Worksheet Names Of Ionic Compounds Answer Key PDF

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Part 1: Building a Foundation

What is the primary type of bond found in ionic compounds?

undefined. C) Ionic bond ✓

undefined. A) Covalent bond

undefined. D) Metallic bond

undefined. C) Hydrogen bond

The primary type of bond found in ionic compounds is the ionic bond.

Which of the following are characteristics of ionic compounds? (Select all that apply)

undefined. A) High melting points ✓

undefined. C) Soluble in water ✓

undefined. D) Composed of cations and anions ✓

undefined. C) Conduct electricity in solid form

Ionic compounds typically have high melting points, are soluble in water, and are composed of cations and anions.

Explain why ionic compounds generally have high melting and boiling points.

Ionic compounds have high melting and boiling points due to the strong electrostatic forces between the oppositely charged ions.

List two examples of polyatomic ions and their chemical formulas.

1. Example 1

Sulfate (SO_4^{2-})

2. Example 2

Nitrate (NO_3^-)

Examples include sulfate (SO_4^{2-}) and nitrate (NO_3^-).

Which of the following is the correct name for the compound NaCl?

undefined. A) Sodium chloride ✓
undefined. C) Sodium chlorine
undefined. D) Sodium hypochlorite
undefined. C) Sodium chlorate

The correct name for NaCl is sodium chloride.

Part 2: Application and Analysis

What is the correct formula for calcium nitrate?

undefined. A) $CaNO_3$
undefined. C) Ca_2NO_3
undefined. D) $Ca(NO_2)_2$
undefined. C) $Ca(NO_3)_2$ ✓

The correct formula for calcium nitrate is $Ca(NO_3)_2$.

Which of the following compounds are correctly named? (Select all that apply)

undefined. A) K_2SO_4 - Potassium sulfate ✓
undefined. C) NH_4Cl - Ammonium chloride ✓
undefined. D) MgO - Magnesium oxide ✓
undefined. C) $FeCl_3$ - Iron(II) chloride

Correctly named compounds include K_2SO_4 - Potassium sulfate, NH_4Cl - Ammonium chloride, and MgO - Magnesium oxide.

Write the chemical formula for aluminum sulfate, given that the sulfate ion is SO_4^{2-}.

The chemical formula for aluminum sulfate is $Al_2(SO_4)_3$.

If a compound is composed of Fe^{3+} and O^{2-} ions, what is its chemical formula?

undefined. A) FeO
undefined. C) Fe_3O_2
undefined. D) FeO_2
undefined. C) Fe_2O_3 ✓

The chemical formula for the compound is Fe_2O_3.

Analyze the following compounds and identify which are ionic. (Select all that apply)

undefined. A) H_2O
undefined. C) $C_6H_{12}O_6$
undefined. D) $CaCl_2$ ✓
undefined. C) Na_2CO_3 ✓

The ionic compounds among the options are Na_2CO_3 and $CaCl_2$.

Compare and contrast the properties of ionic compounds with covalent compounds.

Ionic compounds typically have high melting points and conduct electricity when dissolved in water, while covalent compounds have lower melting points and do not conduct electricity.

Part 3: Evaluation and Creation

Which of the following statements best explains why ionic compounds conduct electricity when dissolved in water?

undefined. A) The water molecules break the ionic bonds.
undefined. C) The water provides a medium for electron flow.
undefined. D) The compound becomes a covalent solution.
undefined. C) The ions are free to move and carry charge. ✓

Ionic compounds conduct electricity in solution because the ions are free to move and carry charge.

Evaluate the following scenarios and determine which would result in the formation of an ionic compound. (Select all that apply)

undefined. A) A metal reacting with a non-metal ✓

undefined. C) A metal reacting with a polyatomic ion ✓

undefined. D) Two metals reacting

undefined. C) Two non-metals reacting

The scenarios that would result in the formation of an ionic compound include a metal reacting with a non-metal and a metal reacting with a polyatomic ion.

Design a simple experiment to demonstrate the conductivity of ionic compounds in solution. Describe the materials needed and the steps involved.

An experiment could involve dissolving table salt in water and using a conductivity meter to measure the conductivity of the solution.

Reflect on how the properties of ionic compounds influence their practical applications in everyday life. Provide examples to support your explanation.

Ionic compounds are used in various applications such as in batteries, as electrolytes, and in food preservation due to their properties.