

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(a) Introduction.				
<p>1) 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.</p>				
<p>(2) 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 that have been tested over a wide variety of conditions become theories. Scientific theories are based on natural and physical phenomena and are capable of being tested by multiple, independent researchers. Students should know that scientific theories, unlike hypotheses, are well-established and highly reliable, but they may still be subject to change as new information and technologies are developed. Students should be able to distinguish between scientific decision-making methods and ethical/social decisions that involve the application of scientific information.</p>				
<p>(3) Grade 8 science is interdisciplinary in nature; however, much of the content focus is on earth and space science. National standards in science are organized as multi-grade blocks such as Grades 5-8 rather than individual grade levels. In order to follow the grade level format used in Texas, the various national standards are found among Grades 6, 7, and 8. Recurring themes are pervasive in sciences, mathematics, and technology. These ideas transcend disciplinary boundaries and include change and constancy, patterns, cycles, systems, models, and scale.</p>				
<p>(4) The strands for Grade 8 include:</p> <p>(A) Scientific investigation and reasoning.</p> <p>(i) To develop a rich knowledge of science and the natural world, students must become familiar with different modes of scientific inquiry, rules of evidence, ways of formulating questions, ways of proposing explanations, and the diverse ways scientists study the natural world and propose explanations based on evidence derived from their work.</p> <p>(ii) Scientific investigations are conducted for different reasons. All investigations require a research question, careful observations, data gathering, and analysis of the data to identify the patterns that will explain the findings. Descriptive investigations are used to explore new phenomena such as conducting surveys of organisms or measuring the abiotic components in a given habitat. Descriptive statistics include frequency, range, mean, median, and mode. A hypothesis is not required in a descriptive investigation. On the other hand, when conditions can be controlled in order to focus on a single variable, experimental research design is used to determine causation. Students should experience both types of investigations and understand that different scientific research questions require different research designs.</p> <p>(iii) Scientific investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations, and the methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work. Models have limitations and based on new discoveries are constantly being modified to more closely reflect the natural world</p>				

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
	(B) Matter and energy. Students recognize that matter is composed of atoms. Students examine information on the Periodic Table to recognize that elements are grouped into families. In addition, students understand the basic concept of conservation of mass. Lab activities will allow students to demonstrate evidence of chemical reactions. They will use chemical formulas and balanced equations to show chemical reactions and the formation of new substances.			
	(C) Force, motion, and energy. Students experiment with the relationship between forces and motion through the study of Newton's three laws. Students learn how these forces relate to geologic processes and astronomical phenomena. In addition, students recognize that these laws are evident in everyday objects and activities. Mathematics is used to calculate speed using distance and time measurements.			
	(D) Earth and space. Students identify the role of natural events in altering Earth systems. Cycles within Sun, Earth, and Moon systems are studied as students learn about seasons, tides, and lunar phases. Students learn that stars and galaxies are part of the universe and that distances in space are measured by using light waves. In addition, students use data to research scientific theories of the origin of the universe. Students will illustrate how Earth features change over time by plate tectonics. They will interpret land and erosional features on topographic maps. Students learn how interactions in solar, weather, and ocean systems create changes in weather patterns and climate.			
	(E) Organisms and environments. In studies of living systems, students explore the interdependence between these systems. Interactions between organisms in ecosystems, including producer/consumer, predator/prey, and parasite/host relationships, are investigated in aquatic and terrestrial systems. Students describe how biotic and abiotic factors affect the number of organisms and populations present in an ecosystem. In addition, students explore how organisms and their populations respond to short- and long-term environmental changes, including those caused by human activities.			
(b) Knowledge and skills.				
(1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	(A) demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards	(i) demonstrate safe practices during laboratory investigations as outlined in the Texas Safety Standards		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	(A) demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards	(ii) demonstrate safe practices during field investigations as outlined in the Texas Safety Standards		
(1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	(B) practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials	(i) practice appropriate use of resources, including disposal, reuse, or recycling of materials		
(1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	(B) practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials	(ii) practice appropriate conservation of resources, including disposal, reuse, or recycling of materials		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(i) plan comparative investigations by making observations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(ii) plan comparative investigations by asking well-defined questions		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(iii) plan comparative investigations by using appropriate equipment		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(iv) plan comparative investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(v) implement comparative investigations by making observations		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(vi) implement comparative investigations by asking well-defined questions		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(vii) implement comparative investigations by using appropriate equipment		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(viii) implement comparative investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(ix) plan descriptive investigations by making observations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(x) plan descriptive investigations by asking well-defined questions		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(xi) plan descriptive investigations by using appropriate equipment		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(xii) plan descriptive investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(xiii) implement descriptive investigations by making observations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(xiv) implement descriptive investigations by asking well-defined questions		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(xv) implement descriptive investigations by using appropriate equipment		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology	(xvi) implement descriptive investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(i) design comparative investigations by making observations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(ii) design comparative investigations by asking well-defined questions		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(iii) design comparative investigations by formulating testable hypotheses		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(iv) design comparative investigations by using appropriate equipment		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(v) design comparative investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(vi) implement comparative investigations by making observations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(vii) implement comparative investigations by asking well-defined questions		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(viii) implement comparative investigations by formulating testable hypotheses		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(ix) implement comparative investigations by using appropriate equipment		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(x) implement comparative investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xi) design experimental investigations by making observations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xii) design experimental investigations by asking well-defined questions		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xiii) design experimental investigations by formulating testable hypotheses		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xiv) design experimental investigations by using appropriate equipment		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xv) design experimental investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xvi) implement experimental investigations by making observations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xvii) implement experimental investigations by asking well-defined questions		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xviii) implement experimental investigations by formulating testable hypotheses		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xix) implement experimental investigations by using appropriate equipment		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology	(xx) implement experimental investigations by using appropriate technology		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers	(i) collect data using the International System of Units (SI)		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers	(ii) collect data using qualitative means		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers	(iii) record data using the International System of Units (SI)		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers	(iv) record data using qualitative means		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(i) construct tables, using repeated trials, to organize data		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(ii) construct tables, using repeated trials, to identify patterns		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(iii) construct graphs, using repeated trials, to organize data		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(iv) construct graphs, using repeated trials, to identify patterns		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(v) construct tables, using repeated means, to organize data	Keep—repeated means is interpreted as “varied”	

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(vi) construct tables, using means, to identify patterns		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(vii) construct graphs, using means, to organize data		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns	(viii) construct graphs, using means, to identify patterns		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends	(i) analyze data to formulate reasonable explanations		
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends	(ii) analyze data to communicate valid conclusions supported by the data		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to:	(E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends	(iii) analyze data to predict trends		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	(B) use models to represent aspects of the natural world such as an atom, a molecule, space, or a geologic feature	(i) use models to represent aspects of the natural world		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	(C) identify advantages and limitations of models such as size, scale, properties, and materials	(i) identify advantages of models		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	(C) identify advantages and limitations of models such as size, scale, properties, and materials	(ii) identify limitations of models		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	(D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content	(i) relate the impact of research on scientific thought, including the history of science		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	(D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content	(ii) relate the impact of research on society, including the history of science		
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	(D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content	(iii) relate the impact of research on scientific thought, including the contributions of scientists as related to the content		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:	(D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content	(iv) relate the impact of research on society, including the contributions of scientists as related to the content		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(i) use appropriate tools to collect information, including beakers		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(ii) use appropriate tools to collect information, including meter sticks		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(iii) use appropriate tools to collect information, including graduated cylinders		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(iv) use appropriate tools to collect information, including anemometers		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(v) use appropriate tools to collect information, including psychrometers		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(vi) use appropriate tools to collect information, including hot plates		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(vii) use appropriate tools to collect information, including test tubes		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(viii) use appropriate tools to collect information, including spring scales		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(ix) use appropriate tools to collect information, including balances		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(x) use appropriate tools to collect information, including microscopes		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xi) use appropriate tools to collect information, including thermometers		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xii) use appropriate tools to collect information, including calculators		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xiii) use appropriate tools to collect information, including computers		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xiv) use appropriate tools to collect information, including spectrosopes		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrometers, timing devices, and other equipment as needed to teach the curriculum	(xv) use appropriate tools to collect information, including timing devices		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrometers, timing devices, and other equipment as needed to teach the curriculum	(xvi) use appropriate tools to collect information, including other equipment as needed		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrometers, timing devices, and other equipment as needed to teach the curriculum	(xvii) use appropriate tools to record information, including lab journals/notebooks		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xviii) use appropriate tools to record information, including calculators		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xix) use appropriate tools to record information, including computers		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xx) use appropriate tools to record information, including other equipment as needed		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxi) use appropriate tools to analyze information, including lab journals/notebooks		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxii) use appropriate tools to analyze information, including beakers		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxiii) use appropriate tools to analyze information, including meter sticks		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxiv) use appropriate tools to analyze information, including graduated cylinders		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxv) use appropriate tools to analyze information, including anemometers		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxvi) use appropriate tools to analyze information, including psychrometers		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxvii) use appropriate tools to analyze information, including hot plates		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxviii) use appropriate tools to analyze information, including test tubes		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxix) use appropriate tools to analyze information, including spring scales		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxx) use appropriate tools to analyze information, including balances		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxxii) use appropriate tools to analyze information, including microscopes		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxxiii) use appropriate tools to analyze information, including thermometers		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxxiii) use appropriate tools to analyze information, including calculators		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxxiv) use appropriate tools to analyze information, including computers		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum	(xxxv) use appropriate tools to analyze information, including spectrosopes		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrometers, timing devices, and other equipment as needed to teach the curriculum	(xxxvi) use appropriate tools to analyze information, including timing devices		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrometers, timing devices, and other equipment as needed to teach the curriculum	(xxxvii) use appropriate tools to analyze information, including other equipment as needed		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	(i) use preventative safety equipment, including chemical splash goggles		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	(ii) use preventative safety equipment, including aprons		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	(iii) use preventative safety equipment, including gloves		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	(iv) be prepared to use emergency safety equipment, including an eye/face wash		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	(v) be prepared to use emergency safety equipment, including a fire blanket		
(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	(B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	(vi) be prepared to use emergency safety equipment, including a fire extinguisher		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(i) describe the structure of atoms, including the masses of protons in the nucleus		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(ii) describe the structure of atoms, including the masses of neutrons in the nucleus		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(iii) describe the structure of atoms, including the masses of electrons in the electron cloud		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(iv) describe the structure of atoms, including the electrical charges of protons in the nucleus		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(v) describe the structure of atoms, including the electrical charges of neutrons in the nucleus		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(vi) describe the structure of atoms, including the electrical charges of electrons in the electron cloud		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(vii) describe the structure of atoms, including the locations of protons in the nucleus		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(viii) describe the structure of atoms, including the locations of neutrons in the nucleus		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud	(ix) describe the structure of atoms, including the locations of electrons in the electron cloud		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(B) identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity	(i) identify that protons determine an element's identity		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(B) identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity	(ii) identify that valence electrons determine [an element's] chemical properties, including reactivity		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements	(i) interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements	(ii) interpret the arrangement of the Periodic Table, including periods, to explain how properties are used to classify elements		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(D) recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts	(i) recognize that chemical formulas are used to identify substances		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(D) recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts	(ii) determine the number of atoms of each element in chemical formulas containing subscripts		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(E) investigate how evidence of chemical reactions indicate that new substances with different properties are formed			
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(F) recognize whether a chemical equation containing coefficients is balanced or not and how that relates to the law of conservation of mass	(i) recognize whether a chemical equation containing coefficients is balanced or not		
(5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:	(F) recognize whether a chemical equation containing coefficients is balanced or not and how that relates to the law of conservation of mass	(ii) recognize how [a balanced chemical equation] relates to the law of conservation of mass		
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(A) demonstrate and calculate how unbalanced forces change the speed or direction of an object's motion	(i) demonstrate how unbalanced forces change the speed or direction of an object's motion		
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(A) demonstrate and calculate how unbalanced forces change the speed or direction of an object's motion	(ii) calculate how unbalanced forces change the speed or direction of an object's motion		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(B) differentiate between speed, velocity, and acceleration			
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches	(i) investigate Newton's law of inertia		
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches	(ii) investigate Newton's law of force and acceleration		
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches	(iii) investigate Newton's law of action-reaction		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches	(iv) describe applications of Newton's law of inertia		
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches	(v) describe applications of Newton's law of force and acceleration		
(6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to:	(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches	(vi) describe applications of Newton's law of action-reaction		
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons	(i) model how the tilted Earth rotates on its axis, causing day and night		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons	(ii) illustrate how the tilted Earth rotates on its axis, causing day and night		
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons	(iii) model how the tilted Earth revolves around the Sun causing changes in seasons		
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons	(iv) illustrate how the tilted Earth revolves around the Sun causing changes in seasons		
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(B) demonstrate and predict the sequence of events in the lunar cycle	(i) demonstrate the sequence of events in the lunar cycle		
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(B) demonstrate and predict the sequence of events in the lunar cycle	(ii) predict the sequence of events in the lunar cycle		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(C) relate the position of the Moon and Sun to their effect on ocean tides	(i) relate the position of the Moon to [its] effect on ocean tides		
(7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to:	(C) relate the position of the Moon and Sun to their effect on ocean tides	(ii) relate the position of the Sun to [its] effect on ocean tides		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification	(i) describe components of the universe, including stars		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification	(ii) describe components of the universe, including nebulae		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification	(iii) describe components of the universe, including galaxies		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification	(iv) use models for classification [of components in the universe]		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star	(i) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star	(ii) recognize that the Sun is many thousands of times closer to Earth than any other star		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(C) explore how different wavelengths of the electromagnetic spectrum such as light and radio waves are used to gain information about distances and properties of components in the universe	(i) explore how different wavelengths of the electromagnetic spectrum are used to gain information about distances of components in the universe		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(C) explore how different wavelengths of the electromagnetic spectrum such as light and radio waves are used to gain information about distances and properties of components in the universe	(ii) explore how different wavelengths of the electromagnetic spectrum are used to gain information about properties of components in the universe		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(D) model and describe how light years are used to measure distances and sizes in the universe	(i) model how light years are used to measure distances in the universe		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(D) model and describe how light years are used to measure distances and sizes in the universe	(ii) model how light years are used to measure sizes in the universe		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(D) model and describe how light years are used to measure distances and sizes in the universe	(iii) describe how light years are used to measure distances in the universe		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(D) model and describe how light years are used to measure distances and sizes in the universe	(iv) describe how light years are used to measure sizes in the universe		
(8) Earth and space. The student knows characteristics of the universe. The student is expected to:	(E) research how scientific data are used as evidence to develop scientific theories to describe the origin of the universe			
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(A) describe the historical development of evidence that supports plate tectonic theory			
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(B) relate plate tectonics to the formation of crustal features			

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering	(i) interpret topographic maps to identify land features		
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering	(ii) interpret topographic maps to identify erosional features		
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering	(iii) interpret satellite views to identify land features		
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering	(iv) interpret satellite views to identify erosional features		
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering	(v) predict how [land] features may be reshaped by weathering		
(9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to:	(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering	(vi) predict how [erosional] features may be reshaped by weathering		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(10) Earth and space. The student knows that climatic interactions exist among Earth, ocean, and weather systems. The student is expected to:	(A) recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents	(i) recognize that the Sun provides the energy that drives convection within the atmosphere producing winds		
(10) Earth and space. The student knows that climatic interactions exist among Earth, ocean, and weather systems. The student is expected to:	(A) recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents	(ii) recognize that the Sun provides the energy that drives convection within the oceans, producing ocean currents		
(10) Earth and space. The student knows that climatic interactions exist among Earth, ocean, and weather systems. The student is expected to:	(B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts	(i) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures		
(10) Earth and space. The student knows that climatic interactions exist among Earth, ocean, and weather systems. The student is expected to:	(B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts	(ii) identify how global patterns of atmospheric movement influence local weather using weather maps that show fronts		
(10) Earth and space. The student knows that climatic interactions exist among Earth, ocean, and weather systems. The student is expected to:	(C) identify the role of the oceans in the formation of weather systems such as hurricanes	(i) identify the role of the oceans in the formation of weather systems		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(i) describe producer/consumer relationships as they occur in food webs within marine ecosystems		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(ii) describe predator/prey relationships as they occur in food webs within marine ecosystems		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(iii) describe parasite/host relationships as they occur in food webs within marine ecosystems		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(iv) describe producer/consumer relationships as they occur in food webs within freshwater ecosystems		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(v) describe predator/prey relationships as they occur in food webs within freshwater ecosystems		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(vi) describe parasite/host relationships as they occur in food webs within freshwater ecosystems		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(vii) describe producer/consumer relationships as they occur in food webs within terrestrial ecosystems		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(viii) describe predator/prey relationships as they occur in food webs within terrestrial ecosystems		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	(ix) describe parasite/host relationships as they occur in food webs within terrestrial ecosystems		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(i) investigate how organisms in an ecosystem depend on biotic factors		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(ii) investigate how populations in an ecosystem depend on biotic factors		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(iii) investigate how organisms in an ecosystem may compete for biotic factors		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(iv) investigate how populations in an ecosystem may compete for biotic factors		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(v) investigate how organisms in an ecosystem depend on abiotic factors		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(vi) investigate how populations in an ecosystem depend on abiotic factors		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(vii) investigate how organisms in an ecosystem may compete for abiotic factors		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(B) investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition	(viii) investigate how populations in an ecosystem may compete for abiotic factors		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(C) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations	(i) explore how short-term environmental changes affect organisms		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(C) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations	(ii) explore how long-term environmental changes affect organisms		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(C) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations	(iii) explore how short-term environmental changes affect traits in subsequent populations		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(C) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations	(iv) explore how long-term environmental changes affect traits in subsequent populations		

Subject	Chapter 112. Science			
Course Title	§112.20. Science, Grade 8, Beginning with School Year 2010-2011.			
TEKS (Knowledge and Skills)	Student Expectation	Breakout	Element	Subelem
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(D) recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems	(i) recognize human dependence on ocean systems		
(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:	(D) recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems	(ii) explain how human activities have modified [ocean] systems		