

Guthrie Public Schools

Teacher/Course: Environmental Science

Grade Level: 9

Week	Pass Standard/Course Objectives	Pass Skills	Assessment	Activities/Resources	Specialized Vocabulary
1-7	<p><u>BENCHMARK PRETEST!!!</u> <u>Metric Unit</u></p> <ol style="list-style-type: none"> 1) Observe and measure different types of change (such as temperature, mass, length, volume, position, and time) and the amount of change before, during and after an event. 2) Use tools such as metric rulers, graduated cylinders, thermometers, balances, spring scales, and stopwatches. 3) Using the metric system. 	<p>CS 1.1, 3.2 PS 1.1-1.3, 3.2, 3.3, 3.5, 4.1-4.8, 6.3</p>	<p>quizzes, tests, lab activities</p>	<p><u>Holt Environmental Science</u> power point presentations, handouts, lab activities</p>	<p>meters, centimeters, grams, liters, degrees Celsius, mass, density, volume</p>
	<p><u>Tools of Environmental Science</u></p> <ol style="list-style-type: none"> 1) List, describe, and use the steps of the scientific method. 2) Explain how scientists use statistics. Use mean and distribution to compare data. 3) Describe the values that should be considered when making decisions about the environment. 4) Safety skills 5) Interpreting graphs 	<p>CS 4.3, 5.1, 6.2 PS 1.1-1.3, 3.1-3.4, 4.1-4.8, 5.1-5.3, 6.1-6.4</p>	<p>quizzes, tests, lab activities</p>	<p><u>Holt Environmental Science</u> power point presentations, handouts, lab activities, Kaleidoscope lab, boiling point lab</p>	<p>observation, inference, hypothesis, prediction, experiment, variable, experimental group, control group, data, correlation, statistics, mean, distribution, probability, sample, risk, model, conceptual model, mathematical model, value, decision-making model</p>

8-13	<u>Ecology Unit</u> <ol style="list-style-type: none"> 1) Describe the term ecosystem and all of the components of an ecosystem. 2) Explain the process of evolution by natural selection, the concept of adaptation, and resistance to pesticides and antibiotics. 3) Name the six kingdoms of organisms and identify characteristics of each. 	CS 3.1, 3.2, 4.1-4.3, 5.2 PS 1.1-1.3, 2.1, 2.2, 3.1-3.5, 4.1-4.8, 5.1-5.3, 6.1-6.4	quizzes, tests, lab activities	<u>Holt Environmental Science</u> power point presentations, handouts, lab activities, Observe pond water samples for microscopic organism (kingdom protista)	ecosystem, biotic factor, abiotic factor, organism, species, population, community, habitat, natural selection, evolution, adaptation, artificial selection, resistance, bacteria, fungus, protest, gymnosperm, angiosperm, invertebrate, vertebrate
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14-15	<u>BENCHMARK!!!</u> And "Real World" applications				
16-17	<u>Ecology Unit: How Ecosystems Work</u> 4) Describe how energy flows in ecosystems. 5) Describe the carbon, nitrogen, and phosphorous cycles. 6) Describe how ecosystems change through ecological succession.	CS 4.1-4.3, 5.2 PS 1.1-1.3, 2.1, 2.2, 3.1-3.5, 4.1-4.8, 5.1-5.3, 6.1-6.4	quizzes, tests, lab activities	<u>Holt Environmental Science</u> power point presentations, handouts, lab activities	photosynthesis, producer, consumer, decomposer, cellular respiration, food chain, food web, trophic level, carbon cycle, nitrogen cycle, nitrogen-fixing bacteria, phosphorous cycle, ecological succession, primary succession, secondary succession, pioneer species, climax community
18-20	<u>Ecology Unit: Biomes</u> 6) What is a biome? 7) Describe the world's forest biomes according to the vegetation, climate, and organisms that live there. 8) Describe grassland and tundra biomes according to the vegetation, climate, and organisms that live there.	CS 3.1, 3.2, 4.1, 4.2, 5.1, 5.2, 6.2 PS 1.1, 2.1, 2.2, 4.1, 4.3, 4.8, 5.1, 5.2	quizzes, tests, lab activities	<u>Holt Environmental Science</u> power point presentations, handouts, lab activities	biome, climate, latitude, altitude, tropical rain forest, emergent layer, canopy, epiphyte, understory, temperate rain forest, temperate deciduous forest, taiga

21-22	<p><u>Ecology Unit: Aquatic Ecosystems</u></p> <p>4) Describe the organisms that are adapted to live in freshwater ecosystems and the value of freshwater wetland.</p> <p>5) Describe marine ecosystems and the organisms that are adapted to live there.</p>	<p><u>CS 4.1-4.3</u></p> <p><u>PS 1.1, 2.1, 2.2, 4.1, -4.3, 4.8, 5.1, 5.2</u></p>	<p><u>quizzes, tests, lab activities</u></p>	<p><u>Holt Environmental Science</u></p> <p>power point presentations, handouts, lab activities</p>	<p><u>wetland, plankton, nekton, benthos, littoral zone, benthic zone, eutrophication, salinity, estuary, salt marsh, mangrove swamp, barrier island, coral reef</u></p>
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23-26	<u>Populations Unit: Understanding Populations</u> 7) Describe how populations change in size. 8) Describe how species interact with each other.	CS 4.2, 4.3, 5.1, 6.2 PS 1.1, 2.1, 2.2, 4.1, 4.3, 4.8, 5.1, 5.2	quizzes, tests, lab activities	<u>Holt Environmental Science</u> power point presentations, handouts, lab activities	population, density, dispersion, growth rate, reproductive potential, exponential growth, carrying capacity, niche, competition, predation, parasitism, mutualism, commensalisms, symbiosis
27-30	<u>Populations Unit: Biodiversity</u> 6) What is Biodiversity? 7) Describe the risks to biodiversity. 8) Explain the future of biodiversity in terms of legal issues, controversy, and efforts to protect biodiversity. <u>BENCHMARK!!</u>	CS 3.1, 3.2, 4.1, 4.3, 5.1, 5.2, 6.2 PS 1.1, 2.1, 2.2, 4.1, 4.3, 4.5, 4.8, 5.1, 5.2	quizzes, tests, lab activities	<u>Holt Environmental Science</u> power point presentations, handouts, lab activities	demography, age structure, survivorship, fertility rate, migration, life expectancy, demographic transition, infrastructure, arable land, urbanization, least developed countries
31-33	<u>Populations Unit: The Human Population</u> 9) Describe the study of human populations in terms of demography. 10) Describe populations according to infrastructure and urbanization.	CS 3.2, 4.2, 4.3, 5.1, 6.2 PS 2.1, 2.2, 3.1-3.3, 4.1, 4.4, 4.5, 5.1, 5.2	quizzes, tests, lab activities	<u>Holt Environmental Science</u> power point presentations, handouts, lab activities	biodiversity, gene, bottleneck population, inbreeding, genetic biodiversity, keystone species, ecotourism, endangered species, threatened species, exotic species, poaching, endemic species, germ plasm, Endangered Species Act, habitat conservation, Biodiversity Treaty