Chemistry test 2 study guide

Your doctor may test a small sample of your blood to determine your potassium, sodium, creatione, fasting glucose, total cholesterol, and HDL cholesterol levels. The results may help your doctor to find lesions or other risk factors for coronary artery disease. How is this test done? To take a blood sample from a vein on your forearm or hand, your doctor or nurse will follow these steps. Ad Cleans the skin over your vein with an antiseptic. Wrap a strong rubber tube, called a tourniquet, around the upper arm. Doing this enlarges the veins of the lower arm by limiting blood flow through them. Enlarged veins are easier to take blood from. Carefully insert a small needle into your vein. Collect your blood in a syringe or vial. Remove tourniquet. Pull back the needle. Cover the puncture site with a bandage and apply pressure to stop the bleeding. Photo by Rina Pitucci.Welcome back to Mid-Week Meditations, Lifehacker's weekly dip in the pool of stoic wisdom and a guide to using their water to reflect on and improve your life. This week's selection comes from Seneca. In his Moral Letters (88.7), he describes the real lessons that can be learned from Homer's The Odyssey: Do You Raise the Question, By Which Regions Did Ulysses Stray? instead of trying to stop us from getting lost all the time? We have no free time to hear lectures on the question of whether he was sea-tost between Italy and Sicily, or outside our known world (yes, as long as a wandering could not possibly have taken place within its narrow borders); we ourselves face storms of spirit, which single us daily, and our depravity drives us into all the misdeeds that troubled Ulysses. For us there is never missing the beauty to tempt our eyes, or the enemy to bring us; on this side are wild monsters that delight in human blood, on that side the treacherous allure of the ear, and yonder are shipwrecks and all the varying category of accidents. Rather, show me, by the example of Ulysses, how I should love my country, my wife, my father, and how, even after suffering shipwrecks, I will sail for these purposes, honorable as they are. What it means, from antiquity to this day, rips away as they try to figure out and remember all the names, dates and locations from Homer's epic, but all these details are irrelevant. Take a closer look at this line:Rather, show me, by the example of Ulysses, how I should love my country, my wife, my father, and how, even after suffering shipwrecks, I will sail towards these purposes, honorable as they are. For Seneca, the real lessons of this story are the moral lessons. I know, surprising, don't I? The Odyssey is not about cyclops monsters, Trojan horses, or defying stormy seas; it's about love, honor, temptation, hubris and perseverance. As you learn new material it be overwhelming when you think how much time you ... Read moreWhat to take from ItBack in school, teachers may have asked you about details from a book, lecture, tour, or movie to see if you actually paid attention to the material. It's a system that sometimes works, but it engrains the wrong approach to education in our minds. Instead of focusing on the real lessons of a story—why—we learned instead to note who, what, when, and where. We learned to study for testing. It's time to stop it if you haven't already. Most of us are out of school now, and there are no longer tests for us to study for. It's time you learned to study just for you. As you read books, watch movies, and see plays, look for ways to apply the lessons that the characters learn in your own life. If you don't plan to be a quiz winner, there's no need to remember all the little details that don't make you a better person. Picture: YinYang/E+/Getty Images When we think about chemistry, we tend to think about the periodic table. Everyone knows helium, hydrogen, copper and gold. But have you kept up with the newest elements? In 2016, nihonium, Moscovium, Tennessine and oganession were officially named and added to the periodic table. Don't worry! We will not ask you to name all 118 known elements. Considering some elements have had more than one name throughout history, that would be a difficult feat for even the most acclaimed chemist to accomplish. In addition, chemistry is so much more than naming elements and finding them on the periodic table. If anything, memorizing the periodic table is boring. The exciting part of chemistry is how these elements interact and see the chemical reactions. Explosions, solvents and the states of matter are what get the children excited. This quiz will test you on the chemistry knowledge that you learned in school. Remember the different states of matter? How about the groups on the periodic table? Do you know the different types of bonds? Can you explain what the pH scale measures? What about the difference between an exothermic and an endothermic reaction? Find out how well you remember those chemistry lessons! We can ask about condensation, but we will not be condescending! TRIVIA Do you know which group these elements belong to in the periodic table? 6 Minute Quiz 6 My TRIVIA Can You Spell These Chemistry Words? 6 minute quiz 6 min TRIVIA Can you pass this periodic table Trivia Quiz? 6 Minute Quiz 6 My TRIVIA Can You Still Pass High School Chemistry? 6 minute quiz 6 My TRIVIA How well do you know basic facts about the sun? 6 Minute Quiz 6 My TRIVIA Can You Pass a Basic Anatomy Test? 6 Minute Quiz

6 My TRIVIA Can You Pass This General Science Quiz? 5 minute quiz 5 min TRIVIA Do you know what decade these elements were discovered in? 6 minute quiz 6 min What periodic element resonates with your soul? 5 minute quiz 5 my personality What is yours 5 Minute Quiz 5 Min How much do you know about dinosaurs? What is an octane rating? And how do you use a proper noun? Lucky for you, HowStuffWorks Play is here to help. Our award-winning website offers reliable, easy-to-understand explanations about how the world works. From fun quizzes that bring joy to your day, to compelling photography and fascinating listings, HowStuffWorks Play offers something for everyone. Sometimes we explain how things work, other times, we ask you, but we are always exploring in the name of fun! Because learning is fun, so stick with us! Playing quizzes is free! We send trivia questions and personality tests every week to your inbox. By clicking Register, you agree to our privacy policy and confirm that you are 13 years old or over. Copyright © 2020 InfoSpace Holdings, LLC, a System1 Company Studying Chemistry can be stressful and feel overwhelming. There is no magic formula for learning chemistry, but you can develop an effective strategy for success. Whether you're in middle school, high school or college, these easy steps will get you on track. Basically, it doesn't get behind, do your own work, and don't psych yourself out: Don't procrastinate! Study not equal learning. If you wait until the night before a test to start studying you will suffer, your grades will suffer, etc. Chemistry problems take time to work. Chemistry concepts take time to master. Not ProcrastinateIt is worth repeating! Chemistry builds from one concept to the next. You need a solid knowledge base to develop. Try Flash CardsHey, they are used in elementary and elementary school because FLASHCARDS WORK. Some of the information is learned at the same time that the cards and the rest can be learned during the practice. You may switch around the order in which you view topics, which is something that most notebooks do not provide. Get some index cards and give it a try! Try a HighlighterUse it judiciously. The goal is not to turn your book or notes fluorescent. Most texts already have important concepts in bold fonts. Unless your teacher is very unusual, he or she will almost always mention likely test questions, answers and concepts. Mark them! Some teachers take questions from a test bank, but those who write their own are usually keeping a mental tally of concepts while teaching. Use MnemonicsWhat you do here is take the first few letters of words in a sequence you try to memorize and make a phrase from them to serve as a memory support. Example: the sequence of the first elements of the periodic table H, He, Li, Be, B, C, N, O, F, Ne could be (yes, the one that came to me was actually dirty, which is easier to remember) Hi Henry, Lookin' Big, Bad, Sure Nasty, Old Friend - Not! Ok, it's not good literature. A popular mnemonic device for metric prefix: Kilo-Hecto-Deca-Meter Meter gram) deci-centi-milli- Kangaroos Hopping Down mountain drinking chocolate milk. In addition, such phrases are even easier to memorize if you put them to music. Work the ProblemsYou work through the example problem in the book or in class just fine. Large! That doesn't mean you understand how to apply the formulas when the conditions or wording change. It is important to work problems. I know it seems like a good idea to split up problem sets with classmates or to put down answers from the back of the book when you're short on time, but you really have to work these problems to practice the skills you need for testing and beyond. Do you know your TextDo you have a dictionary? Answers to back problems? Self-quizzes? Attachments full of useful information? Find out sooner rather than later. Learn about your text. Use the dictionary. You can't communicate about a topic without learning the terminology. A gas is a state of matter without defined form or volume. Gases have their own unique behavior depending on a variety of variables, such as temperature, pressure and volume. While each gas is different, all gases act on a similar issue. This study guide highlights the concepts and laws that deal with the chemistry of gases. Gas Balloon. Paul Taylor, Getty Images A gas is a state of matter. The particles that make up a gas can range from individual atoms to complex molecules. Some other general information including gases: Gases assume the shape and volume of their containers. Gases have a lower density than their solid or liquid phases. Gases are compressed more easily than their solid or liquid phases. Gases will mix completely and evenly when limited to the same volume. All elements of Group VIII are gases. These gases are known as the noble gases. Elements that are gases at room temperature and normal pressure are all nonmetals. Pressure is a measure of power per unit range. The pressure of a gas is the amount of force the gas exerts on an area within its volume. High pressure gases exert more power than low pressure gas. The Print SI unit is pascal (Symbol Pa). Pascal is equal to the power of 1 newton per square meter. This unit is not very useful when handling gases in real-world conditions, but it is a standard that can be measured and reproduced. Many other pressure units have evolved over time, mostly working with the gas we are most familiar with: air. The problem with air, the pressure is not constant. Air pressure depends on the altitude above sea level and many other factors. Many pressure units were originally based on average sea level air pressure, but have become standardized. Temperature is a characteristic of matter that is related to the amount of energy of the component particles. Several temperature scales have been developed to measure this amount of energy, but the SI standard scale is Scale. Two other common temperature scales are Fahrenheit (°F) and Celsius (°C) scales. The Kelvin scale is an absolute temperature scale and is used in almost all gas calculations. It is important when dealing with gas problems to convert the temperature readings to Kelvin.Conversion formulas between temperature scales:K = °C + 273,15°C = 5/9(°F - 32)°F = 9/5°C + 32 STP means standard temperature and pressure. It refers to conditions on 1 atmosphere of pressure at 273 K (0 °C). STP is commonly used in calculations involved with gas density or in other cases involving standard state conditions. At STP, a mole of an ideal gas will occupy a volume of 22.4 L. Dalton's law states that the total pressure of a mixture of gases is equal to the sum of all individual pressures of the component gases alone. Ptotal = PGas 1 + PGas 2 + PGas 3 + ... The individual pressure of the component gas is called the partial pressure of the gas. Partial pressure is calculated by formulaPi = XiPtotalwherePi = partial pressure of the individual gasEnPtotal = total pressureXi = molfraction of the individual gasVadvadfraction, Xi, is calculated by dividing the number of moles of the individual gas by the total number of moles of the mixed gas. Avogadro's law states that the volume of a gas is directly proportional to the number of moles of gas when pressure and temperature remain constant. Basically: Gas has volume. Add more gas, gas takes up more volume if pressure and temperature do not change. V = knwhereV = volume k = constant n = number of molAvogadro's law can also be expressed asVi/ni = Vf/nfwhereVi and Vf are initial and final volumesni and nf are initial and the final number of mols gas lag indicates that the volume of a gas is inversely proportional to the pressure when the temperature is kept constant. P = k/VwhereP = pressurek = constantV = volumeBoyles law can also be expressed asPiVi = PfVfwhere Pi and Pf are the initial and final pressureS We and Vf are the initial and final pressureA volume increases, pressure decreases or as volume decreases, pressure will increase. Charles gas law states the volume of a gas is proportional to its absolute temperature when pressure is kept constant. V = kTwhereV = volumek = constantT = absolute temperatureCharles' law can also be expressed asVi/Ti = Vf/Tiwhere We and Vf are the initial and final volumesTi and Tf are the initial and final absolute temperaturesIf the pressure is kept constant and the temperature increases, the volume of the gas will increase. When the gas cools down, the volume will decrease. Guy-Lussac gas law states the pressure of a gas is proportional to its absolute temperature when the volume is kept constant. P = kTwhereP = pressurek = constantT = absolute temperatureGuy-Lussacs law can also be expressed asPi/Ti = Pf/Tiwhere Pi and Pf are the initial and final pressureTi and Tf are the and final absolute temperaturesIf the temperature increases, the pressure of the gas will increase if the volume is kept constant. When the gas cools down, the pressure will decrease. The ideal gas law, also known as the Combined Gas Act, is a combination of all the variables in the previous gas laws. Ideal gas law is expressed by formulaNPV = nRTwhereP = pressureV = volume = number of moles of gasR = ideal gas constant = absolute temperatureThe values of R depend on the units of pressure, volume and temperature. R = 0.0821 litres·atm/mol· K (P = atm, V = L and T = K)R = 8,3145 J/mol· K (Pressure x Volume is energy, T = K)R = 8.2057 m3·atm/mol· K (P = atm, V = cubic metres and T = K)R = 62,3637 L· Dry/mol· K or L·mmHg/mol· K (P = dry or mmHg, V = L and T = K)The ideal gas act works well for gases under normal conditions. Adverse conditions include high pressures and very low temperatures. Kinetic Theory of Gases is a model for explaining the properties of an ideal gas. The model makes four basic assumptions: the volume of the individual particles that make up the gas is assumed to be negligible when compared to the volume of the gas. The particles are constantly in motion. Collisions between particles and the boundaries of the container cause the pressure of the gas. The individual gas particles do not exert any forces on each other. The average kinetic energy of the gas is directly proportional to the absolute temperature of the gas. The gases in a mixture of gases at a certain temperature will have the same average kinetic energy. The average kinetic energy of a gas expressed by the formula:KEave = 3RT/2whereKEave = average kinetic energy R = ideal gas constantT = absolute temperatureThe average speed or root agent velocity of individual gas particles can be found using formulavrms = [3RT/M]1/2wherevrms = average or root square means speedR = absolute gas constantT = absolute temperatureM = molmassa Graham's law at inversely proportional to the square root of the molar mass of the gas molten mass.r(M)1/2 = constantwherer = diffusion rate or effusionM = molar massThe frequencies of two gases can be compared with each other using the formula1/r2 = (M2)1/2/(M1)1/2 The ideal gas law is a good approximation the behavior of real gases. The values predicted by the ideal gas law are usually within 5% of measured actuals. The ideal gas law fails when the pressure on the gas is very high or the temperature is very low. Van der Waal's equation contains two changes to the ideal gas law and is used to more closely predict the behavior of real gases. Van der Waal's equation is(P + an2/V2)(V - nb) = nRTwhereP = pressureV = volumea = pressure correction constant unique to gasb = volume correction constant unique to the gas = number of mols of gasT = absolute temperature Der Waal's equation includes a pressure and volume correction to take into account the interactions between molecules. Unlike ideal gases, the individual particles in a real gas have interactions with each other and have definite volume. Since each gas is different, each gas has its own corrections or values for a and b in van der Waal's equation. Equation.