

Cycle 1	29 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Aug. 22-Sept. 30, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 1: Safety and Introduction to Aquatic Science The focus of this unit is to familiarize students with safety procedures involved in working with aquariums, research different aquatic science careers and set up their aquariums.	7 class periods (90-min. each) or 14 class periods (45-min. each) <i>Teachers Report to Campuses Aug. 8</i> <i>Teacher Service Days Aug. 8-12, Aug. 16-19</i> <i>Teacher Prep Day (No students) Aug. 15</i> <i>Labor Day Sept. 5</i>	Science process standards are embedded into lessons on science content throughout the entire year. Science Process Standards Ⓟ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓟ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓟ AQU.2A Know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section. Ⓟ AQU.2B Know that scientific hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories. Ⓟ AQU.2C Know that scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly reliable explanations, but they may be subject to change as new areas of science and new technologies are developed. Ⓟ AQU.2D Distinguish between scientific hypotheses and scientific theories. Ⓟ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓟ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓟ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓟ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data. Ⓟ AQU.2I Perform calculations using dimensional analysis, significant digits, and scientific notation. Ⓟ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. Ⓟ AQU.3A 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. Ⓟ AQU.3B Communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials.

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		The student will:	
		<p>Ⓟ AQU.3C Draw inferences based on data related to promotional materials for products and services.</p> <p>Ⓟ AQU.3D Evaluate the impact of research and technology on scientific thought, society, and the environment.</p> <p>Ⓟ AQU.3E Describe the connection between aquatic science and future careers.</p> <p>Ⓟ AQU.3F Research and describe the history of aquatic science and contributions of scientists.</p>	
<p>Unit 2: Chemistry and properties of Water</p> <p>The focus of this unit is to explore the structure and unique properties of water that enable the survival of aquatic organisms. These properties include specific heat, density, pH, hardness, turbidity, salinity, surface tension, conductivity, surface tension, adhesion, cohesion and hydrostatic pressure.</p>	<p>5 class periods (90-min. each) or 10 class periods (45-min. each)</p>	<p>Science Content Standards</p> <p>Ⓡ AQU.5B Collect baseline quantitative data, including pH, salinity, temperature, mineral content, nitrogen compounds, and turbidity from an aquatic environment.</p> <p>Ⓡ AQU.8A Demonstrate basic principles of fluid dynamics, including hydrostatic pressure, density, salinity, and buoyancy.</p> <p>Ⓡ AQU.8C Describe and explain fluid dynamics in an upwelling and lake turnover.</p> <p>Science Process Standards</p> <p>Ⓟ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms.</p> <p>Ⓟ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.</p> <p>Ⓟ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology.</p> <p>Ⓟ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range.</p> <p>Ⓟ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures.</p> <p>Ⓟ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data.</p> <p>Ⓟ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</p> <p>Ⓟ AQU.3A 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.</p>	

Cycle 2	23 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Oct. 3 - Nov. 4, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 3: Water Resources The focus of this unit is on the study of watersheds, water laws and the enforcement agencies.	5 class periods (90-min. each) or 10 class periods (45-min. each) <i>Teacher Service Day (No students) Oct. 4</i> <i>Fall Holiday Oct. 5</i>	Science Content Standards ® AQU.7A Identify sources and determine the amounts of water in a watershed, including rainfall, groundwater, and surface water. ® AQU.7B Identify factors that contribute to how water flows through a watershed. ® AQU.7C Identify water quantity and quality in a local watershed. ® AQU.12B Analyze the cumulative impact of human population growth on an aquatic system. ® AQU.12E Understand the impact of various laws and policies such as The Endangered Species Act, right of capture laws, or Clean Water Act on aquatic systems. Science Process Standards Ⓟ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓟ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓟ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓟ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓟ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓟ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data. Ⓟ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. Ⓟ AQU.3A 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.

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Unit 4: Aquatic Cycles The focus of this unit is the study of carbon, nitrogen, and water cycles and their roles in an aquatic environment.	4 class periods (90-min. each) or 8 class periods (45-min. each)	<p>Science Content Standards</p> <ul style="list-style-type: none"> Ⓡ AQU.5B Collect baseline quantitative data, including pH, salinity, temperature, mineral content, nitrogen compounds, and turbidity from an aquatic environment. Ⓡ AQU.6A Identify the role of carbon, nitrogen, water, and nutrient cycles in an aquatic environment, including upwellings and turnovers. Ⓡ AQU.8C Describe and explain fluid dynamics in an upwelling and lake turnover. <p>Science Process Standards</p> <ul style="list-style-type: none"> Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data. Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. Ⓢ AQU.3A 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

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	Nov. 15-Dec. 21, 2022		
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Unit 5: Plate Tectonics The focus of this unit is meteorology and geology. The unit focuses on the study of the formation of undersea geographical features, creation of new seafloor and the generation of tsunamis. The unit also includes how to track tsunamis and hurricanes, predict their impact as well as how to prepare for and survive such events..	6 class periods (90-min. each) or 14 class periods (45-min. each) <i>Thanksgiving Break</i> Nov. 21-25 <i>Winter Break (students)</i> Dec. 22 - Jan. 6 <i>Winter Break (teachers)</i> Dec. 22 - Jan. 4	Science Content Standards Ⓡ AQU.4A Identify key features and characteristics of atmospheric, geological, hydrological, and biological systems as they relate to aquatic environments. Ⓡ AQU.4B Apply systems thinking to the examination of aquatic environments, including positive and negative feedback cycles. Ⓡ AQU.4C Collect and evaluate global environmental data using technology such as maps, visualizations, satellite data, Global Positioning System (GPS), Geographic Information System (GIS), weather balloons, buoys, etc. Ⓡ AQU.6B Examine the interrelationships between aquatic systems and climate and weather, including El Niño and La Niña, currents, and hurricanes. Ⓡ AQU.8B Identify interrelationships between ocean currents, climates, and geologic features. Science Process Standards Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data. Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. Ⓢ AQU.3A 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.	

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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:	
Unit 6: Energy Flow and Population Ecology The focus of this unit is on the flow of energy and cycles of matter in both fresh and saltwater aquatic systems. It also includes analyzing the interrelationships and identifying interdependence of organisms in aquatic ecosystems / environments.	5 class periods (90-min. each) or 10 class periods (45-min. each) <i>Thanksgiving Break</i> Nov. 21-25 <i>Winter Break (students)</i> Dec. 22 - Jan. 6 <i>Winter Break (teachers)</i> Dec. 22 - Jan. 4	Science Content Standards ® AQU.5C Analyze interrelationships among producers, consumers, and decomposers in a local aquatic ecosystem. ® AQU.5D Identify the interdependence of organisms in an aquatic environment such as in a pond, river, lake, ocean, or aquifer and the biosphere. ® AQU.11A Identify how energy flows and matter cycles through both fresh water and saltwater aquatic systems, including food webs, chains, and pyramids. ® AQU.11B Evaluate the factors affecting aquatic population cycles. Science Process Standards Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data. Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. Ⓢ AQU.3A 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.	

Cycle 4	33 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Jan. 9 - Feb. 24, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 7: Aquatic Ecosystems and Adaptations The focus of this unit is to study freshwater, brackish and saltwater systems; differentiate among them and compare differences in adaptations of aquatic organisms to freshwater and marine environments.	6 class periods (90-min. each) or 12 class periods (45-min. each) <i>MLK Jr. Day</i> <i>Jan. 16</i> <i>Teacher Service Days</i> <i>(No Students)</i> <i>Jan. 6, Feb. 20</i>	Science Content Standards Ⓡ AQU.9A Differentiate among freshwater, brackish, and saltwater ecosystems. Ⓡ AQU.10C Compare differences in adaptations of aquatic organisms to freshwater and marine environments. Science Process Standards Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data. Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. Ⓢ AQU.3A 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.

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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:	
<p>Unit 8: Brackish Ecosystems and Wetlands</p> <p>The focus of this unit is to study Brackish ecosystems and wetlands; their components; the organisms found in them, their behavior and adaptations; and the relationships and interdependence of organisms found in these aquatic environments.</p>	<p>7 class periods (90-min. each) or 14 class periods (45-min. each)</p>	<p>Science Content Standards</p> <ul style="list-style-type: none"> Ⓡ AQU.5A Evaluate data over a period of time from an established aquatic environment documenting seasonal changes and the behavior of organisms. Ⓡ AQU.5C Analyze interrelationships among producers, consumers, and decomposers in a local aquatic ecosystem. Ⓡ AQU.5D Identify the interdependence of organisms in an aquatic environment such as in a pond, river, lake, ocean, or aquifer and the biosphere. Ⓡ AQU.9B Identify the major properties and components of different marine and freshwater life zones. Ⓡ AQU.9C Identify biological, chemical, geological, and physical components of an aquatic life zone as they relate to the organisms in it. Ⓡ AQU.10A Classify different aquatic organisms using tools such as dichotomous keys. Ⓡ AQU.10B Compare and describe how adaptations allow an organism to exist within an aquatic environment. <p>Science Process Standards</p> <ul style="list-style-type: none"> Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data. Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. Ⓢ AQU.3A 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. 	

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	Feb. 27 - Apr. 14, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 9: Freshwater Ecosystems The focus of this unit is to study freshwater ecosystems (rivers, streams, lakes and ponds); their components; the organisms found in them, their behavior and adaptations; and the relationships and interdependence of organisms found in these aquatic environments. This unit also covers energy flows and cycles of matter through freshwater aquatic systems.	6 class periods (90-min. each) or 12 class periods (45-min. each) <i>Spring Break</i> Mar. 13-17 <i>Chávez-Huerta Day</i> Mar. 31 <i>Spring Holiday</i> Apr. 7	Science Content Standards ® AQU.4C Collect and evaluate global environmental data using technology such as maps, visualizations, satellite data, Global Positioning System (GPS), Geographic Information System (GIS), weather balloons, buoys, etc. ® AQU.5A Evaluate data over a period of time from an established aquatic environment documenting seasonal changes and the behavior of organisms. ® AQU.5C Analyze interrelationships among producers, consumers, and decomposers in a local aquatic ecosystem. ® AQU.5D Identify the interdependence of organisms in an aquatic environment such as in a pond, river, lake, ocean, or aquifer and the biosphere. ® AQU.9B Identify the major properties and components of different marine and freshwater life zones. ® AQU.9C Identify biological, chemical, geological, and physical components of an aquatic life zone as they relate to the organisms in it. ® AQU.10A Classify different aquatic organisms using tools such as dichotomous keys. ® AQU.10B Compare and describe how adaptations allow an organism to exist within an aquatic environment. ® AQU.11A Identify how energy flows and matter cycles through both freshwater and saltwater aquatic systems, including food webs, chains, and pyramids. Science Process Standards Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms. Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials. Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology. Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range. Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures. Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data.

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		<p>Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</p>
<p>Unit 10: Tropical Saltwater Ecosystems The focus of this unit is to study tropical saltwater ecosystems (coral reefs, fringe reefs, barrier reefs, atolls); their components; the organisms found in them, their behavior and adaptations; and the relationships and interdependence of organisms found in these aquatic environments. This unit also covers energy flows and cycles of matter through tropical saltwater ecosystems.</p>	<p>5 class periods (90-min. each) or 10 class periods (45-min. each)</p>	<p>Science Content Standards</p> <p>Ⓢ AQU.5A Evaluate data over a period of time from an established aquatic environment documenting seasonal changes and the behavior of organisms.</p> <p>Ⓢ AQU.5C Analyze interrelationships among producers, consumers, and decomposers in a local aquatic ecosystem.</p> <p>Ⓢ AQU.5D Identify the interdependence of organisms in an aquatic environment such as in a pond, river, lake, ocean, or aquifer and the biosphere.</p> <p>Ⓢ AQU.9B Identify the major properties and components of different marine and freshwater life zones.</p> <p>Ⓢ AQU.9C Identify biological, chemical, geological, and physical components of an aquatic life zone as they relate to the organisms in it.</p> <p>Ⓢ AQU.10B Compare and describe how adaptations allow an organism to exist within an aquatic environment.</p> <p>Ⓢ AQU.11A Identify how energy flows and matter cycles through both freshwater and saltwater aquatic systems, including food webs, chains, pyramids.</p> <p>Science Process Standards</p> <p>Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms.</p> <p>Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.</p> <p>Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology.</p> <p>Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range.</p> <p>Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures.</p> <p>Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data.</p>

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		<p>Ⓟ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</p> <p>Ⓟ AQU.3A 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.</p>

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	Apr. 17 - May 31, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<p>Unit 11: Polar Saltwater Ecosystems</p> <p>The focus of this unit is to study polar saltwater ecosystems (Antarctic and arctic, deep sea); their components; the organisms found in them, their behavior and adaptations; and the relationships and interdependence of organisms found in these aquatic environments. This unit also covers energy flows and cycles of matter through polar saltwater ecosystems.</p>	<p>7 class periods (90-min. each) or 14 class periods (45-min. each)</p> <p><i>Memorial Day May 29</i></p> <p><i>Teacher Prep Day (No students) June 1</i></p>	<p>Science Content Standards</p> <p>Ⓡ AQU.5C Analyze interrelationships among producers, consumers, and decomposers in a local aquatic ecosystem.</p> <p>Ⓡ AQU.5D Identify the interdependence of organisms in an aquatic environment such as in a pond, river, lake, ocean, or aquifer and the biosphere.</p> <p>Ⓡ AQU.9B Identify the major properties and components of different marine and freshwater life zones.</p> <p>Ⓡ AQU.9C Identify biological, chemical, geological, and physical components of an aquatic life zone as they relate to the organisms in it.</p> <p>Ⓡ AQU.10A Classify different aquatic organisms using tools such as dichotomous keys.</p> <p>Ⓡ AQU.10B Compare and describe how adaptations allow an organism to exist within an aquatic environment.</p> <p>Science Process Standards</p> <p>Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms.</p> <p>Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.</p> <p>Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology.</p> <p>Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range.</p> <p>Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures.</p> <p>Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data.</p> <p>Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</p> <p>Ⓢ AQU.3A 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.</p>

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	Apr. 17 - May 31, 2023		
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:	
<p>Unit 12: Human Impact on Aquatic Systems</p> <p>The focus of this unit is to predict the effects chemical, organic, physical and thermal changes have on aquatic systems; investigate the role humans play in creating unbalanced systems; analyze and discuss how human activities influence aquatic systems.</p>	<p>5 class periods (90-min. each) or 10 class periods (45-min. each)</p>	<p>Science Content Standards</p> <p>Ⓡ AQU.12A Predict effects of chemical, organic, physical, and thermal changes from humans on the living and nonliving components of an aquatic ecosystem.</p> <p>Ⓡ AQU.12B Analyze the cumulative impact of human population growth on an aquatic system.</p> <p>Ⓡ AQU.12C Investigate the role of humans in unbalanced systems such as invasive species, fish farming, cultural eutrophication, or red tides.</p> <p>Ⓡ AQU.12D Analyze and discuss how human activities such as fishing, transportation, dams, and recreation influence aquatic environments.</p> <p>Ⓡ AQU.12E Understand the impact of various laws and policies such as The Endangered Species Act, right of capture laws, or Clean Water Act on aquatic systems.</p> <p>Science Process Standards</p> <p>Ⓢ AQU.1A Demonstrate safe practices during laboratory and field investigations, including chemical, electrical, and fire safety, and safe handling of live and preserved organisms.</p> <p>Ⓢ AQU.1B Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.</p> <p>Ⓢ AQU.2E Plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology.</p> <p>Ⓢ AQU.2F Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range.</p> <p>Ⓢ AQU.2G Demonstrate the use of course apparatuses, equipment, techniques, and procedures.</p> <p>Ⓢ AQU.2H Organize, analyze, evaluate, build models, make inferences, and predict trends from data.</p> <p>Ⓢ AQU.2J Communicate valid conclusions using essential vocabulary and multiple modes of expression such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</p> <p>Ⓢ AQU.3A 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.</p>	