

Compounds, Chemical Formulas, and Covalent Bonds (Chapter 11, section 2)

Name _____

Period _____

1. What is a covalent bond?

2. Between what kinds of atoms do covalent bonds usually form? (Look in same paragraph as question 1)

3. a) How can you tell how many covalent bonds a nonmetal atom can form? Why is hydrogen an exception?

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b) Draw a dot diagram of a water molecule, showing the valence electrons, and circle the covalent bonds. Do the same for a hydrogen molecule.

4. a) What is a double bond?

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b) Draw a dot diagram of a carbon dioxide molecule, showing the valence electrons, and circle the double covalent bond.

5. a) What is a triple bond?

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b) Draw a dot diagram of a nitrogen molecule, showing the valence electrons, and circle the triple covalent bond.

6. What is a covalent compound?

7. What are general properties of covalent compounds?

8. What is a molecule?

9. a) What is a polar molecule?

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b) Why does this happen?

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c) Draw a water molecule showing the unequal pull on the atoms and the resulting charges. Use arrows to show which way the electrons are pulled.

10. Explain how polar bonds allow sugar to dissolve in water.

11. What is a nonpolar molecule?

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b) Draw a carbon dioxide molecule, showing the equal pull of the atoms.

12. What is a chemical formula?

13. a) What does a subscript in a chemical formula tell you?

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b) What does it mean if a symbol has no subscript?

14. What is the chemical formula for carbon dioxide and what does the formula tell you about the ratio of the two elements?