

Flagler County Environmental Science

2024-2025 Scope and Sequence

Year at a glance: Please note that the map is based on a 180-day schedule.

Quarter 1: August 12, 2024- October 11, 2024	
Topics	Benchmark/ Standards
<p>Introduction to Environmental Science</p> <p>Earth's Environmental Systems</p> <p>Population Ecology</p> <p>Evolution and Community Ecology</p> <p>Biomes and Aquatic Ecosystems</p>	<p>SC.912.N.1.2: Describe and explain what characterizes science and its methods.</p> <p>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.</p> <p>SC.912.N.1.4: Identify sources of information and assess their reliability according to the strict standards of scientific investigation.</p> <p>SC.912.N.1.6: Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>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).</p> <p>SC.912.N.2.2: Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>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.</p> <p>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.</p> <p>SC.912.N.3.5: Describe the function of models in science, and identify the wide range of models used in science.</p> <p>SC.912.N.4.1: Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.</p> <p>SC.912.L.17.10: Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.</p> <p>SC.912.L.17.1: Discuss the characteristics of populations, such as number of individuals, age structure, density, and pattern of distribution.</p>

	<p>SC.912.L.17.5: Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity.</p> <p>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.</p> <p>SC.912.L.15.3: Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.</p> <p>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.</p> <p>SC.912.L.16.10: Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues.</p> <p>SC.912.L.17.6: Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.</p> <p>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.</p> <p>SC.912.N.3.5: Describe the function of models in science, and identify the wide range of models used in science.</p> <p>SC.912.L.17.4: Describe changes in ecosystems resulting from seasonal variations, climate change and succession.</p> <p>SC.912.N.1.6: Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.L.17.7: Characterize the biotic and abiotic components that define freshwater systems, marine systems and terrestrial systems.</p>
Quarter 2: October 15, 2024- December 20, 2024	
Topics	Benchmark/ Standards
Biodiversity and Conservation	SC.912.L.15.3: Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction.
Population Ecology	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."
Human Populations	SC.912.L.17.15: Discuss the effects of technology on environmental quality.
Environmental Health	<p>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.</p> <p>SC.912.L17.16: 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.</p>

	SC.912.L.17.18: Describe how human population size and resource use relate to environmental quality.
Quarter 3: January 7, 2025- March 13, 2025	
Topics	Benchmark/ Standards
Waste Management	SC.912.L.17.14: Describe changes in ecosystems resulting from seasonal variations, climate change and succession.
The Atmosphere	SC.912.L.17.13: Discuss the need for adequate monitoring of environmental parameters when making policy decisions.
Global Climate Change	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.
Water Resources	SC.912.E.7.7: Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.
	SC.912.E.7.8: Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.
	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.
	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.
	SC.912.17.19: Describe how different natural resources are produced and how their rates of use and renewal limit availability.
	SC.912.17.11: Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
Quarter 4: March 24, 2025- May 29, 2025	
Topics	Benchmark/ Standards

Urbanization	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.
Forestry and Resource Management	SC.912.L.17.12: Discuss the political, social, and environmental consequences of sustainable use of land. SC.912.L.17.20: Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
Soil and Agriculture	SC.912.L.17.11: Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
Mineral Resource Mining	SC.912.L.17.19: Describe how different natural resources are produced and how their rates of use and renewal limit availability.
Nonrenewable Energy	SC.912.L.16.10: Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues. 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.
Renewable Energy Alternatives	SC.912.L.17.11: Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
Road to Biology	SC.912.L.17.19: Describe how different natural resources are produced and how their rates of use and renewal limit availability. SC.912.P.10.1: Differentiate among the various forms of energy and recognize that they can be transformed from one form to others. 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. SC.912.E.6.6: Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies. 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. SC.912.L.17.15: Discuss the effects of technology on environmental quality.

