MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
PACING GUIDE AT A GLANCE
2017-2018
Subject: _____**Environmental**_____

Standard #	Quarter	Standards/Objectives
3	1&3	Use mathematics and graphic models to compare factors affecting biodiversity and populations in ecosystems.
4	1&3	Engage in argument from evidence to evaluate how biological or physical changes within ecosystems (e.g., ecological succession, seasonal flooding, and volcanic eruptions) affect the number and types of organisms, and that changing conditions may result in a new or altered ecosystem.
5	1&3	Engage in argument from evidence to compare how individual versus group behavior (e.g., flocking; cooperative behaviors such as hunting, migrating, and swarming) may affect a species' chance to survive and reproduce over time.
6	1&3	Obtain, evaluate, and communicate information to describe how human activity may affect biodiversity and genetic variation of organisms, including threatened and endangered species.
11	1&3	Engage in argument from evidence to defend how coastal, marine, and freshwater sources (e.g., estuaries, marshes, tidal pools, wetlands, beaches, inlets, rivers, lakes, oceans, coral reefs) support biodiversity, economic stability, and human recreation.
17	1&3	Obtain, evaluate, and communicate geological and biological information to determine the types of organisms that live in major biomes. a. Analyze and interpret data collected through geographic research and field investigations (e.g., relief, topographic, and physiographic maps; rivers; forest types; watersheds) to describe the biodiversity by region for the state of Alabama (e.g., terrestrial, freshwater, marine, endangered, invasive).
2	1,2,3,&4	Use models to illustrate and communicate the role of photosynthesis and cellular respiration as carbon cycles through the biosphere, atmosphere, hydrosphere, and geosphere.
9	1,2,3,&4	Develop and use models to trace the flow of water, nitrogen, and phosphorus through the hydrosphere, atmosphere, geosphere, and biosphere.
13	1,2,3,&4	Obtain, evaluate, and communicate information based on evidence to explain how key natural resources (e.g., water sources, fertile soils, concentrations of minerals and fossil fuels), natural hazards, and climate changes influence human activity (e.g., mass migrations).
1	2&4	Investigate and analyze the use of nonrenewable energy sources (e.g., fossil fuels, nuclear, natural gas) and renewable energy sources (e.g., solar, wind, hydroelectric, geothermal) and propose solutions for their impact on the environment.
7	2&4	Analyze and interpret data to investigate how a single change on Earth's surface may cause changes to other Earth systems (e.g., loss of ground vegetation causing an increase in water runoff and soil erosion).
8	2&4	Engage in an evidence-based argument to explain how over time Earth's systems affect the biosphere and the biosphere affects Earth's systems (e.g., microbial life increasing the formation of soil; corals creating reefs that alter patterns of erosion and deposition along coastlines).

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10	2&4	Design solutions for protection of natural water resources (e.g., bio-assessment, methods of water treatment and conservation) considering properties, uses, and pollutants (e.g., eutrophication, industrial effluents, agricultural runoffs, point and nonpoint pollution resources).*
12	2&4	Analyze and interpret data and climate models to predict how global or regional climate change can affect Earth's systems (e.g., precipitation and temperature and their associated impacts on sea level, glacial ice volumes, and atmosphere and ocean composition).
14	2&4	Analyze cost-benefit ratios of competing solutions for developing, conserving, managing, recycling, and reusing energy and mineral resources to minimize impacts in natural systems (e.g., determining best practices for agricultural soil use, mining for coal, and exploring for petroleum and natural gas sources).*
15	2&4	Construct an explanation based on evidence to determine the relationships among management of natural resources, human sustainability, and biodiversity (e.g., resources, waste management, per capita consumption, agricultural efficiency, urban planning).
16	2&4	Obtain and evaluate information from published results of scientific computational models to illustrate the relationships among Earth's systems and how these relationships may be impacted by human activity (e.g., effects of an increase in atmospheric carbon dioxide on photosynthetic biomass, effect of ocean acidification on marine populations).