

100 Important MCAT Chemistry Facts United States Government

This book is a comprehensive guide to the 100 most important chemistry facts that you need to know for the MCAT. It covers all of the essential topics that you will be tested on, including atomic structure, bonding, thermodynamics, kinetics, and equilibrium.

Atomic Structure

1. The atomic number of an element is equal to the number of protons in its nucleus.
2. The mass number of an element is equal to the number of protons plus the number of neutrons in its nucleus.
3. Electrons are arranged in shells around the nucleus.
4. The first shell can hold up to 2 electrons, the second shell can hold up to 8 electrons, and the third shell can hold up to 18 electrons.
5. The valence electrons are the electrons in the outermost shell.

Bonding

1. Ionic bonds are formed between atoms that have opposite charges.
2. Covalent bonds are formed between atoms that share electrons.
3. Hydrogen bonds are weak bonds that form between a hydrogen atom and an electronegative atom.
4. Van der Waals forces are weak bonds that form between nonpolar molecules.

5. The strength of a bond is determined by the number of electrons that are shared and the distance between the atoms.

Thermodynamics

1. The first law of thermodynamics states that energy cannot be created or destroyed.
2. The second law of thermodynamics states that entropy always increases.
3. The Gibbs free energy is a measure of the spontaneity of a reaction.
4. The equilibrium constant is a measure of the extent to which a reaction proceeds.
5. The rate of a reaction is determined by the activation energy and the temperature.

Kinetics

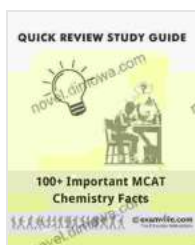
1. The rate of a reaction is the change in concentration of the reactants or products over time.
2. The rate law is an equation that expresses the rate of a reaction as a function of the concentrations of the reactants.
3. The Free Download of a reaction is the sum of the exponents of the concentrations of the reactants in the rate law.
4. The half-life of a reaction is the time it takes for the concentration of the reactants to decrease by half.
5. The activation energy is the energy that must be overcome for a reaction to occur.

Equilibrium

1. Equilibrium is a state of balance in which the forward and reverse reactions of a system occur at the same rate.
2. The equilibrium constant is a measure of the extent to which a reaction proceeds.
3. The Le Chatelier's principle states that if a change is made to a system at equilibrium, the system will shift in a direction that counteracts the change.
4. Common ion effect is the phenomenon in which the addition of a common ion to a solution shifts the equilibrium of a reaction in the direction that produces less of the common ion.
5. The solubility product is a measure of the solubility of a solid in a solvent.

US Army

The US Army is the largest branch of the United States military. It is responsible for land-based operations and provides support to the other branches of the military. The Army has a long and distinguished history, dating back to the American Revolution.



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by United States Government US Army

★★★★☆ 4.8 out of 5

Language : English

File size : 307 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Enhanced typesetting : Enabled

Print length : 9 pages

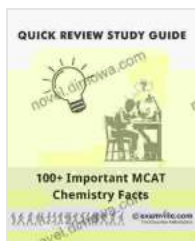
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The Army is organized into ten divisions, each of which is responsible for a specific geographic area. The divisions are further divided into brigades, which are then divided into battalions. The Army also has a number of special operations forces, which are used for high-risk missions.

The Army's mission is to protect the United States and its interests. The Army has been involved in numerous wars and conflicts, including the American Revolution, the Civil War, the Spanish-American War, World War I, World War II, the Korean War, the Vietnam War, and the Gulf War.

This book is a valuable resource for anyone who is preparing for the MCAT. It provides a comprehensive review of the most important chemistry facts that you need to know. By studying this book, you will be well-prepared to score high on the MCAT and achieve your dream of becoming a doctor.



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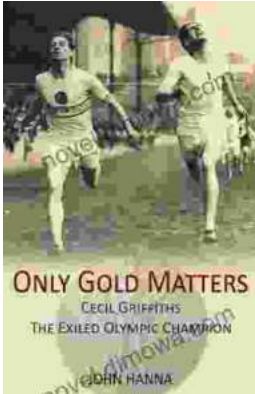
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