

Name of Unit Weeks	Each element on Earth moves among reservoirs which exist in the solid earth, in oceans, in the atmosphere, and within and among organisms as part of biogeochemical cycles.	<p>Students will inventory a forest stand and calculate various importance values such as frequency, relative frequency, site index etc.</p> <p>Students will describe units of merchantable timber and various products derived from the NE forest.</p>	<p>Campus forest inventory</p> <p>Lab: Forestry tools</p>	
Name of Unit Weeks	A vital part of an ecosystem is the stability of its producers and decomposers.	<p>Students will describe Soil: its importance to civilization, its major components, and how it forms.</p> <p>Students will perform texture tests on various samples of soil.</p> <p>Students will distinguish between gravitational and capillary forces in soil water</p> <p>Students will describe why texture is perhaps the most important physical property of soil.</p> <p>Students will evaluate drainage characteristics including oxidation, reduced iron, humus accumulation and mottling by examining a soil pit</p> <p>Students will describe how N and P are cycled between the atmosphere,</p>	<p>Lab : Bead Analysis: percolation and porosity</p> <p>Lab: How does the level of acidification affect the level of ammonification in various soils?</p>	NRCS Web Soil Survey

		lithosphere, hydrosphere and the biosphere		
Name of Unit Weeks	Water, carbon and nitrogen cycle between abiotic resources and organic matter in the ecosystem and oxygen cycles through photosynthesis and respiration.	<p>Students will recognize the geographic boundary , slope, cover type, and human activity within a watershed by viewing various maps.</p> <p>Students will describe how various land covers / land uses affect watershed hydrology and water quality.</p> <p>Students will distinguish between point and non point sources of pollution and give examples of each.</p> <p>Students will identify common water pollutants and perform physical, chemical, and biological tests to measure these common pollutants.</p> <p>Students will distinguish between a lotic and a lentic system in the way energy flows and nutrients are cycled.</p> <p>Students will sample, identify and analyze the common pollution tolerant</p>	Field Investigation: How is the Bantam River water quality affected by the presence of a sewage treatment plant?	

		<p>invertebrate species found in a lotic system.</p> <p>Students will describe the physical characteristics of an oligotrophic and eutrophic lake.</p>		
Name of Unit Weeks	<p>Energy enters the Earth system primarily as solar radiation and eventually escapes as heat.</p> <p>Fluctuations in population size in an ecosystem are determined by the relative rates of birth, immigration, emigration and death.</p> <p>At each link in a food web some energy is stored in newly made structures, but much energy is dissipated into the environment as heat.</p>	<p>Students will identify the major groups of NE birds and mammals by viewing study skins, skulls, scats and track patterns.</p> <p>Students will apply the 2nd law of thermodynamics, law of numbers and biomass to a typical NE food chain.</p> <p>Students will analyze the population dynamics of a few NE mammals by evaluating growth curves, age pyramids, and survivorship curves.</p> <p>Students will evaluate threats to habitat quality.</p> <p>Students will evaluate effectiveness of current hunting and trapping policies.</p>	<p>Lab Practical : Skins, Skulls , Scats and Track patterns.</p> <p>Case Study Graphic Analysis of Isle Royale Moose Wolf Population Dynamics</p>	

	CT Frameworks/ Standards	Content and Skill Objectives	Assessments	Resources
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