



# Elizabethton City Schools [Science] Pacing Guide [6th Grade]

Standards/Unit Titles		Q1	Q2	Q3	Q4	Resources/Texts	Essential Question
<b>Unit 1 Understanding Energy</b>							
<b>Week 1</b> Aug. 12 – Aug. 16	<b>Methods of Science:</b> (Understanding Science, Measurement and Scientific Tools, Analyzing Data, Inferences)					<b>McG</b> = Methods of Science <b>V</b> = Scientific Method, Theory v/s Law, Critical Thinking, International System of Measurement, Independent & Dependent Variables	<b>EQ:</b> What processes do scientists use when they perform scientific investigation?
<b>Weeks 2-4</b> Aug. 19 – Sept. 6	<b>Energy and Energy Resources:</b> (Forms of Energy, Energy Transformations, Energy Resources)  <b>6.PS3.1:</b> Analyze the properties and compare sources of kinetic, elastic potential, gravitational potential, electric potential, chemical, and thermal energy <b>6.PS3.2:</b> Construct a scientific explanation of the transformations between potential and kinetic energy. <b>6.PS3.3:</b> Analyze and interpret data to show the relationship between kinetic energy and the mass of an object in motion and its speed.					<b>McG</b> = Ch. 1 <b>P</b> = What makes us energized? <b>V</b> = Energy (Kinetic & Potential), Forms of Energy, Law of Conservation of Energy, Friction, Resources	<b>EQ:</b> What is energy and what are energy resources?

<p style="text-align: center;">Weeks 5-7 Sept. 9 – Sept. 27</p>	<p><b>Thermal Energy</b> (Thermal Energy, Temperature, and Heat; Thermal Energy Transfer, Using Thermal Energy)          6.PS3.1: Analyze the properties and compare sources of kinetic, elastic potential, gravitational potential, electric potential, chemical, and thermal energy          6.PS3.4: Conduct an investigation to demonstrate the way that heat (thermal energy) moves among objects through radiation, conduction, or convection.          6.ETS1.2: Design and test different solutions that impact energy transfer.</p>					<p><b>McG</b> = Ch. 2  <b>P</b> = What does color have to do with it?  <b>V</b> = Thermal Energy, Temperature, Heat, Expansion v/s Contraction, Conductor v/s Insulator, Convection,</p>	<p><b>EQ:</b> How can thermal energy be used?</p>
<b>Unit 2 Interactions of Life</b>							
<p style="text-align: center;">Week 8-9 Sept. 30 - Oct. 10</p>	<p><b>Interactions Within Ecosystems</b> (Ecosystems, Energy and Matter, Humans and Ecosystems)          6.LS2.1: Evaluate and communicate the impact of environmental variables on population size.          6.LS2.2: Determine the impact of competitive, symbiotic, and predatory interactions in an ecosystem.          6.LS2.3: Draw conclusions about the transfer of energy through a food web and energy pyramid in an ecosystem.          6.LS2.4: Using evidence from climate data, draw conclusions about the patterns of abiotic and biotic factors in different biomes, specifically the tundra, taiga, deciduous forest, desert, grasslands, rainforest, marine, and freshwater ecosystems.          6.LS2.5: Analyze existing evidence about the effect of a specific invasive species on native populations in Tennessee and design a solution to mitigate its impact.          6.LS2.6: Research the ways in which an ecosystem has changed over time in response to changes in physical conditions, population balances, human interactions, and natural catastrophes.          6.LS2.7: Compare and contrast auditory and visual methods of communication among organisms in relation to survival strategies of a population.          6.LS4.1: Explain how changes in biodiversity would impact ecosystem stability and natural resources.          6.ESS3.3: Assess the impacts of human activities on the biosphere including conservation, habitat management, species endangerment, and extinction.</p>					<p><b>McG</b> = Ch. 3  <b>P</b> = How do you stay on top?  <b>V</b> = Habitat, Population v/s Community, Niche, Predation, Symbiosis, Carrying Capacity, Producer v/s Consumer, Detritivore, Food Web, Energy Pyramid, Resource Depletion</p>	<p><b>EQ:</b> <i>How do living things interact with each other and the environment?</i></p>
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<p style="text-align: center;">Weeks 10 – 12 Oct. 21 – Nov. 6</p>	<p><b>Biomes and Ecosystems</b>(Land Biomes, Aquatic Ecosystems, How Ecosystems Change)</p> <p>6.LS2.3: Draw conclusions about the transfer of energy through a food web and energy pyramid in an ecosystem.</p> <p>6.LS2.4: Using evidence from climate data, draw conclusions about the patterns of abiotic and biotic factors in different biomes, specifically the tundra, taiga, deciduous forest, desert, grasslands, rainforest, marine, and freshwater ecosystems.</p> <p>6.LS2.6: Research the ways in which an ecosystem has changed over time in response to changes in physical conditions, population balances, human interactions, and natural catastrophes.</p> <p>6.ESS3.3: Assess the impacts of human activities on the biosphere including conservation, habitat management, species endangerment, and extinction.</p>			<p><b>McG</b> = Ch. 4</p> <p><b>P</b> = Can one building successfully house all the ecosystems?</p> <p><b>V</b> = Biome(s), Aquatic Ecosystems, Salinity, Wetland, Estuary, Intertidal Zone, Coral Reef, Ecological Succession, Climax Community, Pioneer Species, Eutrophication</p>	<p><b>EQ:</b> How do Earth’s biomes and ecosystems differ?</p>		
<p><b>Unit 3 Weather and Climate</b></p>							
<p style="text-align: center;">Weeks 13-15 Nov. 11 – Dec. 6</p>	<p><b>Earth’s Atmosphere</b> (Describing Earth’s Atmosphere, Energy Transfer in the Atmosphere, Air Currents, Air Quality)</p> <p>6.ESS2.2: Diagram convection patterns that flow due to uneven heating of the earth.</p> <p>6.ESS2.3: Construct an explanation for how atmospheric flow, geographic features, and ocean currents affect the climate of a region through heat transfer.</p>			<p><b>McG</b> = Ch. 5</p> <p><b>P</b> = Will the sky always be blue?</p> <p><b>V</b> = Atmosphere(s), Ozone Layer, Radiation, Conduction, Convection, Stability, Temperature Inversion, Wind(s), Sea Breeze v/s Land Breeze</p>	<p><b>EQ:</b> How does Earth’s atmosphere affect life on Earth?</p>		
<p style="text-align: center;">Weeks 16-17 Dec. 9 – Dec. 19</p>	<p>Time to review all content learned in semester 1, flexible time if pacing needs adjusting, review for semester exams</p>						
<p style="text-align: center;"><b>Standards/Unit Titles</b></p>		<p><b>Q1</b></p>	<p><b>Q2</b></p>	<p><b>Q3</b></p>	<p><b>Q4</b></p>	<p><b>Resources/Texts</b></p>	<p><b>Essential Question</b></p>

<p>Weeks 18 – 19 Jan. 7 – Jan. 18</p>	<p><b>Weather</b> (Describing Weather, Weather Patterns, Weather Forecasts)</p> <p>6.ESS2.4: Apply scientific principles to design a method to analyze and interpret the impact of humans and other organisms on the hydrologic cycle.</p> <p>6.ESS2.5: Analyze and interpret data from weather conditions, weather maps, satellites, and radar to predict probable local weather patterns and conditions.</p>			<p><b>McG</b> = Ch. 6  <b>P</b> = How can weather change so quickly?  <b>V</b> = Weather, Humidity, Dew Point, Precipitation, Water Cycle, Pressure Systems, Fronts, Weather-Related Events, Weather Reporting &amp; Tools</p>	<p><b>EQ:</b> How do scientists describe and predict weather?</p>
<p>Weeks 20-21 Jan. 21 – Jan. 31</p>	<p><b>Climate</b> (Climates of Earth, Climate Cycles, Recent Climate Change)</p> <p>6.ESS2.3: Construct an explanation for how atmospheric flow, geographic features, and ocean currents affect the climate of a region through heat transfer.</p>			<p><b>McG</b> = Ch. 7  <b>P</b> = How can climate shape a tree?  <b>V</b> = Climate, Rain Shadow, Specific Heat, Microclimate, Ice Age, Interfacial, El Niño, Global Warming, Greenhouse Gas, Deforestation, Global Climate Model</p>	<p><b>EQ:</b> What is climate and how does it impact life on Earth?</p>
<p><b>Unit 4 Water and Other Resources</b></p>					
<p>Weeks 22-23 Feb. 3- Feb. 14</p>	<p><b>Earth's Water</b> (The Water Planet, The Properties of Water, Water Quality)</p> <p>6.ESS2.4: Apply scientific principles to design a method to analyze and interpret the impact of humans and other organisms on the hydrologic cycle.</p>			<p><b>McG</b> = Ch. 8  <b>P</b> = Why is water a magnet for attracting life?  <b>V</b> = Specific Heat, Hydrosphere, Transpiration, Polarity, Cohesion v/s Adhesion, Water Quality, Source Pollution, Turbidity, Bioindicator, Remote Sensing</p>	<p><b>EQ:</b> What role does water play on Earth?</p>

<p style="text-align: center;">Weeks 24-26 Feb. 18- Mar. 6</p>	<p><b>Oceans</b> (Compositions and Structure of Earth's Oceans, Ocean Waves and Tides, Ocean Currents, Environmental Impacts on Oceans)</p> <p>6.ESS2.1: Gather evidence to justify that oceanic convection currents are caused by the sun's transfer of heat energy and differences in salt concentration leading to global water movement.</p> <p>6.ESS2.2: Diagram convection patterns that flow due to uneven heating of the earth</p> <p>6.ESS2.3: Construct an explanation for how atmospheric flow, geographic features, and ocean currents affect the climate of a region through heat transfer.</p> <p>6.ESS2.4: Apply scientific principles to design a method to analyze and interpret the impact of humans and other organisms on the hydrologic cycle.</p>					<p><b>McG</b> = Ch. 9</p> <p><b>P</b> = How clean is the ocean?</p> <p><b>V</b> = Salinity, Seawater, Brackish, Abyssal Plain, Tsunami, Sea Level, Tide &amp; Tidal Range, Spring v/s Neap Tide, Ocean Current, Gyre, Coriolis Effect, Upwelling, Marine, Harmful Algal Bloom, Coral Bleaching</p>	<p><b>EQ:</b> What are characteristics of oceans and why are oceans important?</p>
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<p style="text-align: center;">Weeks 27-28 Mar. 9- Mar. 20</p>	<p><b>Using Earth's Resources</b> (Earth's Resources, Pollution, Protecting Earth)</p> <p>6.LS4.1: Explain how changes in biodiversity would impact ecosystem stability and natural resources.</p> <p>6.ESS2.4: Apply scientific principles to design a method to analyze and interpret the impact of humans and other organisms on the hydrologic cycle.</p> <p>6.ESS3.1: Differentiate between renewable and nonrenewable resources by asking questions about their availability and sustainability.</p> <p>6.ESS3.2: Investigate and compare existing and developing technologies that utilize renewable and alternative energy resources.</p> <p>6.ESS3.3: Assess the impacts of human activities on the biosphere including conservation, habitat management, species endangerment, and extinction.</p> <p>6.ETS1.1: Evaluate design constraints on solutions for maintaining ecosystems and biodiversity</p>					<p><b>McG</b> = Ch. 10</p> <p><b>P</b> = How do we use and misuse natural resources?</p> <p><b>V</b> = Resource(s), Geothermal Energy, Pollution, Photochemical Smog, Global Warming, Acid Precipitation, Sustainability, Recycling</p>	<p><b>EQ:</b> How can people protect Earth's resources?</p>

<p>Weeks 29-34 Mar. 30 – May 8</p>	<p>Flexibility to continue standards not covered already if pacing is off, review all content, TN Ready testing (**TCAP TEST WINDOW IS APRIL 13-MAY 8**)</p>						
<p>Weeks 35-37 May 12-27</p>	<p>Previewing the next gradelevel standards.</p>						