur,

- [ ] metals must lose protons and nonmetals must lose electrons
- [ ] metals must gain elctrons and nonmetals must lose protons
- [ ] metals must lose electrons and nonmetals must gain electrons
- [ ] metals must gain protons and nonmetals must gain electrons

Question 19 /1

Choose the correct name for: FeF_2

- [ ] iron II flourate
- [ ] iron III flouride
- [ ] iron II fluoride
- [ ] iron flourine

Name: _____

Question 20 /1

Choose the correct name for: Cu_3P

- ☐ copper III phosphide
- ☐ copper I phosphide
- ☐ copper phosphide
- ☐ copper I phosphate

Question 21 /1

Choose the correct formula for: sulfur trioxide

- ☐ $3\ SO_4$
- ☐ SO_3
- ☐ S_3O
- ☐ SO_4

Name: _____

Question 22 /1

Choose the correct formula for: methane

- ☐ MnO
- ☐ NH_3
- ☐ CH_4
- ☐ SO_2

Question 23 /1

Which of the following is an example of a covalent bond?

- ☐ $CuCl_2$
- ☐ $NaCl$
- ☐ $AlCl_3$
- ☐ HCl

Name: _____

Question 24 /1

All of the following are characteristics of covalent molecules EXCEPT

- [ ] good heat insulator
- [ ] weaker intermolecular forces
- [ ] gases at room temperature
- [ ] conducts electricity

Question 25 /1

Choose the correct formula for: titanium III phosphate

- [ ] TiP
- [ ] Ti_3PO_4
- [ ] $TiPO_4$
- [ ] Ti_3P

Name: _____

Question 26 /1

Choose the correct formula for: lead IV phosphate

- ☐ $Pb(PO_4)_4$
- ☐ $Pb_2(PO_3)_4$
- ☐ $Pb_4(PO_4)_3$
- ☐ $Pb_3(PO_4)_4$

Question 27 /1

How many atoms are in the formula for sodium sulfate?

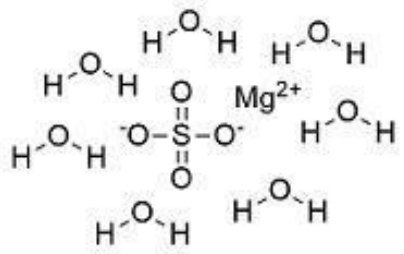
- ☐ 8
- ☐ 5
- ☐ 6
- ☐ 7

Name: _____

Question 28 /1

How many oxygen atoms are represented in the formula for epsom salt -

$MgSO_4 \cdot 7\ H_2O$?



Magnesium sulfate heptahydrate

- ☐ 11
- ☐ 7
- ☐ 4
- ☐ 28

Name: _____

Question 29 /1

Choose the correct formula for: cesium sulfate

- ☐ Cs_2S_4
- ☐ $Cs_2(SO)_4$
- ☐ Cs_2SO_4
- ☐ $CsSO_4$

Question 30 /1

Choose the correct formula for: barium carbonate

- ☐ Ba_2CO_3
- ☐ $BaCO_3$
- ☐ $BaCO_4$
- ☐ $Ba_4(CO_3)_2$