

Science Pacing Guide

Months	SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER				JANUARY				FEBRUARY				MARCH				APRIL				MAY				JUNE	
Week #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Unit	Ecosystems				Ecosystems				Ecosystems				Energy				Energy				Plate Tectonics/Layers of the Earth				Plate Tectonics/Layers of the Earth				Rocks and Minerals				Rocks and Minerals				Rocks and Minerals	
Content	<p>Identify the living and nonliving components of an ecosystem.</p> <p>Identify and describe examples of populations, communities, and ecosystems, including the Great Lakes region.</p> <p>Describe how human beings are part of the ecosystem of the earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems.</p>				<p>Classify producers, consumers, and decomposers based on their source of food.</p> <p>Distinguish between the ways in which consumers and decomposers obtain energy.</p> <p>Describe common patterns of relationships between and among populations.</p> <p>Predict and describe possible consequences of overpopulation of organisms including humans.</p>				<p>Identify the factors in an ecosystem that influence changes in population size.</p> <p>Explain how 2 populations of organisms can be mutually beneficial and how that can lead to interdependency.</p> <p>Predict and describe how changes in one population might affect other populations based upon their relationships in the food web.</p>				<p>Identify kinetic or potential energy in everyday situations.</p> <p>Demonstrate the transformation between kinetic and potential energy in simple mechanical systems.</p>				<p>Describe how different forms of energy can be transferred from one place to another by radiation, conduction, or convection.</p> <p>Illustrate how energy can be transferred while no energy is lost or gained in the transfer.</p> <p>Describe and illustrate changes in state, in terms of arrangement and relative motion of the atoms or molecules.</p> <p>Explain how mass is conserved as a substance changes from state to state in a closed system.</p>				<p>Describe layers of the Earth as lithosphere (crust and upper mantle) convecting mantle, and a dense metallic core.</p> <p>Describe the Earth as a magnet and compare and contrast the magnetic properties of the Earth to that of a natural or manufactured magnet.</p> <p>Explain how a compass works using the magnetic field of the Earth, and how a compass is used for navigation on land sea.</p> <p>Explain plate tectonic movement and that the lithospheric plates move centimeters each year.</p>				<p>Demonstrate how major geological events (earthquakes, volcanic eruptions, mountain building) result from these plate motions.</p> <p>Explain how rocks and fossils are used to understand the age and geological history of the Earth (timelines and relative dating, rock layers).</p> <p>Explain how earth processes (erosion, mountain building, and glacier movement) are used for the measurement of geologic time through observing rock layers.</p> <p>Describe how fossils provide important evidence of how life and environmental conditions have changed.</p>				<p>Compare and contrast the formation of rock types (igneous, metamorphic, and sedimentary) and demonstrate the similarities and differences using the rock cycle model.</p> <p>Explain how physical and chemical weathering lead to erosion and the formation of soils and sediments.</p> <p>Explain how waves, wind, water, and glacier movement, shape and reshape the land surface of the Earth by eroding rock in some areas and depositing sediments in other areas.</p>				<p>Describe how soil is a mixture, made up of weather-eroded rock and decomposed organic material, water, and air.</p> <p>Compare and contrast different soil samples based on particle size.</p>					
Key Vocabulary	ecosystem biotic components abiotic components population community pollution resource depletion species extinction				producers consumers decomposers bacteria fungus predator prey				parasite symbiosis competition				energy transfer kinetic energy potential energy transformation				heat transfer states of matter conduction convection radiation atoms molecules mass closed system				Pangea plate tectonics lithospheric plates geological events earthquakes volcanic eruptions mountain building lithosphere crust upper mantle convecting mantle metallic core magnetic field poles navigation				fossils rocks geological history timelines relative dating rock layers earth processes erosion glacier movement environmental conditions				igneous metamorphic sedimentary rock cycle erosion minerals weathering abrasion thermal expansion/contraction glaciers				soils sediments gravel sand silt clay organic material particle size					