CHEMISTRY · ARKANSAS

Chemistry
Practice Test

Unit 2: Bonding and Chemical Reactions

25 Questions

Original practice test based on the Arkansas curriculum. Work through each question, then check your answers at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

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Question 1

An ionic bond forms when electrons are transferred from a metal to a

A) Nonmetal

B) Metal

C) Noble gas

D) Proton

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Question 2

A covalent bond forms when atoms share pairs of

A) Electrons

B) Protons

C) Neutrons

D) Nuclei

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Question 3

Sodium chloride is held together by ionic bonds because sodium gives an electron to

A) Sodium again

B) Oxygen

C) Chlorine

D) Hydrogen

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Question 4

Water molecules are held together within the molecule by covalent bonds between

A) Hydrogen and hydrogen only

B) Oxygen and oxygen only

C) Sodium and chlorine

D) Hydrogen and oxygen

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Question 5

An ionic compound in solid form usually does not conduct electricity, but when melted or dissolved it

A) Conducts electricity

B) Becomes covalent

C) Loses its ions

D) Becomes a gas

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Question 6

Covalent molecular substances usually have lower melting points than ionic compounds because their molecules are held by

A) Strong ionic lattices

B) Weak intermolecular forces

C) Metallic bonds

D) Nuclear forces

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Question 7

A metallic bond is the attraction between positive metal ions and

A) Protons only

B) Neutrons

C) Delocalised electrons

D) Covalent molecules

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Question 8

Metals conduct electricity because their electrons are

A) Fixed to one atom

B) Absent

C) Bound in molecules

D) Free to move through the metal

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Question 9

A polar covalent bond forms when shared electrons are pulled more strongly toward

A) One atom than the other

B) Both atoms equally

C) The nucleus only

D) A neighbouring molecule

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Question 10

Water is a polar molecule because oxygen pulls shared electrons more strongly than hydrogen, giving oxygen a partial

A) Positive charge

B) Negative charge

C) No charge

D) Full ionic charge

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Question 11

Hydrogen bonding is a strong intermolecular force that occurs when hydrogen is bonded to nitrogen, oxygen, or

A) Carbon only

B) Sodium

C) Fluorine

D) Chlorine only

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Question 12

Ice floats on water because hydrogen bonding holds water molecules in an open structure, making ice

A) More dense than liquid water

B) Heavier per molecule

C) Without hydrogen bonds

D) Less dense than liquid water

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Question 13

A chemical equation is balanced when the number of atoms of each element is

A) Equal on both sides

B) Greater on the left

C) Greater on the right

D) Equal only for oxygen

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Question 14

In a synthesis reaction, two or more reactants combine to form

A) Two products always

B) One product

C) No product

D) A mixture only

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Question 15

In a decomposition reaction, one reactant breaks down into

A) One product only

B) No products

C) Two or more products

D) A catalyst only

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Question 16

In a single displacement reaction, a more reactive element replaces a

A) More reactive element

B) Catalyst

C) Product

D) Less reactive element in a compound

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Question 17

In a double displacement reaction, ions in two compounds exchange

A) Partners

B) Electrons only

C) Protons only

D) Neutrons

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Question 18

Combustion of a hydrocarbon in oxygen produces carbon dioxide and

A) Nitrogen

B) Water

C) Hydrogen gas

D) Carbon monoxide only

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Question 19

A precipitate forms in a double displacement reaction when an insoluble

A) Gas escapes

B) Liquid boils

C) Solid product appears

D) Catalyst is added

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Question 20

An acid reacts with a base to produce a salt and

A) Hydrogen gas

B) Oxygen gas

C) Carbon dioxide always

D) Water

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Question 21

The law of conservation of mass states that mass is neither created nor destroyed in a

A) Chemical reaction

B) Physical change only

C) Nuclear change only

D) Mixture

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Question 22

Coefficients in a balanced equation show the relative numbers of

A) Grams always

B) Moles of each substance

C) Litres always

D) Atoms of hydrogen only

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Question 23

A catalyst speeds up a reaction without being

A) Changed in mass only

B) Heated

C) Consumed in the reaction

D) Dissolved

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Question 24

Increasing temperature usually increases reaction rate because particles

A) Move more slowly

B) Stop colliding

C) Lose mass

D) Collide more often and with more energy

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Question 25

Increasing surface area of a solid reactant increases reaction rate because more particles are

A) Exposed to collide

B) Dissolved

C) Heated

D) Ionised

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ANSWER KEY

1.	A	**10.**	B	**18.**	B
2.	A	**11.**	C	**19.**	C
3.	C	**12.**	D	**20.**	D
4.	D	**13.**	A	**21.**	A
5.	A	**14.**	B	**22.**	B
6.	B	**15.**	C	**23.**	C
7.	C	**16.**	D	**24.**	D
8.	D	**17.**	A	**25.**	A
9.	A				

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