

IONIC & COVALENT BONDS

Name:

Date:

Period:

An _____ is the attraction between two oppositely charged ions. The chemical bond formed when two atoms share electrons is called a _____. Covalent bonds usually form between atoms of _____ and ionic bonds usually form when a _____ combines with a _____.

Activity A: How Do Ions Form?

Procedure:

1. Place three pairs of checkers (three red and three black) on your desk. The red represent electrons and the black represent protons.
2. Place nine pairs of checkers (nine red and nine black) in a separate group on your desk.
3. Move a red checker from the smaller group to the larger group.
4. Count the number of positive charges (protons) and negative charges (electrons) in each group.
5. Now sort the checkers into a group of four pairs and a group of eight pairs. Repeat Steps 3 and 4, this time moving two red checkers from the smaller group to the larger group.

Think it over:

1. What was the total charge on each group before you moved the red checkers (electrons)?
2. What was the charge on each group after you moved the checkers?
3. Based on this activity what do you think happens to the charge on an atom when it loses electrons?
4. Based on this activity what do you think happens to the charge on an atom when it gains electrons?

Activity B: Interpreting Data About Ions

Procedure:

1. Use the periodic table and the chart to the right to identify the charges of the ions in each ionic compound listed below.
2. Write the formulas for each compound.
 - a. sodium bromide;
 - b. lithium oxide;
 - c. magnesium sulfide;
 - d. aluminum fluoride;
 - e. potassium nitrate;
 - f. ammonium chloride

Ions and Their Charges		
Name	Charge	Symbol or Formula
Lithium	1+	Li^+
Sodium	1+	Na^+
Potassium	1+	K^+
Ammonium	1+	NH_4^+
Calcium	2+	Ca^{2+}
Magnesium	2+	Mg^{2+}
Aluminum	3+	Al^{3+}
Fluoride	1-	F^-
Chloride	1-	Cl^-
Iodide	1-	I^-
Bicarbonate	1-	HCO_3^-
Nitrate	1-	NO_3^-
Oxide	2-	O^{2-}
Sulfide	2-	S^{2-}
Carbonate	2-	CO_3^{2-}
Sulfate	2-	SO_4^{2-}
Phosphate	3-	PO_4^{3-}

Think it over:

1. How do you know how many of each ion to write in the formula?

Answers Covalent Bonding Vocabulary

NARAYAN CHANGDER



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Master Vocabulary Workbook David Nicholls, 2023-06-11 Supplementary Exercises for my Master English Vocabulary course available on skype lessons com and udemy com *Science Vocabulary Building, Grades 5 - 8* Schyrlet

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Science to English Learners Stephen Fleenor, Tina Beene, 2019 Teaching Science to English Learners is a go to resource for science educators to promote listening speaking reading and writing in their classrooms Each chapter outlines specific easy to implement strategies that foster academic language development and comprehension of science concepts with specific scaffolds highlighted for each language proficiency level Teaching Science to English Learners is thoughtfully designed to help teachers equip students to navigate inquiry driven instruction understand abstract science concepts and master the multitude of science vocabulary that can be challenging for ELs and non ELs alike By equipping teachers with strategies to draw from students prior knowledge and focus on collaboration this book helps science teachers make lessons accessible for all learners while deepening content comprehension and developing academic language Teaching Science to English Learners is the second in a set of books designed to help content area teachers create learning environments in which English learners thrive **E3 Chemistry Review Book - 2018 Home Edition (Answer Key Included)** Effiong

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Heath Earth Science Nancy E. Spaulding, 1999 [Introduction to Chemical Structure](#) Donald Cotter, 2020-08-01 *Teaching Students With High-Incidence Disabilities* Mary Anne Prater, 2016-12-29 To ensure that all students receive quality instruction Teaching

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Luciana C. de Oliveira, Kathryn M. Obenchain, Rachael H. Kenney, Alandeom W. Oliveira, 2019-01-17 This practitioner based book provides different approaches for reaching an increasing population in today's schools English language learners ELLs The recent development and adoption of the Common Core State Standards for English Language Arts and Literacy in History Social Studies Science and Technical Subjects CCSS ELA Literacy the Common Core State Standards for Mathematics the C3 Framework and the Next Generation Science Standards NGSS highlight the role that teachers have in developing discipline specific competencies This requires new and innovative approaches for teaching the content areas to all students The book begins with an introduction that contextualizes the chapters in which the editors highlight transdisciplinary theories and approaches that cut across content areas In addition the editors include a table that provides a matrix of how strategies and theories map across the chapters The four sections of the book represent the following content areas English language arts mathematics science and social studies This book offers practical guidance that is grounded in relevant theory and research and offers teachers suggestions on how to use the approaches described

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Seddon, Michael Zaworotko, 1999-09-30 Crystal engineers need an understanding of bonding theory computational chemistry applied spectroscopy structural methods synthesis strategies and applications of custom designed solids This book contains chapters on all these topics written by internationally recognized experts plus contributions from leading researchers in the field

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