Environmental Science Pacing Guide – Block Schedule (2019-2020). Also read,"Environmental_Science_GSE_Learning_Targets-2017-18".

Unit	Week	Assessments	GSE	Topics Covered
1- Intro to Environmental Science (Test 1)	1.5	**Summative test**	5c 5d	Evidence based argument regarding human innovations (agricultural, medical, technological, industrial); Design and defend a plan to reduce ecological footprint Environmental Science as an interdisciplinary science; Tragedy of the Commons; Intro terms; Environmental ethics; Resources; Environmental law; Ecological footprint; Environmental world views (See http://www.aurumscience.com/environmental/1_introduction/lecture.html for PowerPoint)
2 – Ecology (Test 2)	2		1a	Levels of organization in ecosystems – organism, population, community, biosphere **Ch4 Lesson 1**
			1b	Food webs/chains, trophic levels. Use laws of thermodynamics to predict energy transfers in the ecosystem (10% rules). **Ch 5 Lesson 3**
	3	**Summative test - Ecology**	1c	Construct an argument for the necessity of biogeochemical cycles (water, nitrogen, phosphorus, oxygen/carbon) for sustainable ecosystems **Ch 3 Lesson 3 (water) and 4 (biogeochemical cycles)**
3 - Biomes (Project 1)	4	**Summative project/ presentation**	1d	Biomes – relationships between physical factors and organismal adaptations (insolation, proximity to coastline, topography, etc…) Impact of physical and chemical factors on aquatic ecosystems in GA (streams, ponds, coastlines, estuaries, lakes **Ecosystem/Biome Project * include Aquatic Ecosystems**
4 – Biodiversity and Succession (Test 3)	5		2c	Succession – Construct an argument to predict changes in biomass, biodiversity, and complexity Explore outside: observe, create timeline, make predictions **Ch 5 Lesson 4**
	6		2d	Biodiversity – ecosystem resilience (keystone, invasive, endemic, native, indicator, and endangered) **Endangered Species and Invasive Species Project** **Ch 7 All**
	7	**Summative test – Succession and Biodiversity**	1e	

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5 – Energy Consumption (Test 4)	8		3a	Origin and consumption of renewable (wind, solar, geothermal, biofuel, tidal) and nonrenewable energy (fossil fuels and nuclear) **Ch 17 and 18 All**
		Summative Test	3b	Economic, social, environmental risks and benefits of renewable and nonrenewable energy sources Introduce 3c and 3d before fall break. **Ch 17 and 18 All**
6 – Climate Change (Test 5)	9		2a	Climate change – long (Milankovitch cycles) and short term (El Niño, volcanism) fluctuations **Ch 16 All**
	10	**Summative test –** Greenhouse Effect and Global Warming	2b	Greenhouse effect – effect of CO_2 and methane on atmospheric chemistry **Ch 16 All**
7- Moving toward sustainability (Project 2)	11		3c	Sustainability potential of renewable and nonrenewable energy sources
	12	**Summative Project**	3d	Design and defend a sustainable energy plan for your area **Sustainability Project**

8- Human Population Growth (Test 6)	13		4c	Human population growth affecting food demand and supply (GMOs, monocultures, desertification, Green Revolution) **Ch 12 Lessons 2-4**
	14		5a	Relationship between quality of life and human impact on environment (pop. growth, education, and gross national product) **Ch 12 Lessons 2-4**
	15	**Summative Test** – Human Population	5b	Analyze the demographic transition model. Compare birth and death rates in developing vs. developed nations. **Ch 8 All**
9- Human Impact (Project 3)	16		4a	Construct and revise an evidence-based claim about the effects of human activity on natural resources (ex: wastewater treatment, mining, agriculture, etc… on land, water, air, organisms)
	17	**Summative Group Project**– Assign problem, students create solutions	4b	Design, evaluate, and refine solutions to reduce human impact (smog, ozone depletion, urbanization, ocean acidification, global warming) **Human Impact Project**
Review	18		ALL	Review
NA (Exams)	19		ALL	Final Exams