

**6th Grade  
Energy Curriculum  
Year at a Glance**

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks
<p><b>Big Idea: Intro to Electricity</b> <i>Essential Question:</i> 1. How does energy have the ability to work or cause change?</p> <p><b>Big Idea: Transfer of Heat</b> <i>Essential Question:</i> 1. How is heat transferred from one source to another? 2. How is heat transfer used in cooking?</p>	<p><b>Big Idea: Solar Energy and the Atmosphere</b> <i>Essential Question:</i> 1. What is the Greenhouse Effect and how does it work?</p>	<p><b>Big Idea: Power Plants</b> <i>Essential Question:</i> 1. Energy power plants; how do they benefit society?</p> <p><b>Big Idea: Wind Energy</b> <i>Essential Question:</i> 1. Can wind energy replace all other type of energy in certain parts of the world?</p>	<p><b>Big Idea: Energy Conservation</b> <i>Essential Question:</i> 1. Can you find ways to use energy wisely?</p>
<p><b>Key Vocabulary:</b> energy, potential energy, circuit, positive charge, negative charge, reaction, electrons, current, electricity, simple circuit, battery, complete circuit, incomplete circuit, velocity, attraction, resistor, Watt, volt / radiation, conduction, convection, atmosphere, density, matter, cycle, dynamic, interaction, molecular, atmosphere, hydrosphere, geosphere</p>	<p><b>Key Vocabulary:</b> radiation, temperature, climate, albedo, space weather, atmosphere, hydrosphere, cryosphere, geosphere, biosphere, greenhouse effect, satellite orbiting, GPS navigation, telecommunications</p>	<p><b>Key Vocabulary:</b> power plant, steam, gas, combined design, nuclear, hydro, turbine, wind energy, conventional, non-conventional, renewable, non-renewable, documentary, biomass / wind turbine, windmill, voltage, electrical current, ampere, watt</p>	<p><b>Key Vocabulary:</b> pendulum, frequency, potential energy, kinetic, energy conservation, Law of Conservation of Energy, vibration, speed, habits, behavior, efficiency, CFL (compact fluorescent lamp), LED (light emitting diode)</p>
Science: – SC.6.P.13.1	Science: SC.6.E.7.5	Science: CTE-ENGY.68.GENRL.03.01;07.06;02.01;07.03	Science: CTE-ENGY.68.GENRL.04.06
Science: SC.6.E.7.1			
Mathematics: MAFS.6.NS.1.1	Mathematics: MAFS.6.NBT.2.3	Language Arts: LAFS.6.SL2	Mathematics: MAFS.6.RP.1.2
Language Arts: LAFS.6.L.1.1	Language Arts: LAFS.6.RL.1.2	Science: CTE-ENGY.68.GNRATN.04.04	Language Arts: LAFS.6.RL.1.2
		Mathematics: MAFS.6.RP.1.3	Mathematics: MAFS.6.NS.3.8
<p><b>Big Idea: Alternative and Renewable Energy</b> <i>Essential Question:</i> 1. Will renewable energy be the answer to energy usage in the future? 2. Which energy will eventually run out and why?</p>	<p><b>Big Idea: Energy Transfer and Transformation/Potential and Kinetic Energy</b> <i>Essential Question:</i> 1. How does a change in temperature affect the energy transformations in bouncing spheres?</p>	<p><b>Big Idea: Biomass</b> <i>Essential Question:</i> 1. Is Biomass a good alternative to meet all the current energy needs of our society?</p>	<p><b>Big Idea: Careers in Energy</b> <i>Essential Question:</i> 1. The energy industry is one of the largest employers in the world. Is a job in this industry something that I would want as a career?</p>
<p><b>Key Vocabulary:</b> alternative energy, renewable energy, geothermal, biomass, solar energy, wind energy, natural gas, fuel cells, carbon emissions, geothermal, hydropower</p>	<p><b>Key Vocabulary:</b> potential energy, kinetic energy, elastic potential energy, joule, work, energy, total energy, energy transformation, mechanical, chemical, nuclear</p>	<p><b>Key Vocabulary:</b> biomass, biofuel, combustion, organic matter</p>	<p><b>Key Vocabulary:</b> welder, technician, operator, engineer, scientist (as they relate to the energy sector)</p>
Science: CTE-ENGY.68.GNRATN.03.02	Science: SC.6.P.11.1	Science: CTE-ENGY.68.GNRATN.08.01	Science: CTE-ENGY.68.GENRL.02.05
Science: CTE-ENGY.68.GNRATN.03.04	Mathematics: MAFS.6.SP.1.2	Science: CTE-ENGY.68.GNRATN.08.06	Mathematics: MAFS.6.NS.2.3
Mathematics: MAFS.6.RP.1.2	Language Arts: LAFS.68.RH.2.4	Mathematics: MAFS.6.RP.1.3	Language Arts: LAFS.68.RST.3.8
Language Arts: LAFS.6.RL.1.2			Language Arts: LAFS.K12.W.3.9
			Language Arts: LAFS.6.W.3.7