Subject	**Chapter 112. Science**			
Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(a) General requirements. Students shall be awarded one credit for successful completion of this course. Suggested prerequisite: one unit of high school science. This course is recommended for students in Grade 11 or 12.				
(b) Introduction.				
(1) Astronomy. In Astronomy, students conduct laboratory and field investigations, use scientific methods, and make informed decisions using critical thinking and scientific problem solving. Students study the following topics: astronomy in civilization, patterns and objects in the sky, our place in space, the moon, reasons for the seasons, planets, the sun, stars, galaxies, cosmology, and space exploration. Students who successfully complete Astronomy will acquire knowledge within a conceptual framework, conduct observations of the sky, work collaboratively, and develop critical-thinking skills.				
(2) Nature of science. Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable.				
(3) Scientific inquiry. Scientific inquiry is the planned and deliberate investigation of the natural world. Scientific methods of investigation can be experimental, descriptive, or comparative. The method chosen should be appropriate to the question being asked.				
(4) Science and social ethics. Scientific decision making is a way of answering questions about the natural world. Students should be able to distinguish between scientific decision-making methods and ethical and social decisions that involve the application of scientific information.				
(5) Scientific systems. A system is a collection of cycles, structures, and processes that interact. All systems have basic properties that can be described in terms of space, time, energy, and matter. Change and constancy occur in systems as patterns and can be observed, measured, and modeled. These patterns help to make predictions that can be scientifically tested. Students should analyze a system in terms of its components and how these components relate to each other, to the whole, and to the external environment.				
(C) Knowledge and skills.				
(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:	(A) demonstrate safe practices during laboratory and field investigations	(i) demonstrate safe practices during laboratory investigations		
(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:	(A) demonstrate safe practices during laboratory and field investigations	(ii) demonstrate safe practices during field investigations		

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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 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]		

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(2) Scientific processes. The student uses scientific methods 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 during laboratory and field investigations. The student is expected to:	(B) know that scientific 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 scientific hypotheses are tentative statements that must be capable of being supported or not supported by observational evidence		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(B) know that scientific 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	(ii) know that scientific hypotheses are testable statements that must be capable of being supported or not supported by observational evidence		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(B) know that scientific 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	(iii) [know that] hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(C) know that 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 may be subject to change as new areas of science and new technologies are developed	(i) know that scientific theories are based on natural and physical phenomena		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(C) know that 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 may be subject to change as new areas of science and new technologies are developed	(ii) know that scientific theories are capable of being tested by multiple independent researchers		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(C) know that 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 may be subject to change as new areas of science and new technologies are developed	(iii) [know that], unlike hypotheses, scientific theories are well-established explanations		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(C) know that 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 may be subject to change as new areas of science and new technologies are developed	(iv) [know that], unlike hypotheses, scientific theories are highly-reliable explanations		

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(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(C) know that 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 may be subject to change as new areas of science and new technologies are developed	(v) [know that] scientific theories may be subject to change as new areas of science are developed		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(C) know that 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 may be subject to change as new areas of science and new technologies are developed	(vi) [know that] scientific theories may be subject to change as new technologies are developed		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(D) distinguish between scientific hypotheses and scientific theories			
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(i) plan investigative procedures, including making observations		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(ii) plan investigative procedures, including asking questions		

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(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(iii) plan investigative procedures, including formulating testable hypotheses		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(iv) plan investigative procedures, including selecting equipment		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(v) plan investigative procedures, including selecting technology		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(vi) implement investigative procedures, including making observations		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(vii) implement investigative procedures, including asking questions		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(viii) implement investigative procedures, including formulating testable hypotheses		

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(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(ix) implement investigative procedures, including selecting equipment		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(E) plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology	(x) implement investigative procedures, including selecting technology		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(F) collect data and make measurements with accuracy and precision	(i) collect data with accuracy		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(F) collect data and make measurements with accuracy and precision	(ii) collect data with precision		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(F) collect data and make measurements with accuracy and precision	(iii) make measurements with accuracy		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(F) collect data and make measurements with accuracy and precision	(iv) make measurements with precision		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(G) organize, analyze, evaluate, make inferences, and predict trends from data, including making new revised hypotheses when appropriate	(i) organize data, including making new revised hypotheses when appropriate		

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(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(G) organize, analyze, evaluate, make inferences, and predict trends from data, including making new revised hypotheses when appropriate	(ii) analyze data, including making new revised hypotheses when appropriate		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(G) organize, analyze, evaluate, make inferences, and predict trends from data, including making new revised hypotheses when appropriate	(iii) evaluate data, including making new revised hypotheses when appropriate		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(G) organize, analyze, evaluate, make inferences, and predict trends from data, including making new revised hypotheses when appropriate	(iv) make inferences from data, including making new revised hypotheses when appropriate		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(G) organize, analyze, evaluate, make inferences, and predict trends from data, including making new revised hypotheses when appropriate	(v) predict trends from data, including making new revised hypotheses when appropriate		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(H) communicate valid conclusions in writing, oral presentations, and through collaborative projects	(i) communicate valid conclusions in writing		

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(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(H) communicate valid conclusions in writing, oral presentations, and through collaborative projects	(ii) communicate valid conclusions in oral presentations		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(H) communicate valid conclusions in writing, oral presentations, and through collaborative projects	(iii) communicate valid conclusions through collaborative projects		
(2) Scientific processes. The student uses scientific methods during laboratory and field investigations. The student is expected to:	(I) use astronomical technology such as telescopes, binoculars, sextants, computers, and software	(i) use astronomical technology		
(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	(i) in all fields of science, analyze 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	(ii) in all fields of science, analyze scientific explanations by using logical reasoning		

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(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	(iii) in all fields of science, analyze 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	(iv) in all fields of science, analyze 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	(v) in all fields of science, analyze 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:	(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	(vi) in all fields of science, evaluate scientific explanations by using empirical evidence		

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(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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(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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(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		

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(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 research on scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought		
(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 research on scientific thought, society, and the environment	(ii) evaluate the impact of research on society		
(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 research on scientific thought, society, and the environment	(iii) evaluate the impact of 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) describe the connection between astronomy and future careers			
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(A) research and describe the use of astronomy in ancient civilizations such as the Egyptians, Mayans, Aztecs, Europeans, and the native Americans	(i) research the use of astronomy in ancient civilizations		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(A) research and describe the use of astronomy in ancient civilizations such as the Egyptians, Mayans, Aztecs, Europeans, and the native Americans	(ii) describe the use of astronomy in ancient civilizations		

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(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(i) research the contributions of scientists to our changing understanding of astronomy, including Ptolemy		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(ii) research the contributions of scientists to our changing understanding of astronomy, including Copernicus		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(iii) research the contributions of scientists to our changing understanding of astronomy, including Tycho Brahe		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(iv) research the contributions of scientists to our changing understanding of astronomy, including Kepler		

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(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(v) research the contributions of scientists to our changing understanding of astronomy, including Galileo		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(vi) research the contributions of scientists to our changing understanding of astronomy, including Newton		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(vii) research the contributions of scientists to our changing understanding of astronomy, including Einstein		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(viii) research the contributions of scientists to our changing understanding of astronomy, including Hubble		

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(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(ix) research the contributions of scientists to our changing understanding of astronomy, including the contribution of women astronomers, including Maria Mitchell		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(x) research the contributions of scientists to our changing understanding of astronomy, including the contribution of women astronomers, including Henrietta Swan Leavitt		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xi) describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xii) describe the contributions of scientists to our changing understanding of astronomy, including Copernicus		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xiii) describe the contributions of scientists to our changing understanding of astronomy, including Tycho Brahe		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xiv) describe the contributions of scientists to our changing understanding of astronomy, including Kepler		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xv) describe the contributions of scientists to our changing understanding of astronomy, including Galileo		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xvi) describe the contributions of scientists to our changing understanding of astronomy, including Newton		

Subject	**Chapter 112. Science**			
Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xvii) describe the contributions of scientists to our changing understanding of astronomy, including Einstein		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xviii) describe the contributions of scientists to our changing understanding of astronomy, including Hubble		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xix) describe the contributions of scientists to our changing understanding of astronomy, including the contribution of women astronomers, including Maria Mitchell		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(B) research and describe the contributions of scientists to our changing understanding of astronomy, including Ptolemy, Copernicus, Tycho Brahe, Kepler, Galileo, Newton, Einstein, and Hubble, and the contribution of women astronomers, including Maria Mitchell and Henrietta Swan Leavitt	(xx) describe the contributions of scientists to our changing understanding of astronomy, including the contribution of women astronomers, including Henrietta Swan Leavitt		

Subject	**Chapter 112. Science**			
Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(C) describe and explain the historical origins of the perceived patterns of constellations and the role of constellations in ancient and modern navigation	(i) describe the historical origins of the perceived patterns of constellations		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(C) describe and explain the historical origins of the perceived patterns of constellations and the role of constellations in ancient and modern navigation	(ii) describe the role of constellations in ancient navigation		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(C) describe and explain the historical origins of the perceived patterns of constellations and the role of constellations in ancient and modern navigation	(iii) describe the role of constellations in modern navigation		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(C) describe and explain the historical origins of the perceived patterns of constellations and the role of constellations in ancient and modern navigation	(iv) explain the historical origins of the perceived patterns of constellations		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(C) describe and explain the historical origins of the perceived patterns of constellations and the role of constellations in ancient and modern navigation	(v) explain the role of constellations in ancient navigation		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(C) describe and explain the historical origins of the perceived patterns of constellations and the role of constellations in ancient and modern navigation	(vi) explain the role of constellations in modern navigation		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(D) explain the contributions of modern astronomy to today's society, including the identification of potential asteroid/comet impact hazards and the Sun's effects on communication, navigation, and high-tech devices	(i) explain the contributions of modern astronomy to today's society, including the identification of potential asteroid/comet impact hazards		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(D) explain the contributions of modern astronomy to today's society, including the identification of potential asteroid/comet impact hazards and the Sun's effects on communication, navigation, and high-tech devices	(ii) explain the contributions of modern astronomy to today's society, including the Sun's effects on communication		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(D) explain the contributions of modern astronomy to today's society, including the identification of potential asteroid/comet impact hazards and the Sun's effects on communication, navigation, and high-tech devices	(iii) explain the contributions of modern astronomy to today's society, including the Sun's effects on navigation		
(4) Science concepts. The student recognizes the importance and uses of astronomy in civilization. The student is expected to:	(D) explain the contributions of modern astronomy to today's society, including the identification of potential asteroid/comet impact hazards and the Sun's effects on communication, navigation, and high-tech devices	(iv) explain the contributions of modern astronomy to today's society, including the Sun's effects on high-tech devices		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(A) observe and record the apparent movement of the Sun and Moon during the day	(i) observe the apparent movement of the Sun during the day		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(A) observe and record the apparent movement of the Sun and Moon during the day	(ii) observe the apparent movement of the Moon during the day		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(A) observe and record the apparent movement of the Sun and Moon during the day	(iii) record the apparent movement of the Sun during the day		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(A) observe and record the apparent movement of the Sun and Moon during the day	(iv) record the apparent movement of the Moon during the day		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(B) observe and record the apparent movement of the Moon, planets, and stars in the nighttime sky	(i) observe the apparent movement of the Moon in the nighttime sky		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(B) observe and record the apparent movement of the Moon, planets, and stars in the nighttime sky	(ii) observe the apparent movement of the planets in the nighttime sky		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(B) observe and record the apparent movement of the Moon, planets, and stars in the nighttime sky	(iii) observe the apparent movement of the stars in the nighttime sky		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(B) observe and record the apparent movement of the Moon, planets, and stars in the nighttime sky	(iv) record the apparent movement of the Moon in the nighttime sky		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(B) observe and record the apparent movement of the Moon, planets, and stars in the nighttime sky	(v) record the apparent movement of the planets in the nighttime sky		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(B) observe and record the apparent movement of the Moon, planets, and stars in the nighttime sky	(vi) record the apparent movement of the stars in the nighttime sky		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(C) recognize and identify constellations such as Ursa Major, Ursa Minor, Orion, Cassiopeia, and constellations of the zodiac	(i) recognize constellations		
(5) Science concepts. The student develops a familiarity with the sky. The student is expected to:	(C) recognize and identify constellations such as Ursa Major, Ursa Minor, Orion, Cassiopeia, and constellations of the zodiac	(ii) identify constellations		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(i) compare the scale of the Sun, Earth, and Moon system through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(ii) compare the size of the Sun, Earth, and Moon system through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(iii) compare the distance of the Sun, Earth, and Moon system through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(iv) contrast the scale of the Sun, Earth, and Moon system through the use of data		

Subject	**Chapter 112. Science**			
Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(v) contrast the size of the Sun, Earth, and Moon system through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(vi) contrast the distance of the Sun, Earth, and Moon system through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(vii) compare the scale of the Sun, Earth, and Moon system through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(viii) compare the size of the Sun, Earth, and Moon system through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(ix) compare the distance of the Sun, Earth, and Moon system through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(x) contrast the scale of the Sun, Earth, and Moon system through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(xi) contrast the size of the Sun, Earth, and Moon system through the use of modeling		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(6) Science concepts. The student knows our place in space. The student is expected to:	(A) compare and contrast the scale, size, and distance of the Sun, Earth, and Moon system through the use of data and modeling	(xii) contrast the distance of the Sun, Earth, and Moon system through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(B) compare and contrast the scale, size, and distance of objects in the solar system such as the Sun and planets through the use of data and modeling	(i) compare the scale of objects in the solar system		
(6) Science concepts. The student knows our place in space. The student is expected to:	(B) compare and contrast the scale, size, and distance of objects in the solar system such as the Sun and planets through the use of data and modeling	(ii) compare the size of objects in the solar system		
(6) Science concepts. The student knows our place in space. The student is expected to:	(B) compare and contrast the scale, size, and distance of objects in the solar system such as the Sun and planets through the use of data and modeling	(iii) compare the distance of objects in the solar system		
(6) Science concepts. The student knows our place in space. The student is expected to:	(B) compare and contrast the scale, size, and distance of objects in the solar system such as the Sun and planets through the use of data and modeling	(iv) contrast the scale of objects in the solar system		
(6) Science concepts. The student knows our place in space. The student is expected to:	(B) compare and contrast the scale, size, and distance of objects in the solar system such as the Sun and planets through the use of data and modeling	(v) contrast the size of objects in the solar system		
(6) Science concepts. The student knows our place in space. The student is expected to:	(B) compare and contrast the scale, size, and distance of objects in the solar system such as the Sun and planets through the use of data and modeling	(vi) contrast the distance of objects in the solar system		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(i) examine the scale of the stars through the use of data		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(ii) examine the scale of the Milky Way through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(iii) examine the scale of the other galaxies through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(iv) examine the size of the stars through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(v) examine the size of the Milky Way through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(vi) examine the size of other galaxies through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(vii) examine the distance of the stars through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(viii) examine the distance of the Milky Way through the use of data		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(ix) examine the distance of other galaxies through the use of data		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(x) examine the scale of the stars through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xi) examine the scale of the Milky Way through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xii) examine the scale of the other galaxies through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xiii) examine the size the stars through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xiv) examine the size of the Milky Way through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xv) examine the size of other galaxies through the use of modeling		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xvi) examine the distance of the stars through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xvii) examine the distance of the Milky Way through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(C) examine the scale, size, and distance of the stars, Milky Way, and other galaxies through the use of data and modeling	(xviii) examine the distance of other galaxies through the use of modeling		
(6) Science concepts. The student knows our place in space. The student is expected to:	(D) relate apparent versus absolute magnitude to the distances of celestial objects			
(6) Science concepts. The student knows our place in space. The student is expected to:	(E) demonstrate the use of units of measurement in astronomy, including Astronomical Units and light years	(i) demonstrate the use of units of measurement in astronomy, including Astronomical Units		
(6) Science concepts. The student knows our place in space. The student is expected to:	(E) demonstrate the use of units of measurement in astronomy, including Astronomical Units and light years	(ii) demonstrate the use of units of measurement in astronomy, including light years		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(A) observe and record data about lunar phases and use that information to model the Sun, Earth, and Moon system	(i) observe data about lunar phases		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(A) observe and record data about lunar phases and use that information to model the Sun, Earth, and Moon system	(ii) record data about lunar phases		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(A) observe and record data about lunar phases and use that information to model the Sun, Earth, and Moon system;	(iii) use [data about lunar phases] to model the Sun, Earth, and Moon system		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(i) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(ii) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including waxing crescent		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(iii) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including first quarter		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(iv) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including waxing gibbous		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(v) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including full moon		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(vi) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including waning gibbous		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(vii) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including third quarter		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(B) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, third quarter, and waning crescent	(viii) illustrate the cause of lunar phases by showing positions of the Moon relative to Earth and the Sun for each phase, including waning crescent		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(C) identify and differentiate the causes of lunar and solar eclipses, including differentiating between lunar phases and eclipses	(i) identify the cause of lunar eclipses		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(C) identify and differentiate the causes of lunar and solar eclipses, including differentiating between lunar phases and eclipses	(ii) differentiate the causes of lunar and solar eclipses, including differentiating between lunar phases and eclipses		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(C) identify and differentiate the causes of lunar and solar eclipses, including differentiating between lunar phases and eclipses	(iii) identify the cause of solar eclipses		
(7) Science concepts. The student knows the role of the Moon in the Sun, Earth, and Moon system. The student is expected to:	(D) identify the effects of the Moon on tides			
(8) Science concepts. The student knows the reasons for the seasons. The student is expected to:	(A) recognize that seasons are caused by the tilt of Earth's axis			
(8) Science concepts. The student knows the reasons for the seasons. The student is expected to:	(B) explain how latitudinal position affects the length of day and night throughout the year			
(8) Science concepts. The student knows the reasons for the seasons. The student is expected to:	(C) recognize that the angle of incidence of sunlight determines the concentration of solar energy received on Earth at a particular location			

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(8) Science concepts. The student knows the reasons for the seasons. The student is expected to:	(D) examine the relationship of the seasons to equinoxes, solstices, the tropics, and the equator	(i) examine the relationship of the seasons to equinoxes		
(8) Science concepts. The student knows the reasons for the seasons. The student is expected to:	(D) examine the relationship of the seasons to equinoxes, solstices, the tropics, and the equator	(ii) examine the relationship of the seasons to solstices		
(8) Science concepts. The student knows the reasons for the seasons. The student is expected to:	(D) examine the relationship of the seasons to equinoxes, solstices, the tropics, and the equator	(iii) examine the relationship of the seasons to the tropics		
(8) Science concepts. The student knows the reasons for the seasons. The student is expected to:	(D) examine the relationship of the seasons to equinoxes, solstices, the tropics, and the equator	(iv) examine the relationship of the seasons to the equator		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(A) compare and contrast the factors essential to life on Earth such as temperature, water, mass, and gases to conditions on other planets	(i) compare the factors essential to life on Earth		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(A) compare and contrast the factors essential to life on Earth such as temperature, water, mass, and gases to conditions on other planets	(ii) contrast the factors essential to life on Earth		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(B) compare the planets in terms of orbit, size, composition, rotation, atmosphere, natural satellites, and geological activity	(i) compare the planets in terms of orbit		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(B) compare the planets in terms of orbit, size, composition, rotation, atmosphere, natural satellites, and geological activity	(ii) compare the planets in terms of size		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(B) compare the planets in terms of orbit, size, composition, rotation, atmosphere, natural satellites, and geological activity	(iii) compare the planets in terms of composition		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(B) compare the planets in terms of orbit, size, composition, rotation, atmosphere, natural satellites, and geological activity	(iv) compare the planets in terms of rotation		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(B) compare the planets in terms of orbit, size, composition, rotation, atmosphere, natural satellites, and geological activity	(v) compare the planets in terms of atmosphere		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(B) compare the planets in terms of orbit, size, composition, rotation, atmosphere, natural satellites, and geological activity	(vi) compare the planets in terms of natural satellites		

Subject	**Chapter 112. Science**			
Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(B) compare the planets in terms of orbit, size, composition, rotation, atmosphere, natural satellites, and geological activity	(vii) compare the planets in terms of geological activity		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(C) relate the role of Newton's law of universal gravitation to the motion of the planets around the Sun and to the motion of natural and artificial satellites around the planets	(i) relate the role of Newton's law of universal gravitation to the motion of the planets around the Sun		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	C) relate the role of Newton's law of universal gravitation to the motion of the planets around the Sun and to the motion of natural and artificial satellites around the planets	(ii) relate the role of Newton's law of universal gravitation to the motion of natural satellites around the planets		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	C) relate the role of Newton's law of universal gravitation to the motion of the planets around the Sun and to the motion of natural and artificial satellites around the planets	(iii) relate the role of Newton's law of universal gravitation to the motion of artificial satellites around the planets		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(D) explore the origins and significance of small solar system bodies, including asteroids, comets, and Kuiper belt objects	(i) explore the origins of small solar system bodies, including asteroids		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(D) explore the origins and significance of small solar system bodies, including asteroids, comets, and Kuiper belt objects	(ii) explore the origins of small solar system bodies, including comets		

Subject	**Chapter 112. Science**			
Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(D) explore the origins and significance of small solar system bodies, including asteroids, comets, and Kuiper belt objects	(iii) explore the origins of small solar system bodies, including Kuiper belt objects		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(D) explore the origins and significance of small solar system bodies, including asteroids, comets, and Kuiper belt objects	(iv) explore the significance of small solar system bodies, including asteroids		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(D) explore the origins and significance of small solar system bodies, including asteroids, comets, and Kuiper belt objects	(v) explore the significance of small solar system bodies, including comets		
(9) Science concepts. The student knows that planets of different size, composition, and surface features orbit around the Sun. The student is expected to:	(D) explore the origins and significance of small solar system bodies, including asteroids, comets, and Kuiper belt objects	(vi) explore the significance of small solar system bodies, including Kuiper belt objects		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(A) identify the approximate mass, size, motion, temperature, structure, and composition of the Sun	(i) identify the approximate mass of the Sun		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(A) identify the approximate mass, size, motion, temperature, structure, and composition of the Sun	(ii) identify the approximate size of the Sun		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(A) identify the approximate mass, size, motion, temperature, structure, and composition of the Sun	(iii) identify the approximate motion of the Sun		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(A) identify the approximate mass, size, motion, temperature, structure, and composition of the Sun	(iv) identify the approximate temperature of the Sun		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(A) identify the approximate mass, size, motion, temperature, structure, and composition of the Sun	(v) identify the approximate structure of the Sun		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(A) identify the approximate mass, size, motion, temperature, structure, and composition of the Sun	(vi) identify the approximate composition of the Sun		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(B) distinguish between nuclear fusion and nuclear fission, and identify the source of energy within the Sun as nuclear fusion of hydrogen to helium	(i) distinguish between nuclear fusion and nuclear fission		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(B) distinguish between nuclear fusion and nuclear fission, and identify the source of energy within the Sun as nuclear fusion of hydrogen to helium	(ii) identify the source of energy within the Sun as nuclear fusion of hydrogen to helium		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(C) describe the eleven-year solar cycle and the significance of sunspots	(i) describe the eleven-year solar cycle		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(C) describe the eleven-year solar cycle and the significance of sunspots	(ii) describe the significance of sunspots		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(D) analyze solar magnetic storm activity, including coronal mass ejections, prominences, flares, and sunspots	(i) analyze solar magnetic storm activity, including coronal mass ejections		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(D) analyze solar magnetic storm activity, including coronal mass ejections, prominences, flares, and sunspots	(ii) analyze solar magnetic storm activity, including prominences		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(D) analyze solar magnetic storm activity, including coronal mass ejections, prominences, flares, and sunspots	(iii) analyze solar magnetic storm activity, including flares		
(10) Science concepts. The student knows the role of the Sun as the star in our solar system. The student is expected to:	(D) analyze solar magnetic storm activity, including coronal mass ejections, prominences, flares, and sunspots	(iv) analyze solar magnetic storm activity, including sunspots		
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(A) identify the characteristics of main sequence stars, including surface temperature, age, relative size, and composition	(i) identify the characteristics of main sequence stars, including surface temperature		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(A) identify the characteristics of main sequence stars, including surface temperature, age, relative size, and composition	(ii) identify the characteristics of main sequence stars, including age		
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(A) identify the characteristics of main sequence stars, including surface temperature, age, relative size, and composition	(iii) identify the characteristics of main sequence stars, including relative size		
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(A) identify the characteristics of main sequence stars, including surface temperature, age, relative size, and composition	(iv) identify the characteristics of main sequence stars, including composition		
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(B) characterize star formation in stellar nurseries from giant molecular clouds, to protostars, to the development of main sequence stars			
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(C) evaluate the relationship between mass and fusion on the dying process and properties of stars	(i) evaluate the relationship between mass and fusion on the dying process of stars		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(C) evaluate the relationship between mass and fusion on the dying process and properties of stars	(ii) evaluate the relationship between mass and fusion on the properties of stars		
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(D) differentiate among the end states of stars, including white dwarfs, neutron stars, and black holes			
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(E) compare how the mass and gravity of a main sequence star will determine its end state as a white dwarf, neutron star, or black hole			
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(F) relate the use of spectroscopy in obtaining physical data on celestial objects such as temperature, chemical composition, and relative motion	(i) relate the use of spectroscopy in obtaining physical data on celestial objects		
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(G) use the Hertzsprung-Russell diagram to plot and examine the life cycle of stars from birth to death	(i) use the Hertzsprung-Russell diagram to plot the life cycle of stars from birth to death		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(11) Science concepts. The student knows the characteristics and life cycle of stars. The student is expected to:	(G) use the Hertzsprung-Russell diagram to plot and examine the life cycle of stars from birth to death	(ii) use the Hertzsprung-Russell diagram to examine the life cycle of stars from birth to death		
(12) Science concepts. The student knows the variety and properties of galaxies. The student is expected to:	(A) describe characteristics of galaxies			
(12) Science concepts. The student knows the variety and properties of galaxies. The student is expected to:	(B) recognize the type, structure, and components of our Milky Way galaxy and location of our solar system within it	(i) recognize the type of our Milky Way galaxy		
(12) Science concepts. The student knows the variety and properties of galaxies. The student is expected to:	(B) recognize the type, structure, and components of our Milky Way galaxy and location of our solar system within it	(ii) recognize the structure of our Milky Way galaxy		
(12) Science concepts. The student knows the variety and properties of galaxies. The student is expected to:	(B) recognize the type, structure, and components of our Milky Way galaxy and location of our solar system within it	(iii) recognize the components of our Milky Way galaxy		
(12) Science concepts. The student knows the variety and properties of galaxies. The student is expected to:	(B) recognize the type, structure, and components of our Milky Way galaxy and location of our solar system within it	(iv) recognize the location of our solar system within [the Milky Way Galaxy]		

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Course Title	**§112.33. Astronomy, Beginning with School Year 2010-2011 (One Credit).**			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(12) Science concepts. The student knows the variety and properties of galaxies. The student is expected to:	(C) compare and contrast the different types of galaxies, including spiral, elliptical, irregular, and dwarf	(i) compare the different types of galaxies, including spiral, elliptical, irregular, and dwarf		
(12) Science concepts. The student knows the variety and properties of galaxies. The student is expected to:	(C) compare and contrast the different types of galaxies, including spiral, elliptical, irregular, and dwarf	(ii) contrast the different types of galaxies, including spiral, elliptical, irregular, and dwarf		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(A) research and describe the historical development of the Big Bang Theory, including red shift, cosmic microwave background radiation, and other supporting evidence	(i) research the historical development of the Big Bang Theory, including red shift		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(A) research and describe the historical development of the Big Bang Theory, including red shift, cosmic microwave background radiation, and other supporting evidence	(ii) research the historical development of the Big Bang Theory, including cosmic microwave background radiation		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(A) research and describe the historical development of the Big Bang Theory, including red shift, cosmic microwave background radiation, and other supporting evidence	(iii) research the historical development of the Big Bang Theory, including other supporting evidence		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(A) research and describe the historical development of the Big Bang Theory, including red shift, cosmic microwave background radiation, and other supporting evidence	(iv) describe the historical development of the Big Bang Theory, including red shift		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(A) research and describe the historical development of the Big Bang Theory, including red shift, cosmic microwave background radiation, and other supporting evidence	(v) describe the historical development of the Big Bang Theory, including cosmic microwave background radiation		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(A) research and describe the historical development of the Big Bang Theory, including red shift, cosmic microwave background radiation, and other supporting evidence	(vi) describe the historical development of the Big Bang Theory, including other supporting evidence		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(B) research and describe current theories of the evolution of the universe, including estimates for the age of the universe	(i) research current theories of the evolution of the universe, including estimates for the age of the universe		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(B) research and describe current theories of the evolution of the universe, including estimates for the age of the universe	(ii) describe current theories of the evolution of the universe, including estimates for the age of the universe		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(i) research scientific hypotheses of the fate of the universe, including open universes		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(ii) research scientific hypotheses of the fate of the universe, including closed universes		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(iii) research scientific hypotheses of the fate of the universe, including the role of dark matter		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(iv) research scientific hypotheses of the fate of the universe, including the role of dark energy		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(v) describe scientific hypotheses of the fate of the universe, including open universes		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(vi) describe scientific hypotheses of the fate of the universe, including closed universes		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(vii) describe scientific hypotheses of the fate of the universe, including the role of dark matter		
(13) Science concepts. The student knows the scientific theories of cosmology. The student is expected to:	(C) research and describe scientific hypotheses of the fate of the universe, including open and closed universes and the role of dark matter and dark energy	(viii) describe scientific hypotheses of the fate of the universe, including the role of dark energy		
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(A) identify and explain the contributions of human space flight and future plans and challenges	(i) identify the contributions of human space flight		
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(A) identify and explain the contributions of human space flight and future plans and challenges	(ii) identify future [human space flight] plans		

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(A) identify and explain the contributions of human space flight and future plans and challenges	(iii) identify [human space flight] challenges		
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(A) identify and explain the contributions of human space flight and future plans and challenges	(iv) explain the contributions of human space flight		
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(A) identify and explain the contributions of human space flight and future plans and challenges	(v) explain [human space flight] future plans		
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(A) identify and explain the contributions of human space flight and future plans and challenges	(vi) explain [human space flight] challenges		
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(B) recognize the advancement of knowledge in astronomy through robotic space flight			

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TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelement
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(C) analyze the importance of ground-based technology in astronomical studies			
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(D) recognize the importance of space telescopes to the collection of astronomical data across the electromagnetic spectrum			
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(E) demonstrate an awareness of new developments and discoveries in astronomy	(i) demonstrate an awareness of new developments in astronomy		
(14) Science concepts. The student recognizes the benefits and challenges of space exploration to the study of the universe. The student is expected to:	(E) demonstrate an awareness of new developments and discoveries in astronomy	(ii) demonstrate an awareness of new discoveries in astronomy		