



FLORIDA Standards Correlations



Next Generation Sunshine State Standards

Marine Science, Oceanography: An Invitation to Marine Science, 9-12		
STANDARD	STUDENT/TEACHER EDITION	MTRs and EEs
SC.912.E.7.9: Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.	Lesson 13.7a p. 402 - Students learn that the oceans are the world's largest reservoir of carbon and how carbon moves into and out of them.	MA.K12.MTR.1.1 ELA.K12.EE.1.1
SC.912.L.14.6: Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health.	Lesson 16.7 pp. 503-504 - Students read about how parasites affect the health of an organism.	MA.K12.MTR.5.1 ELA.K12.EE.2.1
SC.912.L.15.13: Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.	Lesson 13.2a p. 391 - Students read about the tenets of natural selection and how they lead to the evolution of new species.	MA.K12.MTR.1.1 ELA.K12.EE.2.1
SC.912.L.17.1: Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.	Lesson 16.1 p. 482 - Students learn what a population is and what makes it up.	MA.K12.MTR.5.1 ELA.K12.EE.2.1

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SC.912.L.17.2: Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.	Lesson 8.1 pp. 234-235 - Students read about how physical aspects of the oceans limit where organisms can live.	MA.K12.MTR.5.1 ELA.K12.EE.2.1
SC.912.L.17.3: Discuss how various oceanic and freshwater processes, such as currents, tides, and waves, affect the abundance of aquatic organisms.	Lesson 16.4a pp. 486-489 - Students examine the distribution of organisms in the rocky intertidal zone, reading about how wave action, desiccation, and temperature all affect where the organisms can live.	MA.K12.MTR.5.1 ELA.K12.EE.2.1
SC.912.L.17.4: Describe changes in ecosystems resulting from seasonal variations, climate change and succession.	Lesson 16.3 pp. 485-486 - Students learn about how communities change after a disturbance.	MA.K12.MTR.4.1 ELA.K12.EE.2.1
SC.912.L.17.6: Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.	Lesson 16.7 pp. 503-504 - Students compare the different types of symbioses, including commensalism, mutualism, and parasitism.	MA.K12.MTR.5.1 ELA.K12.EE.2.1
SC.912.L.17.7: Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.	Lesson 16.2a pp. 483-484 - Students evaluate different physical and living factors that influence the makeup of an ecosystem.	MA.K12.MTR.5.1 ELA.K12.EE.2.1
SC.912.L.17.8: Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.	Lesson 18.3 pp. 556-559 - Students learn about how ecosystems change with the introduction of new species, climate change, and other human interventions.	MA.K12.MTR.3.1 ELA.K12.EE.1.1
SC.912.L.17.9: Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels.	Lesson 13.5 pp. 396-400 - Students review the transfer of energy through a food web, focusing on producers and consumers.	MA.K12.MTR.7.1 ELA.K12.EE.2.1
SC.912.L.17.10: Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.	Lesson 13.7 pp. 401-404 - Students learn about the cycling of matter through Earth's different cycles, including carbon and nitrogen.	MA.K12.MTR.7.1 ELA.K12.EE.2.1

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SC.912.L.17.11 : Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.	Lesson 18.2 pp. 540-556 - Students learn about how humans impact the oceans through oil spills and other pollutants.	MA.K12.MTR.4.1 ELA.K12.EE.3.1
SC.912.L.17.16 : Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.	Lesson 18.2 pp. 540-556 - Students learn about how humans impact the oceans through oil spills and other pollutants.	MA.K12.MTR.1.1 ELA.K12.EE.3.1
SC.912.L.18.12 : Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.	Lesson 6.3 pp. 178-181 - Students learn about the various properties of water and see how they interact.	MA.K12.MTR.1.1 ELA.K12.EE.2.1
SC.912.N.1.1 : Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:	Lesson 1.2 pp. 6-9 - Students read about what science is, the scientific method, and how it is used to solve problems.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1
SC.912.N.1.2 : Describe and explain what characterizes science and its methods.	Lesson 1.2 pp. 6-9 - Students learn about what science is, the scientific method and how they are used to solve problems.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1
SC.912.N.1.3 : Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.	Progression of Rational Assumptions, pp. 8 Scientific Investigations, pp. L6 – L8	Integrated MTR and EE not found for this lesson.
SC.912.N.1.4 : Identify sources of information and assess their reliability according to the strict standards of scientific investigation.	Scientific Investigations, pp. L6 – L8	Integrated MTR and EE not found for this lesson.
SC.912.N.1.5 : Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.	Lesson 2.5 pp. 50-57 - Students learn about international cooperation to study and map the oceans.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1

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SC.912.N.1.6 : Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.	Lesson 1.3 pp. 9-13 - Students learn about how an inference was used to draw a conclusion.	Integrated MTR not found for this lesson. ELA.K12.EE.3.1
SC.912.N.1.7 : Recognize the role of creativity in constructing scientific questions, methods and explanations.	Lesson 1.2 pp. 6-9 - Students learn about what science is, the scientific method and how it is used to construct scientific questions.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1
SC.912.N.2.1 : Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science).	Lesson 1.2 pp. 6-9 - Students learn about what science is, the scientific method and how they are used to solve problems.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1
SC.912.N.2.4 : Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.	Lesson 1.2 pp. 6-9 - Students learn about what science is, the scientific method and how they are used to solve problems. It also discusses how science is always changing.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1
SC.912.N.2.5 : Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.	Lesson 2.5 pp. 50-57 - Students learn about the international effort Census of Marine Life, which incorporated the work of thousands of scientists around the globe.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1
SC.912.N.3.1 : Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.	Lesson 13.2 pp. 390-393 - Students learn about the theory of evolution and the contributions of Charles Darwin.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1

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SC.912.N.3.5 : Describe the function of models in science, and identify the wide range of models used in science.	Lesson 18.4 pp. 560-567 - Students learn about how models are used to inform research and make decisions about climate change.	MA.K12.MTR.7.1 ELA.K12.EE.2.1
SC.912.N.4.1 : Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.	Lesson 18.4 pp. 560-567 - Students learn about how models are used to inform research and make decisions about climate change.	MA.K12.MTR.7.1 ELA.K12.EE.2.1
SC.912.N.4.2 : Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental.	Lesson 8.5 p. 259 Interdisciplinary Connections 8.1 - Students learn about the causes and impacts of climate change.	Integrated MTR not found for this lesson. ELA.K12.EE.2.1
SC.912.P.10.2 : Explore the Law of Conservation of Energy by differentiating among open, closed, and isolated systems and explain that the total energy in an isolated system is a conserved quantity.	Lesson 13.5 pp. 396-400- Students learn about the flow of energy through a biological system and how living things are unable to survive without it. They use models to show this flow of energy.	MA.K12.MTR.7.1 ELA.K12.EE.2.1
SC.912.P.10.20 : Describe the measurable properties of waves and explain the relationships among them and how these properties change when the wave moves from one medium to another.	Lesson 10.2 pp. 299 - 301 - Students learn about the characteristics of waves and how different forces cause them to change.	MA.K12.MTR.5.1 ELA.K12.EE.2.1