Biology Scope & Sequence 2016-2017

1st Six Weeks	CALENDAR DAYS	INSTR. DAYS	LESSON FOCUS	TEKS	Chapter 112. Texas Essential Knowledge and Skills for Biology
WEEK 1: August 22-26	5	5	Biology in the 21st Century, including Safety in the Lab	1A, 2A, 2B, 2C, 2D, 2F, 2G, 3A, 3B, 3D, 3E, 3F, 4B(R), 10C(S)	1(A) demonstrate safe practices during laboratory and field investigations; 2(A) know the definition of science and understand that it has limitations, 2(B) know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories; 2(C) know scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly-reliable explanations, but they may be subject to change as new areas of science and new technologies are developed; 2(D) distinguish between scientific hypotheses and scientific theories; 2(F) collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures; 2(G) analyze, evaluate, make inferences, and predict trends from data; 3(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student; 3(B) communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials; 3(D) evaluate the impact of scientific research on society and the environment; 3(E) evaluate models according to their limitations in representing biological objects or events; 3(F) research and describe the history of biology and contributions of scientists. 4(B) investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; 10(C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.
WEEK 2: August 29- September 2	5	5	Scientific Method, Chemistry of Life (Atoms, Ions, Molecules and Properties of Water)	2A, 2B, 2C, 2D,2F 2G, 3A, 3B, 3C, 3E, 4B(R), 9A(R),	2(A) know the definition of science and understand that it has limitations 2(B)know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories 2(C)know scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly-reliable explanations, but they may be subject to change as new areas of science and new technologies are developed 2(D)distinguish between scientific hypotheses and scientific theories 2(F)collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures 2(G) analyze, evaluate, make inferences, and predict trends from data 3(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student; 3(B) communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials 3(C)draw inferences based on data related to promotional materials for products and services 3(E) evaluate models according to their limitations in representing biological objects or events 4(B)investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules 9(A) compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids;
WEEK 3: September 5-9	5	5	Chemistry of Life (Carbon Based Molecules, Chemical Reactions)	2G, 2H, 3C, 3E, 4B(R), 9A(R), 9C(S)	2(G)analyze, evaluate, make inferences, and predict trends from data; 2(H) communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology based reports; 3(C) draw inferences based on data related to promotional materials for products and services;3(E) evaluate models according to their limitations in representing biological objects or events; 4(B)investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; 9(A)compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids;

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WEEK 4: September 12-16	5	5	**Chemistry of Life (Carbon Based Molecules, Chemical Reactions, and Enzymes)**	**2G, 2H, 3C, 3E, 4B(R), 9A(R), 9C(S)**	2(F)collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures **2(G)** analyze, evaluate, make inferences, and predict trends from data; **2(H)** communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology based reports; **3(C)** draw inferences based on data related to promotional materials for products and services;**3(E)** evaluate models according to their limitations in representing biological objects or events; **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **9(A)** compare the structures and functions of different types of biomolecules, including
WEEK 5: September 19-23	5	5	**Cell Theory, Prokaryotic Cell vs Eukaryotic Cell (Basic)**	**2G, 3E, 3F, 4A(S), 4B(R), 5B(S)**	**2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(E)** evaluate models according to their limitations in representing biological objects or events; **3(F)** research and describe the history of biology and contributions of scientists. 4(A) compare and contrast prokaryotic and eukaryotic cells, **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **5(B)** examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium
END of 1st 6Wks	25	25			

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2nd Six Weeks	CALENDAR DAYS	INSTR. DAYS	LESSON FOCUS	TEKS	Chapter 112. Texas Essential Knowledge and Skills for Biology
WEEK 1: September 26-30	5	5	**Viruses and Prokaryotes** (Structure, Reproduction Diseases & Transmission, Beneficial Roles of Prokaryotes)	2G, 4C(R), 8C(S), 11C(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data; **4(C)** compare the structures of viruses to cells, describe viral reproduction, and describe the role of viruses in causing diseases such as human immunodeficiency virus (HIV) and influenza. **8(C)** compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals. **11(C)** summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems;
WEEK 2: October 3-7 (Oct 7 Staff Dev.)	5	4	**Eukaryotic Cell Structure and Function (Structure and Function, Cell Organelles)**	2G, 3E, 3F, 4A(S), 4B(R), 4C(R), 5B(S) 9A(R),	**2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(E)** evaluate models according to their limitations in representing biological objects or events; **3(F)** research and describe the history of biology and contributions of scientists. 4(A) compare and contrast prokaryotic and eukaryotic cells, **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **4(C)** compare the structures of viruses to cells, describe viral reproduction, and describe the role of viruses in causing diseases such as human immunodeficiency virus (HIV) and influenza; **5(B)** examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium **9(A)** compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids;
WEEK 3: October 10-14 (Oct 10 Columbus Day)	5	4	**Eukaryotic Cell (Cell Membrane & Diffusion and Osmosis Active Transport, Endocytosis, and Exocytosis)**	2G, 3E, 3F, 4A(S), 4B(R), 9A(R)	**2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(E)** evaluate models according to their limitations in representing biological objects or events; **3(F)** research and describe the history of biology and contributions of scientists. 4(A) compare and contrast prokaryotic and eukaryotic cells, **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **9(A)** compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids;
WEEK 4: October 17-21	5	5	**Cells and Energy (Photosynthesis)**	2F, 2G, 3E, 3F 4B(R), 9A(R), 9B(S)	**2(F)** collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures;**2(G)** analyze, evaluate, make inferences, and predict trends from data;3(E) evaluate models according to their limitations in representing biological objects or events; 3(F) research and describe the history of biology and contributions of scientists **4(B)** investigate and explain
WEEK 5: October 24-28	5	5	**Cells and Energy (Cellular Respiration)**	2G, 3E, 3F, 4B(R), 9A(R), 9B(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data; 3(E) evaluate models according to their limitations in representing biological objects or events; 3(F) research and describe the history of biology and contributions of scientists **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **9(A)** compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids; **9(B)** compare the reactants and products of photosynthesis and cellular respiration in terms of energy and matter;
WEEK 6: October 31-November 4	5	5	**Cell Cycle and Cancer**	2G, 5A(R), 5B(S), 5C(S), 5D(S), 9C(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data;, **5(A)** describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms, **5(B)** examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium; **5(C)** describe the roles of DNA, ribonucleic acid (RNA), and environmental factors in cell differentiation; **5(D)** recognize that disruptions of the cell cycle lead to diseases such as cancer. **9(C)** identify and investigate the role of enzymes
END of 2nd 6 Weeks	30	28			

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3rd Six Weeks	CALENDAR DAYS	INSTR. DAYS	LESSON FOCUS	TEKS	Chapter 112. Texas Essential Knowledge and Skills for Biology
WEEK 1: November 7-11 (Nov 11 Veterans Day)	5	4	**Mitosis**	**2G, 5A(R),** 5B(S), 5C(S), 5D(S), 9C(S), 10C(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data;, **5(A)** describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms, **5(B)** examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium; **5(C)** describe the roles of DNA, ribonucleic acid (RNA), and environmental factors in cell differentiation; **5(D)** recognize that disruptions of the cell cycle lead to diseases such as cancer. **9(C)** identify and investigate the role of enzymes; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.
WEEK 2: November 14 -18	5	5	**Meiosis**	**2G, 5A(R),** 5B(S), 5C(S), 5D(S), 6G(S), 9C(S), 10C(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data;, **5(A)** describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms, **5(B)** examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium; **5(C)** describe the roles of DNA, ribonucleic acid (RNA), and environmental factors in cell differentiation; **5(D)** recognize that disruptions of the cell cycle lead to diseases such as cancer. **6.G** recognize the significance of meiosis to sexual reproduction. **9(C)** identify and investigate the role of enzymes; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.
November 21-25 THANKSGIVING BREAK	5	0			
WEEK 3: November 28-December 2	5	5	**DNA and RNA (Structure and Function)**	**2G, 3E, 3F, 4B(R), 5A(R),** 5C(S), **6A(R),** 6B(S), 6C(S), 6D(S), **6E(R),** 9C(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data;, **3(E)** evaluate models according to their limitations in representing biological objects or events; **3(F)** research and describe the history of biology and contributions of scientists. **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **5(A)** describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms, **5(C)** describe the roles of DNA, ribonucleic acid (RNA), and environmental factors in cell differentiation; **6(A)** identify components of DNA, and describe how information for specifying the traits of an organism is carried in the DNA, **6(B)** recognize that components that make up the genetic code are common to all organisms; **6(C)** explain the purpose and process of transcription and translation using models of DNA and RNA; **6(D)** recognize that gene expression is a regulated process; **6(E)** identify and illustrate changes in DNA and evaluate the significance of these changes; **9(C)** identify and investigate the role of enzymes;
WEEK 4: December 5- 9 (STAAR Assessment Week) (District Benchmark)	5	5	**Protein Synthesis**	**2G, 3E, 3F, 4B(R), 5A(R),** 5C(S), **6A(R),** 6B(S), 6C(S), 6D(S), **6E(R),** 9C(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data;, **3(E)** evaluate models according to their limitations in representing biological objects or events; **3(F)** research and describe the history of biology and contributions of scientists, **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; .**5(A)** describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms, **5(C)** describe the roles of DNA, ribonucleic acid (RNA), and environmental factors in cell differentiation; **6(A)** identify components of DNA, and describe how information for specifying the traits of an organism is carried in the DNA, **6(B)** recognize that components that make up the genetic code are common to all organisms; **6(C)** explain the purpose and process of transcription and translation using models of DNA and RNA; **6(D)** recognize that gene expression is a regulated process; **6(E)** identify and illustrate changes in DNA and evaluate the significance of these changes; **9(C)** identify and investigate the role of enzymes;
WEEK 5: December 12-16	5	5	**Reteach & Review/SEMESTER Testing**	All 1st Sem TEKS	1A, 1B, 2A, 2B, 2C, 2D, 2F, 2G, 3A, 3B, 3D, 3E, 3F, 4A(S), **4B(R), 4C(R), 5A(R),** 5B(S), 5C(S), 5D(S), **6A(R),** 6B(S), 6C(S), 6D(S), **6E(R), 6F(R),** 6G(S), **6H(S), 9A(R),** 9B(S), 9C(S), 9D(S), 10C(S), 11C(S)
WEEK 6: December 19-23 (Dec 21 Teacher Prep) (Dec 22-23 Holiday)	5	2	**SEMESTER Testing**	All 1st Sem TEKS	1A, 1B, 2A, 2B, 2C, 2D, 2F, 2G, 3A, 3B, 3D, 3E, 3F, 4A(S), **4B(R), 4C(R), 5A(R),** 5B(S), 5C(S), 5D(S), **6A(R),** 6B(S), 6C(S), 6D(S), **6E(R), 6F(R),** 6G(S), **6H(S), 9A(R),** 9B(S), 9C(S), 9D(S), 10C(S), 11C(S)
END OF 3rd 6 Weeks	35	26			
1ST SEMESTER - TOTAL DAYS	90	79			
December 22-January 4 CHRISTMAS BREAK	10	0			

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4th Six Weeks	CALENDAR DAYS	INSTR. DAYS	LESSON FOCUS	TEKS	Chapter 112. Texas Essential Knowledge and Skills for Biology
WEEK 1: January 2-6 (Jan 2-Jan 4 Holiday)	5	2	**Mutations**	6C(S), 6D(S), 6E,2G, 3F, 6A(R), 6G(S), 6F	2(G) analyze, evaluate, make inferences, and predict trends from data; 6(C) explain the purpose and process of transcription and translation using models of DNA and RNA; 6(D) recognize that gene expression is a regulated process; 6(E) identify and illustrate changes in DNA and evaluate the significance of these changes; 3(F) research and describe the history of biology and contributions of scientists 6(G) recognize the significance of meiosis to sexual reproduction,
WEEK 2: January 9-13	5	5	**Mendelian Genetics (Monohybrid Crosses and Dihybrid Crosses)**	2G, 3D, 3F, 6F	2(G) analyze, evaluate, make inferences, and predict trends from data;, 3(D) evaluate the impact of scientific research on society and the environment; 3(F) research and describe the history of biology and contributions of scientists. 6(F) predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses and non-Mendelian inheritance
WEEK 3: January 16-20	5	5	**Non-Mendelian Genetics (Incomplete Dominance, CoDominance,and Sex-Linked)**	2G, 3D, 3F,6F(R), 6H(S), 9C(S)	2(G) analyze, evaluate, make inferences, and predict trends from data;, 3(D) evaluate the impact of scientific research on society and the environment; 3(F) research and describe the history of biology and contributions of scientists. 6(F) predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses and non-Mendelian inheritance; 6(H) describe how techniques such as DNA fingerprinting, genetic modifications, and chromosomal analysis are used to study the genomes of organisms. 9(C) identify and investigate the role of enzymes;
WEEK 4: January 23-27	5	5	**Frontiers of Biotechnology (Pedigree Charts, Genetic Engineering- DNA Fingerprinting, Chromosomal analysis, genomes)**	2G, 3D, 3F, 6F(R), 6G(S), 6H(S), 9C(S)	2(F) collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures 2(G) analyze, evaluate, make inferences, and predict trends from data;, 3(D) evaluate the impact of scientific research on society and the environment; 3(F) research and describe the history of biology and contributions of scientists. 6(G) recognize the significance of meiosis to sexual reproduction; 6(F) predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses and non-Mendelian inheritance; 6(H) describe how techniques such as DNA fingerprinting, genetic modifications, and chromosomal analysis are used to study the genomes of organisms. 9(C) identify and investigate the role of enzymes;
WEEK 5: January 30-February 3	5	5	**Principles of Evolution (Darwinism- Natural Selection, Evidence of Evolution)**	2B, 2G, 3E, 3F, 7A(R), 7B(S), 7C(S), 7D(S), 7E(R)	2(B) know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories; 2(G) analyze, evaluate, make inferences, and predict trends from data;3(E) evaluate models according to their limitations in representing biological objects or events; 3(F) research and describe the history of biology and contributions of scientists. 7(A) analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental; 7(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record; 7(C) analyze and evaluate how natural selection produces change in populations, not individuals; 7(D) analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success; 7(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species;

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WEEK 6: February 6-10	5	5	**The Evolution of Populations (Genetic Variation, Speciation, Evolution Patterns) & The History of Life (Fossil record, Origin of life, Geological Time Scale)**	2F,2G,3E, 7B(S), 7C(S), 7D(S), 7E(R), 7F(S), 7G(S), 9D(S), 11C(S)	2(F) collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures;2(G) analyze, evaluate, make inferences, and predict trends from data; 3(E) evaluate models according to their limitations in representing biological objects or events; 7(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record; 7(C) analyze and evaluate how natural selection produces change in populations, not individuals; 7(D) analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success; 7(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species; 7(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination; 7(G) analyze and evaluate scientific explanations concerning the complexity of the cell. 9(D) analyze and evaluate the evidence regarding formation of simple organic molecules and their organization into long complex molecules having information such as the DNA molecule for self-replicating life. 11(C) summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems;
WEEK 7: February 13-17	5	5	**Classification: Domains, Kingdoms, Phylogeny**	2G,3F 8B(R), 8C(S)	2(G) analyze, evaluate, make inferences, and predict trends from data; 3(F) research and describe the history of biology and contributions of scientists. 8(B) categorize organisms using a hierarchical classification system based on similarities and differences shared among groups; 8(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals.11(C)summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems;
END OF 4th 6Wks	35	32			

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5th Six Weeks	CALENDAR DAYS	INSTR. DAYS	LESSON FOCUS	TEKS	Chapter 112. Texas Essential Knowledge and Skills for Biology
WEEK 1: February 20- 24 (Feb 23-1/2 Charro Days) (Feb 24-1 Day Charro Days)	5	3.5	**The Tree of Life and Phylogeny (Cladograms, Dichotomous Keys)**	2G, 3F, 7A(R), 8A(S), 8B(R), 8C(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(F)** research and describe the history of biology and contributions of scientists. **7(A)** analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental; **8(A)** define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community; **8(B)** categorize organisms using a hierarchical classification system based on similarities and differences shared among groups; **8(C)** compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals.
WEEK 2: February 27- March 3	5	5	**Kingdom Plantae-Plant Diversity, Tropism, Reproduction, and Transport**	2G, 4B(R), 5B(S), 7A(R), 7B(S), 7D(S), 7E(R), 8B(R), 8C(S), 10B(R), 10C(S), 6G(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data; **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **5(B)** examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium; **7(A)** analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental; **7(B)** analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record; **7(D)** analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success; **7(E)** analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species; **8(B)** categorize organisms using a hierarchical classification system based on similarities and differences shared among groups; **8(C)** compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals. **10(B)** describe the interactions that occur among systems that perform the functions of transport, reproduction, and response in plants; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system; **6(G)** recognize the significance of meiosis to sexual reproduction
WEEK 3: March 6-10 (District Benchmark)	5	5	**Principles of Ecology** (Biotic & Abiotic, Levels of Organization, Intro to Energy Flow, Cycles & Pyramids)	2F, 2G, 3E, 10C(S), 11B(S), 11C(S), 11D(R), 12C(R), 12D(S), 12E(S), 12F(R),	**2(F)** collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures; **2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(E)** evaluate models according to their limitations in representing biological objects or events; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system. **11(B)** investigate and analyze how organisms, populations, and communities respond to external factors; **11(C)** summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems; **11(D)** describe how events and processes that occur during ecological succession can change populations and species diversity. **12(C)** analyze the flow of matter and energy through trophic levels using various models, including food chains, food webs, and ecological pyramids; **12(D)** recognize that long-term survival of species is dependent on changing resource bases that are limited; **12(E)** describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles; **12(F)** describe how environmental change can impact ecosystem stability.
March 13-17: SPRING BREAK	5	0			

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Updated 7/27/16

Week			Topic	TEKS	Description
WEEK 4: March 20-24	5	5	**Interactions in Ecosystems** (Habitat & Niche, Community Interactions, Population Density & Distribution, Population Growth Patterns, Ecological Succesion)	2F, 2G, 3E, 7D(S), 7E(R), 11B(S), 11C(S), 11D(R), 12A(R), 12E(S) 12D(S), 12F(R)	**2(F)** collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures; **2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(E)** evaluate models according to their limitations in representing biological objects or events; **7(D)** analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success; **7(E)** analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species;**11(B)** investigate and analyze how organisms, populations, and communities respond to external factors; **11(C)** summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems; **11(D)** describe how events and processes that occur during ecological succession can change populations and species diversity. **12(A)** interpret relationships, including predation, parasitism, commensalism, mutualism, and competition among organisms;describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles; **12(D)** recognize that long-term survival of species is dependent on changing resource bases that are limited; **12(E)**describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles; **12(F)** describe how environmental change can impact ecosystem stability.
WEEK 5: March 27-31 (March 28 STAAR English I) (March 30 STAAR English II)	5	5	**The Biosphere and Human Impact on Ecosystems** (Climate, Biomes, Air & Water Quality, Conservation)	1B, 2F, 2G, 3F, 10C(S), 11B(S), 12B(S), 12C(R), 12D(S), 12F(R)	**1(B)** demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. 2(F) collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures;+A1 **2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(F)** research and describe the history of biology and contributions of scientists. 10(C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole
WEEK 6: April 3-7	5	5	**Human Systems and Homeostasis (Interactions among Systems)**	2F, 2G, 4B(R), 5B(S), 6G(S), 9C(S), 10A(R), 10C(S), 11A(S), 11B(S)	**2(F)** collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures; **2(G)** analyze, evaluate, make inferences, and predict trends from data; **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **5(B)**examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium; **6(G)** recognize the significance of meiosis to sexual reproduction; **9(C)** identify and investigate the role of enzymes; **10(A)** describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system. **11(A)** describe the role of internal feedback mechanisms in the maintenance of homeostasis; **11(B)** investigate and analyze how organisms, populations, and communities respond to external factors;
WEEK 7: April 10-14 (April 14 Easter)	5	4	**EOC Review**	All Biology TEKS	1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 3A, 3B, 3C, 3D, 3E, 3F, 4A(S), 4B(R), 4C(R), 5A(R), 5B(S), 5C(S), 5D(S), 6A(R), 6B(S), 6C(S), 6D(S), 6E(R), 6F(R), 6G(S), 6H(S), 7A(R), 7B(S), 7C(S), 7D(S), 7E(S), 7F(S), 7G(S), 8A(S), 8B(R), 8C(S), 9A(R), 9B(S), 9C(S), 9D(S), 10A(R), 10B(R), 10C(S), 11A(S), 11B(S), 11C(S), 11D(R), 12A(R), 12B(S), 12C(R), 12D(S), 12E(S), 12F(R)

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WEEK 8: April 17-21 **(April 17 Easter)** **(April 18 Staff Dev.)**	5	3	**EOC Review**	All Biology TEKS	1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 3A, 3B, 3C, 3D, 3E, 3F, 4A(S), 4B(R), 4C(R), 5A(R), 5B(S), 5C(S), 5D(S), 6A(R), 6B(S), 6C(S), 6D(S), 6E(R), 6F(R), 6G(S), 6H(S), 7A(R), 7B(S), 7C(S), 7D(S), 7E(S), 7F(S), 7G(S), 8A(S), 8B(R), 8C(S), 9A(R), 9B(S), 9C(S), 9D(S), 10A(R), 10B(R), 10C(S), 11A(S), 11B(S), 11C(S), 11D(R), 12A(R), 12B(S), 12C(R), 12D(S), 12E(S), 12F(R)
END OF 5th 6 WKs	45	35.5			

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6th Six Weeks	**CALENDAR DAYS**	**INSTR. DAYS**	**LESSON FOCUS**	**TEKS**	**Chapter 112. Texas Essential Knowledge and Skills for Biology**
WEEK 1: April 24-28	5	5	**EOC Review**	All Biology TEKS	1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 3A, 3B, 3C, 3D, 3E, 3F, 4A(S), 4B(R), 4C(R), 5A(R), 5B(S), 5C(S), 5D(S), 6A(R), 6B(S), 6C(S), 6D(S), 6E(R), 6F(R), 6G(S), 6H(S), 7A(R), 7B(S), 7C(S), 7D(S), 7E(S), 7F(S), 7G(S), 8A(S), 8B(R), 8C(S), 9A(R), 9B(S), 9C(S), 9D(S), 10A(R), 10B(R), 10C(S), 11A(S), 11B(S), 11C(S), 11D(R), 12A(R), 12B(S), 12C(R), 12D(S), 12E(S), 12F(R)
WEEK 2: May 1- 5 (STAAR Assessment Week)	5	5	**EOC Testing**	All Biology TEKS	1A, 1B, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 3A, 3B, 3C, 3D, 3E, 3F, 4A(S), 4B(R), 4C(R), 5A(R), 5B(S), 5C(S), 5D(S), 6A(R), 6B(S), 6C(S), 6D(S), 6E(R), 6F(R), 6G(S), 6H(S), 7A(R), 7B(S), 7C(S), 7D(S), 7E(S), 7F(S), 7G(S), 8A(S), 8B(R), 8C(S), 9A(R), 9B(S), 9C(S), 9D(S), 10A(R), 10B(R), 10C(S), 11A(S), 11B(S), 11C(S), 11D(R), 12A(R), 12B(S), 12C(R), 12D(S), 12E(S), 12F(R)
WEEK 3: May 8 - 12	5	5	**Invertebrate and Vertebrate Diversity**	2E, 2F, 2G, 3A, 3E, 3F, 7A(R), 7B(S), 7D(S), 7E(R), 8B(R), 8C(S), 9C(S), 10A(R), 10C(S)	**2(E)** plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology; **F432(G)** analyze, evaluate, make inferences, and predict trends from data; **3(A)** in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observa+F43tional testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student; **3(E)** evaluate models according to their limitations in representing biological objects or events; **3(F)** research and describe the history of biology and contributions of scientists. **7(A)** analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental; **7(B)** analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record; **7(D)** analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success; **7(E)** analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species; **8(B)** categorize organisms using a hierarchical classification system based o+F43n similarities and differences shared among groups; **8(C)** compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals. **10(A)** describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.

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Week			TEKS	Content
WEEK 4: May 15-19	5	5	**Invertebrate and Vertebrate Diversity**	2E, 2F, 2G, 3A, 3E, 3F, 7A(R), 7B(S), 7D(S), 7E(R), 8B(R), 8C(S), 9C(S), 10A(R), 10C(S)	**2(E)** plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology; **2(F)** collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures; **2(G)** analyze, evaluate, make inferences, and predict trends from data; **3(A)** in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student; **3(E)** evaluate models according to their limitations in representing biological objects or events; **3(F)** research and describe the history of biology and contributions of scientists. **7(A)** analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental; **7(B)** analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record; **7(D)** analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success; **7(E)** analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species; **8(B)** categorize organisms using a hierarchical classification system based on similarities and differences shared among groups; **8(C)** compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals. **10(A)** describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.
WEEK 5: May 22-26 (May 26 Staff Dev.)	5	4	**Dissection/Experimental Design**	2G, 4B(R), 10A(R), 10C(S), 11A(S), 11B(S)	**2(G)** analyze, evaluate, make inferences, and predict trends from data; **4(B)** investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules; **10(A)** describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals; **10(C)** analyze the levels of organization in biological systems and relate the levels to each other and to the whole system. **11(A)** describe the role of internal feedback mechanisms in the maintenance of homeostasis; **11(B)** investigate and analyze how organisms, populations, and communities respond to external factors;
WEEK 6: May 29 - June 2 (May 29 Memorial Day)	5	4	**Reteach & Review & Semester Testing**	All 2nd Semester TEKS	2B, 2E, 2F, 2G, 3A, 3E, 3F, 4B(R), 4C(R), 5B(S), 6G(S), 7A(R), 7B(S), 7D(S), 7E(R), 8B(R), 8C(S), 9A(R), 9C(S), 10A(R), 10B(R), 10C(S), 11A(S), 11B(S), 11C(S), 11D(R), 12A(R), 12C(R), 12D(S), 12E(S), 12F(R),
WEEK 7: June 5 - 7 (June 7 Teacher Prep)	3	2	**Semester Testing**	All 2nd Semester TEKS	2B, 2E, 2F, 2G, 3A, 3E, 3F, 4B(R), 4C(R), 5B(S), 6G(S), 7A(R), 7B(S), 7D(S), 7E(R), 8B(R), 8C(S), 9A(R), 9C(S), 10A(R), 10B(R), 10C(S), 11A(S), 11B(S), 11C(S), 11D(R), 12A(R), 12C(R), 12D(S), 12E(S), 12F(R),
End of 6th Six Wks	33	30			
2nd SEMESTER - TOTAL DAYS	113	97.5			***Process skills will be taught and assessed every six weeks***
Total Instructional Days		176.5			