

8th Grade Science Unit 2: Energy (S8P2.a, b, c, d) Proficiency Sheet

S8P2. Obtain, evaluate, and communicate information about the law of conservation of energy to develop arguments that energy can transform from one form to another within a system.

Lessons	Learning Target / Activity	Achievement Level Descriptors
	<p>S8P2.c Construct an argument to support a claim about the type of energy transformations within a system (e.g., lighting a match (light to heat), turning on a light (electrical to light)).</p>	<p>Beginning: I can identify energy transformations within a system.</p>
		<p>Developing: I can construct a limited argument based on observational evidence to make a claim about the type of energy transformations that occur within a system.</p>
		<p>Proficient: I can construct an argument to support a claim about the type of energy transformations within a system [e.g., lighting a match (light to heat), turning on a light (electrical to light)].</p>
		<p>Distinguished: I can evaluate arguments used to support a claim about the type of energy transformations within a system.</p>
	<p>S8P2.d Plan and carry out investigations on the effects of heat transfer on molecular motion as it relates to the collision of atoms (conduction), through space (radiation), or in currents in a liquid or a gas (convection).</p>	<p>Beginning: I can identify the effects of heat transfer on molecular motion as it relates to the collision of atoms (conduction), through space (radiation), or in currents in a liquid or a gas (convection).</p>
		<p>Developing: I can carry out a provided investigation to identify the effects of heat transfer on molecular motion as it relates to the collision of atoms (conduction), through space (radiation), or in currents in a liquid or gas (convection).</p>
		<p>Proficient: I can plan and carry out investigations on the effects of heat transfer on molecular motion as it relates to the</p>

		collision of atoms (conduction), through space (radiation), or in currents in a liquid or a gas (convection).
		Distinguished: I can refine investigations exploring the effects of heat transfer on molecular motion as it relates to the collision of atoms (conduction), through space (radiation), or in currents in a liquid or a gas (convection).
	S8P2.b Plan and carry out an investigation to explain the transformation between kinetic and potential energy within a system (e.g., roller coasters, pendulums, rubber bands, etc.)	Beginning: I can recognize relationships of kinetic energy to mass and speed, and potential energy to mass and height of an object.
		Developing: I can explain relationships of kinetic energy to mass and speed, and potential energy to mass and height of an object.
		Proficient: I can analyze and interpret data to create graphical displays that illustrate the relationships of kinetic energy to mass and speed, and potential energy to mass and height of an object.
		Distinguished: I can make inferences and/or predictions based on graphical displays and explain the relationships of kinetic energy to mass and speed, and potential energy to mass and height of an object.
		Beginning: I can identify energy transformations within a system.
		Developing: I can construct a limited argument based on observational evidence to make a claim about the type of energy transformations that occur within a system.
		Proficient: I can plan and carry out an investigation to explain the transformation between kinetic and potential energy

		within a system (e.g., roller coasters, pendulums, rubber bands).
		Distinguished: I can refine investigations to explain the transformation between kinetic and potential energy within a system.

Vocabulary

Energy transformation Thermal energy Radiation Conduction Convection Gravitational Mass
 Potential energy Kinetic energy Electrical energy Nuclear energy Mechanical energy Solar energy

Graph Your Grade

