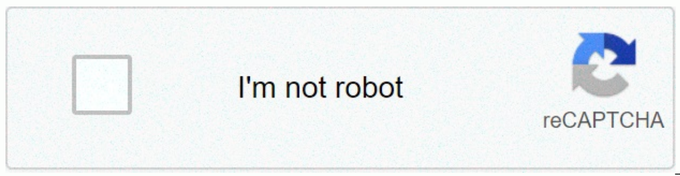

Continue

Waves and quantum model webquest answer key

Electromagnetic Spectrum Q2: Using the chart above, answer the following questions. List 7 common names of electromagnetic radiation in the order of the lowest wavelength. Q3: How does the electromagnetic wave have wavelengths that are about 10 m to 1000 m long? Q4: What are the two types of waves that have the most energy per photon? Do you think it's a connection to possible cell damage for humans? Explain why you'd think. Q5: What is the relationship between the energy content of a frequencies and waves? Q6: Which waves are able to detect or see human eyes? In your opinion, is this a large or small part of the full probability of photon type (whole electromagnetic spectrum)? Answer the spectral lines and the following questions on this whole page . Q7: Physicists know that heating things cause atoms to wiggle. What is pulled out of atoms when they are wiggle? If we are able to locate spectral lineQ8 then think about what will be coming out. Use spectral line changer to view visible spectral lines of at least 4 or 5 elements. Now describe what the spectral lines are in your own words? And why is it that they can be described as signatures or fingerprints of elements. Bore atomic js/21st_century_science/lectures/lec12.htmlQ9: Define photons and quanta. How it relates to the quantum mechanical model of atom as we know today based on the discoveries of Niels Bohr. Energy level (continue with final link) We modified Bore's thoughts and said that large orbits have high energy electrons, so we now call the rings of electrons located away from the nucleus energy level. Q10: Describe what is required to allow the electron to jump to a higher energy level? Q11: What happens when an electron returns to its lower energy level? spectra have signature spectral lines issued by nuclear spectra specific atoms. Specific wavelengths are issued by each atom because there can be only specific jumps between the energy levels of that atom. Use the electron in the hydrogen atom with jumping into the outer and inner orbits to see what happens with photons absorbed or released. Play with the animation and take the quiz below it, then answer the following questions. Q12: What is the relationship between photons absorbed and photons released when going from N = 1 to N = 2, and vice versa? Q13: Do photons always take the same path to low from high energy? How does it relate to atoms with more than 1 line in their spectra? Making X-Ray Q14: So far you have energy levels and What you know about sizes, why do you think we can use Element tungsten to make X-rays? Think about the energy levels and rows in the periodic table. The sequel can help if you need to come back to it. And the first link has an interactive periodic table with the nucleus view available under each element in the periodic table. The second link includes a periodic table showing emission spectra for most elements. The bore model of each element is available by clicking on each cell. Each time what changes, just click on 5 to 10 different elements to explore. Q15: Now Li, click on lithium. What lies in the nucleus of lithium? Q16: What are the electrons located in the sphere. Q17: Normal lithium contains an atom of 3 # and a mass of 7amu#. Does the diagram agree with the idea? To explain. Q18: Focus on the nuclear emission spectrum for Li, what color does Lee emit spectral lines of what color? (You may need to zoom in) Q19: In order (using the 1 link above), click on the following elements: H, He, Lee, Ho, C, N, O, CL, Ne, So Na, Mg. Describe what happens every time you proceed down the horizontal row or period. What happens when you jump down to the next line? See something else and see if your pattern continues. Pay attention to the nuclei and electrons. Q20: In order click H, LI, NA, K count the number of electrons in each energy level as you go down this family or group. Remember from 1 (inner) to 4 (outer) energy levels the colors go from pink to yellow to green aquamarine. What about the number of valence electrons in each and what is different about which energy levels are found in Valence E/S? Tip: You can summarise the number of electrons in NA saying that there are 2-8-1 in 1-2-3 energy levels respectively. Q21: In order he, Ne, Ar, click kr. What about the number of valence electrons in each and what is different about which energy levels are found in Valence E/S? Q22: Note that the subletools of electrons are listed on the right as S, P and D. You'll learn later what these mean, but for the bottom that within each energy level these are 3 of the possible patterns or sublevels that can be in electrons. Click on the largest atom showed Kr who has maxed out all of his energy levels and substrings. Count and list the maximum number of electrons found within each of these 3 subelements: S, P and D. Now check around on other elements on the chart to make sure no one is more than this in any of your sublev. Q23: Prediction before viewing. ... Do this now and see if your prediction is correct. Q24: He click-lee then Ne-Na and then Ar-K. Describe the general trend of what happens to the next electron added after each noble gas. Q25: What he's special about, Ne and AR The law of relation (and electron transfer)?? These elements are called passive which means non-reactive. This means that they do not accept or give away electrons. Within your group, explain why this will be the case. Q26: Li, Na and K are likely to lose an electron. Why is this case based on the octet rule? What electrons will they lose (be specific)? Lee à_____ à_____ after losing this electron, what elements will their energy levels be the same? Q27: O, S, and SE are likely to gain two electrons. Why is this case based on the octet rule? Where will the two new electrons go after receiving these two electrons (specific)? o à_____ s à_____ Seà ____ Q28: Based on the example you had just tried to predict before viewing.... How many electrons will be lost or obtained by MG and by F. And what elements will their energy level be the same for each after losing or acquiring electron(s)? Now check to see if you were right. A summary of what was learned in this webquest. Please use full sentences for these last ones. Q29: Some of the reasons why our current understanding of atoms is known as quantum Model.Q30: Is there a systematic method in which periodic tables are conducted that helps us make good predictions about what electron configurations (the location of electrons) look like in atoms? Describe some of these systematic patterns. Thank you for your participation! partnership!