Subject	**Chapter 112. Science**			

Subject	Chapter 112. Science			
Course Title	**§112.34. Biology, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(1) Scientific processes. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials	(i) demonstrate an understanding of the use of resources		
(1) Scientific processes. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials	(ii) demonstrate an understanding of the conservation of resources		
(1) Scientific processes. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials	(iii) demonstrate an understanding of the proper disposal or recycling of materials		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(A) know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section	(i) know the definition of science, as specified in subsection (b)(2) [above]		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(A) know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section	(ii) understand that [science] has limitations, as specified in subsection (b)(2) [above]		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(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	(i) know that hypotheses are tentative statements that must be capable of being supported or not supported by observational evidence		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vii) implement descriptive investigations, including selecting equipment		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(viii) implement descriptive investigations, including selecting technology		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(ix) plan comparative investigations, including asking questions		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(x) plan comparative investigations, including formulating testable hypotheses		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xi) plan comparative investigations, including selecting equipment		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xii) plan comparative investigations, including selecting technology		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xiii) implement comparative investigations, including asking questions		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xiv) implement comparative investigations, including formulating testable hypotheses		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xv) implement comparative investigations, including selecting equipment		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xvi) implement comparative investigations, including selecting technology		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xvii) plan experimental investigations, including asking questions		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xviii) plan experimental investigations, including formulating testable hypotheses		

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Course Title	§112.34. Biology, Beginning with School Year 2010-2011 (One Credit).			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xix) plan experimental investigations, including selecting equipment		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xx) plan experimental investigations, including selecting technology		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xxi) implement experimental investigations, including asking questions		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xxii) implement experimental investigations, including formulating testable hypotheses		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xxiii) implement experimental investigations, including selecting equipment		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(xxiv) implement experimental investigations, including selecting technology		

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Course Title	**§112.34. Biology, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(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	(i) collect qualitative data using [various] tools		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(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	(ii) organize qualitative data using [various] tools		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(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	(iii) collect quantitative data using [various] tools		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(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	(iv) organize quantitative data using [various] tools		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(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	(v) make measurements with accuracy using [various] tools		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(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	(vi) make measurements with precision using [various] tools		
(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(G) analyze, evaluate, make inferences, and predict trends from data	(i) analyze data		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(vii) in all fields of science, evaluate scientific explanations by using logical reasoning		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(viii) in all fields of science, evaluate scientific explanations by using experimental testing		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(ix) in all fields of science, evaluate scientific explanations by using observational testing		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(x) in all fields of science, evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(xi) in all fields of science, critique scientific explanations by using empirical evidence		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(xii) in all fields of science, critique scientific explanations by using logical reasoning		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(xiii) in all fields of science, critique scientific explanations by using experimental testing		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(xiv) in all fields of science, critique scientific explanations by using observational testing		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(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	(xv) in all fields of science, critique scientific explanations, including examining all sides of scientific evidence of those scientific explanations		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(B) communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials	(i) communicate scientific information extracted from various sources		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(B) communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials	(ii) apply scientific information extracted from various sources		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(C) draw inferences based on data related to promotional materials for products and services	(i) draw inferences based on data related to promotional materials for products		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(C) draw inferences based on data related to promotional materials for products and services	(ii) draw inferences based on data related to promotional materials for services		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(D) evaluate the impact of scientific research on society and the environment	(i) evaluate the impact of scientific research on society		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(D) evaluate the impact of scientific research on society and the environment	(ii) evaluate the impact of scientific research on the environment		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(E) evaluate models according to their limitations in representing biological objects or events			
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(F) research and describe the history of biology and contributions of scientists	(i) research the history of biology		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(F) research and describe the history of biology and contributions of scientists	(ii) research contributions of scientists		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(F) research and describe the history of biology and contributions of scientists	(iii) describe the history of biology		
(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(F) research and describe the history of biology and contributions of scientists	(iv) describe the contributions of scientists		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:	(A) compare and contrast prokaryotic and eukaryotic cells	(i) compare prokaryotic and eukaryotic cells		
(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:	(A) compare and contrast prokaryotic and eukaryotic cells	(ii) contrast prokaryotic and eukaryotic cells		
(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:	(B) investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules	(i) investigate cellular processes, including homeostasis		
(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:	(B) investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules	(ii) investigate cellular processes, including energy conversions		
(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:	(B) investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules	(iii) investigate cellular processes, including transport of molecules		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform				

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TEKS (Knowledge and Skills)				

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(A) identify components of DNA, and describe how information for specifying the traits of an organism is carried in the DNA	(ii) describe how information for specifying the traits of an organism is carried in the DNA		
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(B) recognize that components that make up the genetic code are common to all organisms			
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(C) explain the purpose and process of transcription and translation using models of DNA and RNA	(i) explain the purpose of transcription using models of DNA and RNA		
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(C) explain the purpose and process of transcription and translation using models of DNA and RNA	(ii) explain the process of transcription using models of DNA and RNA		
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(C) explain the purpose and process of transcription and translation using models of DNA and RNA	(iii) explain the purpose of translation using models of RNA		
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(C) explain the purpose and process of transcription and translation using models of DNA and RNA	(iv) explain the process of translation using models of RNA		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(D) recognize that gene expression is a regulated process			
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(E) identify and illustrate changes in DNA and evaluate the significance of these changes	(i) identify changes in DNA		
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(E) identify and illustrate changes in DNA and evaluate the significance of these changes	(ii) illustrate changes in DNA		
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(E) identify and illustrate changes in DNA and evaluate the significance of these changes	(iii) evaluate the significance of changes [in DNA]		
(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(F) predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses and non-Mendelian inheritance	(i) predict possible outcomes of various		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
				(6) Science co knows the mec including the r and the princip Genetics. The to:

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Course Title	§112.34. Biology, Beginning with School Year 2010-2011 (One Credit).			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(vi) evaluate how evidence of common ancestry among groups is provided by the fossil record		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(vii) evaluate how evidence of common ancestry among groups is provided by biogeography		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(viii) evaluate how evidence of common ancestry among groups is provided by homologies, including anatomical		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(ix) evaluate how evidence of common ancestry among groups is provided by homologies, including molecular		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(x) evaluate how evidence of common ancestry among groups is provided by homologies, including developmental		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record	(i) analyze scientific explanations concerning any data of sudden appearance in the fossil record		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record	(ii) analyze scientific explanations concerning any data of stasis in the fossil record		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record	(iii) analyze scientific explanations concerning any data of sequential nature of groups in the fossil record		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record	(iv) evaluate scientific explanations concerning any data of sudden appearance in the fossil record		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record	(v) evaluate scientific explanations concerning any data of stasis in the fossil record		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record	(vi) evaluate scientific explanations concerning any data of sequential nature of groups in the fossil record		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(C) analyze and evaluate how natural selection produces change in populations, not individuals	(i) analyze how natural selection produces change in populations, not individuals		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(C) analyze and evaluate how natural selection produces change in populations, not individuals	(ii) evaluate how natural selection produces change in populations, not individuals		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(i) analyze how the elements of natural selection, including inherited variation, result in differential reproductive success		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(ii) analyze how the elements of natural selection, including the potential of a population to produce more offspring than can survive, result in differential reproductive success		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(iii) analyze how the elements of natural selection, including a finite supply of environmental resources, result in differential reproductive success		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(iv) evaluate how the elements of natural selection, including inherited variation, result in differential reproductive success		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(v) evaluate how the elements of natural selection, including the potential of a population to produce more offspring than can survive, result in differential reproductive success		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(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	(vi) evaluate how the elements of natural selection, including a finite supply of environmental resources, result in differential reproductive success		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species	(i) analyze the relationship of natural selection to adaptation		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species	(ii) analyze the relationship of natural selection to the development of diversity in species		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species	(iii) analyze the relationship of natural selection to the development of diversity among species		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species	(iv) evaluate the relationship of natural selection to adaptation		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species	(v) evaluate the relationship of natural selection to the development of diversity in species		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species	(vi) evaluate the relationship of natural selection to the development of diversity among species		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(i) analyze the effects of other evolutionary mechanisms, including genetic drift		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(ii) analyze the effects of other evolutionary mechanisms, including gene flow		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(iii) analyze the effects of other evolutionary mechanisms, including mutation		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(iv) analyze the effects of other evolutionary mechanisms, including recombination		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(v) evaluate the effects of other evolutionary mechanisms, including genetic drift		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(vi) evaluate the effects of other evolutionary mechanisms, including gene flow		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(vii) evaluate the effects of other evolutionary mechanisms, including mutation		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination	(viii) evaluate the effects of other evolutionary mechanisms, including recombination		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(G) analyze and evaluate scientific explanations concerning the complexity of the cell	(i) analyze scientific explanations concerning the complexity of the cell		
(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(G) analyze and evaluate scientific explanations concerning the complexity of the cell	(ii) evaluate scientific explanations concerning the complexity of the cell		
(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(A) define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community	(i) define taxonomy		
(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(A) define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community			

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals	(i) compare characteristics of taxonomic groups, including archaea		
(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals	(ii) compare characteristics of taxonomic groups, including bacteria		
(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals	(iii) compare characteristics of taxonomic groups, including protists		
(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals	(iv) compare characteristics of taxonomic groups, including fungi		
(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals	(v) compare characteristics of taxonomic groups, including plants		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(A) compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids	(vi) compare the functions of different types of biomolecules, including lipids		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(A) compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids	(vii) compare the functions of different types of biomolecules, including proteins		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(A) compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids	(viii) compare the functions of different types of biomolecules, including nucleic acids		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(B) compare the reactants and products of photosynthesis and cellular respiration in terms of energy and matter	(i) compare the reactants and products of photosynthesis in terms of energy		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(B) compare the reactants and products of photosynthesis and cellular respiration in terms of energy and matter	(ii) compare the reactants and products of photosynthesis in terms of matter		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(B) compare the reactants and products of photosynthesis and cellular respiration in terms of energy and matter	(iii) compare the reactants and products of cellular respiration in terms of energy		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(B) compare the reactants and products of photosynthesis and cellular respiration in terms of energy and matter	(iv) compare the reactants and products of cellular respiration in terms of matter		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(C) identify and investigate the role of enzymes	(i) identify the role of enzymes		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(C) identify and investigate the role of enzymes	(ii) investigate the role of enzymes		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(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	(i) analyze the evidence regarding formation of simple organic molecules		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(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	(ii) analyze the evidence regarding organization [of simple organic molecules] into long complex molecules having information		
(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(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	(iii) evaluate the evidence regarding formation of simple organic molecules		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:	(C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system	(i) analyze the levels of organization in biological systems		
(10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:	(C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system	(ii) relate the levels [of organization in biological systems] to each other		
(10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:	(C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system	(iii) relate the levels [of organization in biological systems] to the whole system		
(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(A) describe the role of internal feedback mechanisms in the maintenance of homeostasis			
(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(B) investigate and analyze how organisms, populations, and communities respond to external factors	(i) investigate how organisms respond to external factors		
(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(B) investigate and analyze how organisms, populations, and communities respond to external factors	(ii) investigate how populations respond to external factors		
(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(B) investigate and analyze how organisms, populations, and communities respond to external factors	(iii) investigate how communities respond to external factors		
(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(B) investigate and analyze how organisms, populations, and communities respond to external factors	(iv) analyze how organisms respond to external factors		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(D) describe how events and processes that occur during ecological succession can change populations and species diversity	(iii) describe how processes that occur during ecological succession can change populations		
(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(D) describe how events and processes that occur during ecological succession can change populations and species diversity	(iv) describe how processes that occur during ecological succession can change species diversity		
(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(A) interpret relationships, including predation, parasitism, commensalism, mutualism, and competition, among organisms	(i) interpret relationships, including predation, among organisms		
(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(A) interpret relationships, including predation, parasitism, commensalism, mutualism, and competition, among organisms	(ii) interpret relationships, including parasitism, among organisms		
(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(A) interpret relationships, including predation, parasitism, commensalism, mutualism, and competition, among organisms	(iii) interpret relationships, including commensalism, among organisms		
(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(A) interpret relationships, including predation, parasitism, commensalism, mutualism, and competition, among organisms	(iv) interpret relationships, including mutualism, among organisms		
(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(A) interpret relationships, including predation, parasitism, commensalism, mutualism, and competition, among organisms	(v) interpret relationships, including competition, among organisms		

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TEKS (Knowledge and Skills)	**Student Expectation**	**Breakout**	**Element**	**Subelement**
(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(E) describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles	(iv) explain the consequences of disrupting [the nitrogen cycle]		
(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(F) describe how environmental change can impact ecosystem stability			