Big Idea: Where do we get the energy we need for modern life?
Guiding Questions: How does energy move? From what natural resources are energy and fuels derived? In what ways does the human use of natural resources affect the environment?

Folder with Additional Resources

DCI (Disciplinary Core Ideas)	*Science and Engineering Practices*	*Cross Cutting Concepts*	*Student Learning Objectives*	*Differentiated Activities (Consider the 5 Es)*	*Resources/Technology*	*Formative Assessments*	*Benchmark Assessment*
Energy can be moved from place to place by moving objects or through sound, light, or electric currents. (4-PS3-2)	Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (4-PS3-2)	Energy can be transferred in various ways and between objects. (4-PS3-2)	*SWBAT to make observations that energy can be trransferred from place to place.* *SWBAT identify that energy can be transferred in various ways and between objects.* *SWBAT prove that energy can be moved from place to place through sound, light, or electric currents.* *SWBAT discover how circuits work and how to use them.*	*Energy & Waves: Light Bulbs* *Battery Lab* *Sound Waves-Rubber Band Jam* *The lightbulb just went on*	*Bill Nye-Science* *Brain Pop: Energy in our Enviornment*	*Energy Quizzes*	*Energy Test* *PBA* *PBA Rubric*
Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (4-PS3-2)	Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (4-PS3-2)	Energy can be transferred in various ways and between objects. (4-PS3-2)	*SWBAT prove that energy is present whenever there are moving objects, sound, light, or heat.* *SWBAt make observations that energy can be transferred from one object to another.*	*Energy & Waves-Moving Pennies* *Energy & Waves-Golf Ball/Ping Pong* *Pendulum Lab* *Energy Transfer Heat Lab* *Energy & Waves-Colored Paper*			
Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy. (4-PS3-2)	Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (4-PS3-2)	Energy can be transferred in various ways and between objects. (4-PS3-2)	SWBAT make observations and collect evidence to prove that light transfers energy from place to place. SWBAT make observations and collect evidence to prove can be transferred from place to place by electric currents.	Energy Transfer Lab	*Circuits Reading* *Circuits Video* *Brain Pop: Electric Currents*		
Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. (4-ESS3-1)	Obtain and combine information from books and other reliable media to explain phenomena. (4-ESS3-1)	Cause and effect relationships are routinely identified and used to explain change. (4-ESS3-1) Knowledge of relevant scientific concepts and research findings is important in engineering. (4-ESS3-1) Over time, people's needs and wants change, as do their demands for new and improved technologies. (4-ESS3-1)	SWBAT identify the cause-and-effect relationships between the energy/fuels that humans use and the enviornment.	*Energy & Waves-Unit*	Humans and the Environment		