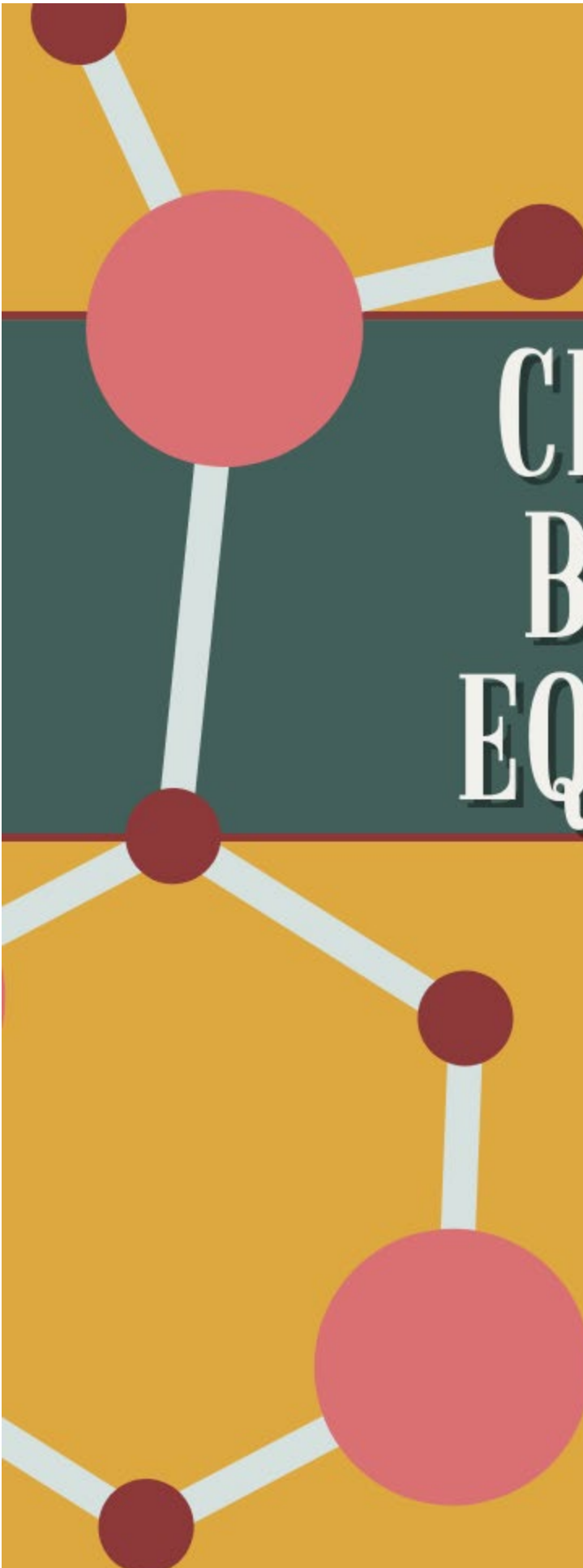


A stylized molecular structure graphic is positioned on the left side of the cover. It features two large pink spheres connected by a light blue line. This line is part of a network of light blue lines connecting several smaller dark red spheres. The background is divided into three horizontal bands: a top orange band, a middle dark teal band containing the title, and a bottom orange band.

CHEMICAL BONDS & EQUATIONS

EDITABLE student notebook pages - digital links included for students to complete guided notes on Google Drive

Questions: Why do atoms form chemical bonds?

TYPES OF CHEMICAL BONDS

Compound - substance made of the combined atoms of two or more elements

Chemical formula - tells what elements a compound contains and the exact number of the atoms of those elements

Some Common Compounds

Vinegar	Acetic acid	$\text{HC}_2\text{H}_3\text{O}_2$
Sand	Silicon dioxide	SiO_2
Stomach Acid	Hydrochloric acid	HCl
Cane Sugar	Sucrose	$\text{C}_{12}\text{H}_{22}\text{O}_{11}$

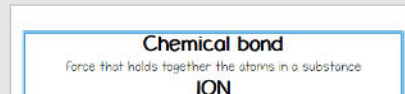
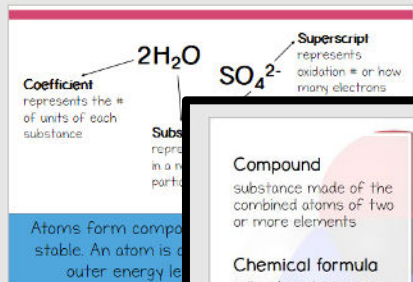
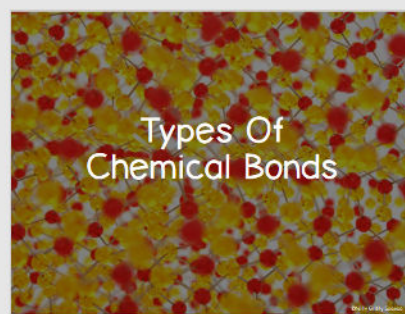
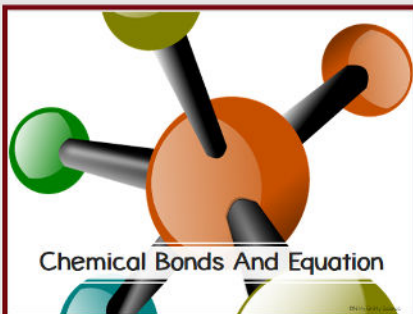
coefficient - represents the # of units of each substance

Atoms form compounds to become stable when the outer energy level

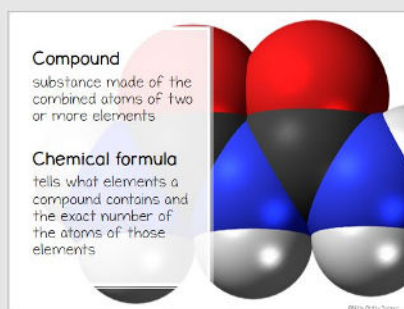
Chemical bond - force that holds together the atoms in a substance

Ionic Bond

- loses or gains electrons
- attraction between opposite charges of ions
- between metals & nonmetals



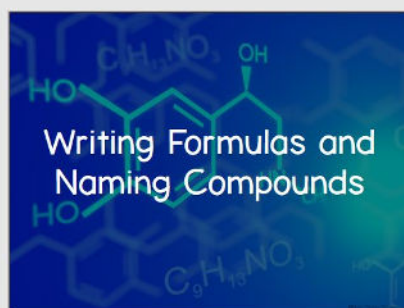
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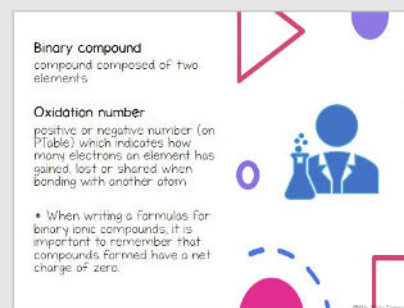
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Some Common Compounds		
Vinegar	Acetic acid	$\text{HC}_2\text{H}_3\text{O}_2$
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4



7



8



11



12

EDITABLE PowerPoint presentations include high-resolution graphics and feature all topics and vocabulary covered in the notes

EDITABLE Chapter test includes multiple choice, fill in the blank, interpreting diagrams, & short Answers questions

Name _____

CHAPTER TEST: CHEMICAL BONDS

Multiple Choice

Choose the answer that best completes each statement.

1. Magnesium bromide is an ionic compound with the formula $MgBr_2$.
a. Bromide has a 2^- charge.
b. There are two magnesium ions for every bromide ion.
c. There are two bromide ions for every magnesium ion.
d. Bromide has a 1^- charge.

2. When an atom gains an electron, it becomes a _____ ion.
a. positive ion
b. negative ion
c. neutral ion
d. neutral atom

3. An ionic bond is formed by the _____ of electrons between two atoms.
a. similarity of
b. repulsion of
c. neutral ions
d. neutral atom

4. Ions that are oppositely charged are attracted to each other.
a. polyatomic ions
b. negative ions
c. positive ions
d. neutral ions

5. What is the chemical formula for sodium fluoride?
a. sodium fluorine
b. magnesium
c. lithium oxide
d. sodium sulfide

6. A chemical bond is the _____ between two atoms.
a. ionic bond
b. covalent bond
c. polyatomic ion
d. crystal bond

7. What is a double bond?
a. a bond between two atoms
b. one pair of electrons
c. two pairs of electrons
d. two pairs of atoms

Source: Pearson Education, Inc.

Use the diagram to answer each question.



31. Which letter represents a covalent bond?

32. Which letter represents an ionic bond?

33. Which letter represents a single bond?

34. Which letter represents a double bond?

Source: Pearson Education, Inc.

16. Which of the following is a balanced chemical equation?

- a. $H_2O \rightarrow H_2 + O_2$
- b. $2Fe_2O_3 + 3C \rightarrow 4Fe + 3CO_2$
- c. $SO_2 + O_2 \rightarrow 2SO_3$
- d. $2Hg + 2Cl_2 \rightarrow HgCl_2 + H_2$

17. A chemical reaction that absorbs energy in the form of heat is described as _____.

- a. endothermic
- b. exothermic
- c. combustion
- d. unbalanced

Fill-in-the-blank

Complete each statement with the correct vocabulary term.

18. When an atom gains an electron, it becomes a _____ ion.
19. The attraction between a positive ion and a negative ion results in a _____ bond.
20. When electrons are _____ between two atoms, a covalent bond is formed.
21. Nitrate (NO_3^-), ammonium (NH_4^+), and carbonate (CO_3^{2-}) are examples of _____ ions.
22. Bonds that form between two nonmetal atoms usually are _____ bonds.
23. Elements in Group 1 lose one electron to form ions with a $(+1)$ _____ charge.
24. In a chemical equation, a _____ tells you how many atoms or molecules of a reactant or a product take part in a reaction.
25. The principle of _____ states that during a chemical reaction, matter is not created or destroyed.

Source: Pearson Education, Inc.

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Answer key included – Images are blurred for copyright reasons



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Contact Information:

Email: admin@nittygrittyscience.com

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