

Biology
Curriculum Map WOHS (Western Career Prep HS)
2016-17

Biology A 1st Marking Period

Units	Correlating HSCE's	Formative/Summative Assessments	Textbook Correlation	Supplemental Activities/Resources
2 weeks – <i>Introduction to Biology:</i> ➤ Understand what it means to ask questions and design valid and reliable ways to answer those questions ➤ Identify patterns in data and learn how to make conclusions from data ➤ Critique scientific investigations and conclusions	B1.1A-E (B1.1f-i will be embedded throughout the school year) B 1.2A-C B 1.2h B2.3A-C	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 1	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets
3 Weeks – <i>Chemistry in Biology:</i> ➤ Demonstrate understanding of basic atomic structure ➤ Explain chemical reaction in terms of reactants and products and the importance of enzymes in the process ➤ Understand the properties of water and it's extreme importance to life ➤ Describe the four major organic molecules that make up life	B2.2A-D B2.2x B2.2f B2.5A	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 6	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets
3 Weeks – <i>Cell Structure and Function:</i> ➤ Develop an understanding of the role and importance of the cell membrane ➤ Compare and contrast plant and animal cells ➤ Explain the role of specialized cell organelles	B2.3A-C B2.5B B2.5g-i	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 7	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets

Biology A 2nd Marking Period

Units	Correlating HSCE's	Formative/Summative Assessments	Textbook Correlation	Supplemental Activities/Resources
2 weeks – Cellular Energy: ➤ Understand the basic production and function of ATP ➤ Explain the general process of photosynthesis in terms of reactants and products ➤ Explain the general process of cellular respiration in terms of reactants and products	B2.5C-D B2.1A-B B2.5x B2.5e-f B3.1A-C	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 8	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets
2 Weeks – Cellular Reproduction: ➤ Explain how cell growth, cell size, and cell division are related. ➤ Describe/model the process of mitosis ➤ Explain the stages of the cell cycle; comparing normal and abnormal cell growth	B4.3A B2.r6c B2.r6e	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 9	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets
1 Week – Sexual Reproduction and Genetics: ➤ Describe the general process of meiosis and how meiosis assures genetic variation	B4.1A-B B4.1c B4.1d B4.1e	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 10 Sect. 1	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Meiosis manipulative ➤ Big Idea pre reading sheets

Biology A 2nd Marking Period cont.

Units	Correlating HSCE's	Formative/Summative Assessments	Textbook Correlation	Supplemental Activities/Resources
2 weeks – <i>DNA Structure/Protein Synthesis:</i> ➤ Describe the structure and function of DNA ➤ Explain the processes of replication, transcription, translation, and how they result in proteins ➤ Explain mutations in DNA and possible results of mutations	B4.2A-E B4.2f-g	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 12	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big idea pre reading sheets
2 Weeks – <i>The Immune System:</i> ➤ Describe how diseases are transmitted between living organisms ➤ Explain immunity and how the body's immune system fights disease at a cellular level	B2.3C B2.3d-f B2.r6e	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test ➤ End of Course Exploratory Paper	Chapter 37	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets

Biology B 3rd Marking Period

Units	Correlating HSCE's	Formative/Summative Assessments	Textbook Correlation	Supplemental Activities/Resources
2 Weeks – <i>Sexual Reproduction and Genetics:</i> ➤ Explain Mendelian genetics in terms of dominant and recessive alleles, and “The Law of Segregation”, and “The Law of Independent Assortment”	B4.1A-B B4.1c-e	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 10 Sect. 2-3	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets
2 Weeks – <i>Genetics and Biotechnology</i> : ➤ Using knowledge of genetics, explain the concept of selective breeding is and why it would be used ➤ Gain a general understanding of genetic engineering; what it is and the general process in terms of gene therapy, cloning, recombinant DNA, human genome project, genetically modified organisms	B4.r5a-b B5.3f	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 13	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Recombinant DNA worksheets ➤ Transgenic DNA virtual lab ➤ Big Idea pre reading sheets
3 Weeks – <i>Evolution:</i> ➤ Summarize Darwin’s Theory of Evolution by Natural Selection ➤ Explain at least two pieces of evidence that help support evolution, structurally and molecularly ➤ Describe in general terms at least three mechanisms for evolution (circumstances that lead to evolution of species)	B4.2D B4.4a B5.1A-B B5.3A-B B5.3C B2.4A B2.4d B5.3B-C B5.3d-e B5.1c & f	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 15	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets

Biology B 3rd Marking Period cont.

Units	Correlating HSCE's	Formative/Summative Assessments	Textbook Correlation	Supplemental Activities/Resources
2 Weeks – <i>Organizing Life's Diversity:</i> ➤ Explain Binomial nomenclature and how it's used ➤ Create and explain a cladogram ➤ Compare the three major domains and the six kingdoms of living things	L5.p2 B5.r2d	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 17	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets

Biology B 4th Marking Period

Units	Correlating HSCE's	Formative/Summative Assessments	Textbook Correlation	Supplemental Activities/Resources
3 Weeks – <i>Principles of Ecology:</i> ➤ Explain the difference between biotic and abiotic factors in an ecosystem and their importance ➤ Describe three symbiotic relationships found in nature ➤ Explain energy flow through an ecosystem using the food ecological pyramid models ➤ Describe and explain all levels of a food chain ➤ Explain in general terms the water, carbon, and nitrogen cycles and their importance	L3.p3A-D L3.p2A-D B3.2B-C	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 2	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets
3 Weeks – <i>Communities, Biomes, and Ecosystems:</i> ➤ Explain different factors that determine a populations distribution ➤ Describe primary and secondary succession ➤ Describe the abiotic factors that determine the location of the different terrestrial biomes ➤ Identify the major abiotic factors that determine an aquatic ecosystem	L3.p3A-D L3.p2A-D B3.2B-C B3.4A	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test	Chapter 3	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets
1 Week – <i>Population Ecology:</i> ➤ Understand the concept of “Carrying Capacity”, and “Limiting Factors” of a population ➤ Explain “Age Structure Diagrams” ➤ Describe the influences that affect population growth.	B3.5A-C B3.5b-g B3.4B-C	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post tes	Chapter 4	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets

Biology B 4th Marking Period cont.

Units	Correlating HSCE's	Formative/Summative Assessments	Textbook Correlation	Supplemental Activities/Resources
2 Weeks – <i>Biodiversity and Conservation:</i> ➤ Define biodiversity and it's importance to mankind ➤ Explain four threats to biodiversity ➤ Explain several ways to restore biodiversity in a particular ecosystem	L3.p4A B3.4d-e	➤ Assignment sheet coursework ➤ Student –Teacher substantive conversation of higher level content questions ➤ Pre test/post test ➤ End of Course Exploratory Paper	Chapter 5	➤ Brightstorm.com ➤ Bozeman Science.com ➤ Big Idea pre reading sheets

****If necessary for student to take this course online through Edgenuity it is aligned with this map.**