

This practice test is designed to help you determine what concepts you DO know and more importantly what concepts you DO NOT know!

Go through the practice test THREE times:

(1) On your own (2) With your notes (3) With another student

1

2

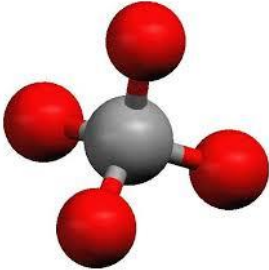
3

Each time, if you cannot answer a question, draw a circle around it to identify that you should review this concept when preparing for the test.

- Elements are held together by chemical bonds. Which of the following is **not** an event that produces a chemical bond?
 - Two atoms come together and share an electron ✓ Covalent bond
 - One atom gains an electron from another atom ✓ ionic bond
 - Two atoms come together to gain an electron
 - One atom loses an electron to another atom ✓ ionic bond
- Which of the following is the correct formula for iron (II) oxide?
 - Fe₂O
 - FeO
 - FeO₂
 - Fe₂O₂

Handwritten diagram: Fe²⁺ and O²⁻ ions with arrows pointing to Fe₂O₂ and then to a boxed FeO.
- The following molecule has one carbon atom (light) and four hydrogen atoms (dark). The molecule shown is
 - A molecular compound
 - An ionic compound
 - A molecular atom
 - An ionic atom

Handwritten notes: CH₄, non metal + non metal = covalent


- The subscripts in ionic compound formulas
 - Identify the total number of atoms in the element
 - Identify the definite proportions of elements in the compound
 - Identify the types of elements in the compound
 - Identify the definite proportions of molecules in the element
- The roman numeral in a name represents
 - The number of molecules in the compound
 - The charge of the polyatomic ion
 - The charge of the multivalent ion
 - The charge of the compound
- Which of the following is a proper rule for naming ionic compounds?
 - The non-metal ion's name always ends with the suffix "-ide" ✓
 - The chemical name of an ionic compound always has three parts ✗
 - The second part of the chemical name is always a positive ion ✗
 - The metal ion's name always ends with the suffix "-ide" ✗

Short Answer

7. Draw Bohr models for the following (5 marks)

Before bonding: draw **atoms**

Mg O	O F F

After bonding: draw **compounds/molecules**

MgO	OF ₂
<p><input checked="" type="radio"/> Ionic / <input type="radio"/> Covalent ? (circle one)</p>	<p><input type="radio"/> Ionic / <input checked="" type="radio"/> Covalent ? (circle one)</p>

8. Complete the following table identifying the name, formula, or ion (4 marks)

Formula	Name	Positive Ion	Negative Ion
CaSO_4	Calcium sulphate	Ca^{2+}	SO_4^{2-}
KBr	potassium bromide	K^+	Br^-
CuCl_2	Copper (II) chloride	Cu^{2+}	Cl^-

9. Name the following compounds (5 marks)

- a. NaBr Sodium bromide
- b. $\text{Sc}(\text{OH})_3$ Scandium hydroxide
- c. $\text{V}(\text{SO}_4)_2$ Vanadium (IV) sulfate
multivalent!
- d. N_3Cl trinitrogen monochloride
covalent!
- e. CaCO_3 Calcium carbonate

10. Write the formula for the following compounds (5 marks)

- a. Silver phosphate Ag_3PO_4
- b. Sulfur tribromide SBr_3
- c. Tin (IV) sulfide $\text{Sn}_1\text{S}_4 \rightarrow \text{SnS}_4$
- d. Titanium (IV) cyanide $\text{Ti}(\text{CN})_4$
- e. Potassium permanganate KMnO_4