Chemical bonding

Sci H

Name _____ Class _____ Date _____

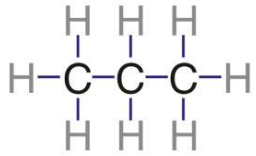
1 How many atoms of **oxygen (O)** are in the **chemical formula** below?

A 4
B 5
C 7
D 12

$Al_2(SO_4)_3$

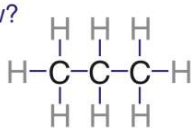
2 The diagram shown below is a **structural formula** for the gas **propane**. What would be the correct **chemical formula** for propane?

A C_3H_8
B CH_8
C 8H3C
D CH

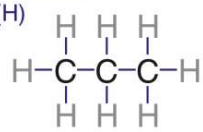


3 Carbon (C) and hydrogen (H) create **covalent bonds** to share **electrons** between them. What is the total number of electrons being shared between **carbon** and **hydrogen** in the molecule of propane shown below?

A 8
B 11
C 16
D 32



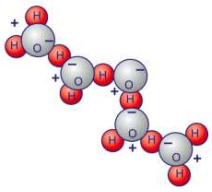
4 The **reason** why the bonds between carbon (C) and hydrogen (H) are **covalent** is _____.



A C and H do not have electrons to give away
B C and H are both nonmetals
C C and H are both metalloids
D C and H can bond only by sharing electrons

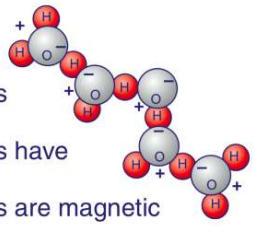
5 The diagram below represents the **structural formula** for several **water molecules**. How many **molecules** are represented?

A 3
B 5
C 10
D 15



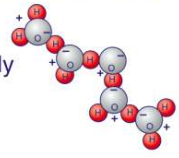
6 Explain the **arrangement** of the molecules in the diagram of water below.

A it is a lucky arrangement
B water molecules are sticky
C water molecules have polarity
D water molecules are magnetic



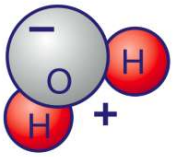
7 Water molecules have some **polarity** in their structure. Using the diagram below, notice how the ends of H atoms (**positive**) and O atoms (**negative**) meet. This property is the **reason** that _____.

A water forms droplets easily
B water boils easily
C ice melts easily
D water has color



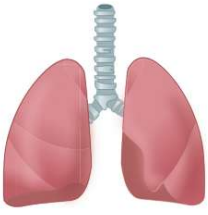
8 Since H atoms are slightly **positive** and the O atoms are slightly **negative**, molecules of water have **polarity**. This makes water a **good** _____.

A solute
B refrigerant
C solvent
D magnet



9 The chemical formula for the **oxygen** that we breathe is _____.

A O
B O_2
C O_4
D 2O



10 How many **molecules of oxygen** are represented in the chemical formula below?

A 2
B 4
C 6
D 18

$4O_2$

Chemical bonding

ANSWER KEY

How many atoms of **oxygen (O)** are in the **chemical formula** below?

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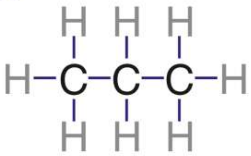

a

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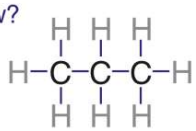
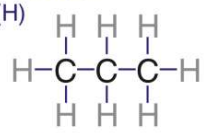


c

The **reason** why the bonds between carbon (C) and hydrogen (H) are **covalent** is _____.



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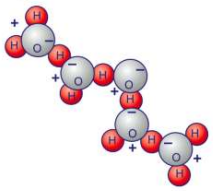

b

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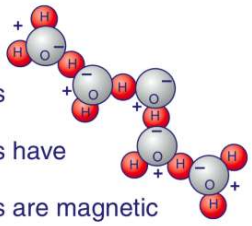
C water molecules have polarity
D water molecules are magnetic



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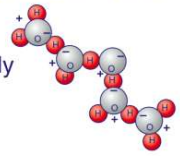

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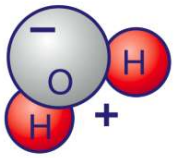

c

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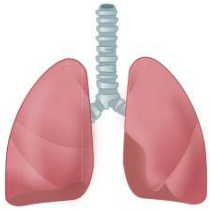

b

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