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| **AP BIOLOGY 2016-17**  **Mid-Term Review Packet – Part 1 Unit 1  Chemistry Study Guide** | http://www.biologyjunction.com/images/j76137.gif |

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| http://www.biologyjunction.com/images/BD14572_2.GIF | What characterizes a prokaryotic cell? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Why do experiments need a control? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Why do scientists use the scientific method to study environmental problems? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | List the hierarchy of organization for living things & for classification. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Why is evolution the "biological theme that ties together all the others"? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | If neon has an atomic number of 10, how many valence electrons does it have & what does this tell you about this element? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | List properties of all life forms. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | In which kingdom would you find the E. coli bacterium? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What must be done before a hypothesis is proven to be true? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What composes all living things? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How do isotopes differ from each other? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | If an element has its valence electron shell filled, what is true about its reactivity? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How are molecules formed? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How are ionic bonds formed? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How do polar covalent bonds form? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What type of weak bond exists between water molecules? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What type of bond forms from unequal sharing of electrons between atoms? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How does carbon-12 differ from carbon-14? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What type of bond forms between 2 atoms that are equally electronegative? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What determines the reactive properties of an atom? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | The sum of protons & neutrons in an atom? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Determine the number of valence electrons for carbon & hydrogen. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Determine the number of neutrons for sulfur. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How can you tell if an atom has the same valence as carbon? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What happens to ionic bonds in water? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Name 2 isotopes of hydrogen. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Sketch the electron configuration of oxygen & neon. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | When reactions continue with no effect on the concentration of reactants & products, what is this called? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | When do Van der Waal interactions occur? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What would be the pH for acids, bases, neutral solutions? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What type of bond occurs when the partial negative charge of one water molecule is attracted to the partial positive charge of another water molecule? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What property of water is probably the most important for the functioning of organisms at the molecular level? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | In which type of solutions would there be a greater concentration of hydroxyl ions --- acids or bases? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | In which type of solutions would there be a greater concentration of hydrogen ions --- acids or bases? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What is the difference in hydrogen ion concentration between a solution with a pH of 3 and a solution with a pH of 5? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Explain how the formation of ice during cold weather helps to temper the transition to winter. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Be able to explain how to make a 1 Molar solution of glucose. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Which end of the water molecule is electronegative? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What determines the cohesiveness of water? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | If a compound contains hydroxyl groups, is it water soluble? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Which element is the most abundant in the dry weight of humans? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What type of isomers have variations in their arrangement around a double bond? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How do glucose & fructose differ? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What type of bonds do carbon atoms form? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Be able to recognize these functional groups --- carbonyl, sulfhydryl, methyl, phosphate, amino, carboxyl, & hydroxyl. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What functional group is found in alcohols like glycerol? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Which monomer makes the macromolecule it forms an organic acid? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Draw the structural isomers for butane. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What lipid makes up biological membranes? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How are alpha helix proteins stabilized? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What chemical reaction is used to synthesize macromolecules like polypeptides & starch? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | How are DNA & RNA different? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Sketch a fatty acid. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What is the basic structure of a steroid? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Is polymerization anabolism or catabolism? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Show how a dipeptide is formed. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What causes the tertiary structure of proteins? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What are the 2 forms at the secondary level of protein structure? How do they differ? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What reaction must occur to break a peptide bond? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What structural feature allows DNA to replicate itself? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | What does it mean if the 2 strands of DNA are complementary? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Which macromolecule yields the greatest amount of energy? |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Describe a nucleotide. |
| http://www.biologyjunction.com/images/BD14572_2.GIF | Name the purines & pyrimidines. |

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