

What Are Covalent Bonds?

1. What is a covalent bond?

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2. In covalent bonds, are electrons shared, transferred or delocalised?

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3. What type of elements do covalent bonds form between?

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4. Why do non-metal atoms share electrons to form covalent bonds?

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5. Where are non-metals found in the periodic table?

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6. Why do molecules have a neutral charge?

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Why are Covalent Bonds Strong?

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5. What charge does the nucleus have and why?

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6. What charge do the shells have and why?

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7. What force of attraction is between the protons in the nucleus and the shared pair of electrons in the outer shell?

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8. Are covalent bonds strong or weak?

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9. Is a lot or a little amount of energy needed to break covalent bonds?

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10. Explain your answer to question 9

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Covalent Molecules 1: Hydrogen, Chlorine & Hydrogen Chloride

1. What is a single covalent bond?

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2. What is the formula of a hydrogen molecule?

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3. What is the formula of a chlorine molecule?

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4. What is the formula of a fluorine molecule?

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5. What is the formula of a bromine molecule?

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6. What is the formula of a hydrogen chloride molecule?

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7. What is the formula of a hydrogen fluoride molecule?

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8. What is the formula of a hydrogen bromide molecule?

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9. Draw a dot and cross diagram to show the electrons in the following molecules. Show outer electrons only.

a) Hydrogen:

b) Chlorine:

c) Hydrogen chloride:

d) Fluorine:

e) Hydrogen Fluoride:

Covalent Molecules 2: Water & Methane

1. What is a single covalent bond?

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2. What is the formula of a water molecule?

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3. What is the formula of a methane molecule?

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4. What is the formula of a hydrogen sulfide molecule?

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5. Draw a dot and cross diagram to show the electrons in the following molecules. Show outer electrons only.

a) Hydrogen:

b) Methane:

c) Hydrogen sulfide:

Covalent Molecules 3: Oxygen & Carbon Dioxide

1. What is a single covalent bond?

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2. What is a double covalent bond?

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3. What is the formula of an oxygen molecule?

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4. What is the formula of a carbon dioxide molecule?

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5. Draw a dot and cross diagram to show the electrons in the following molecules. Show outer electrons only.

a) Oxygen:

b) Carbon dioxide:

c) Sulfur:

Covalent Molecules 4: Nitrogen & Ammonia

1. What is a single covalent bond?

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2. What is a double covalent bond?

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3. What is a triple covalent bond?

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4. What is the formula of a nitrogen molecule?

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5. What is the formula of an ammonia molecule?

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5. Draw a dot and cross diagram to show the electrons in the following molecules. Show outer electrons only.

<p><u>a) Nitrogen:</u></p>	<p><u>b) Ammonia:</u></p>
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