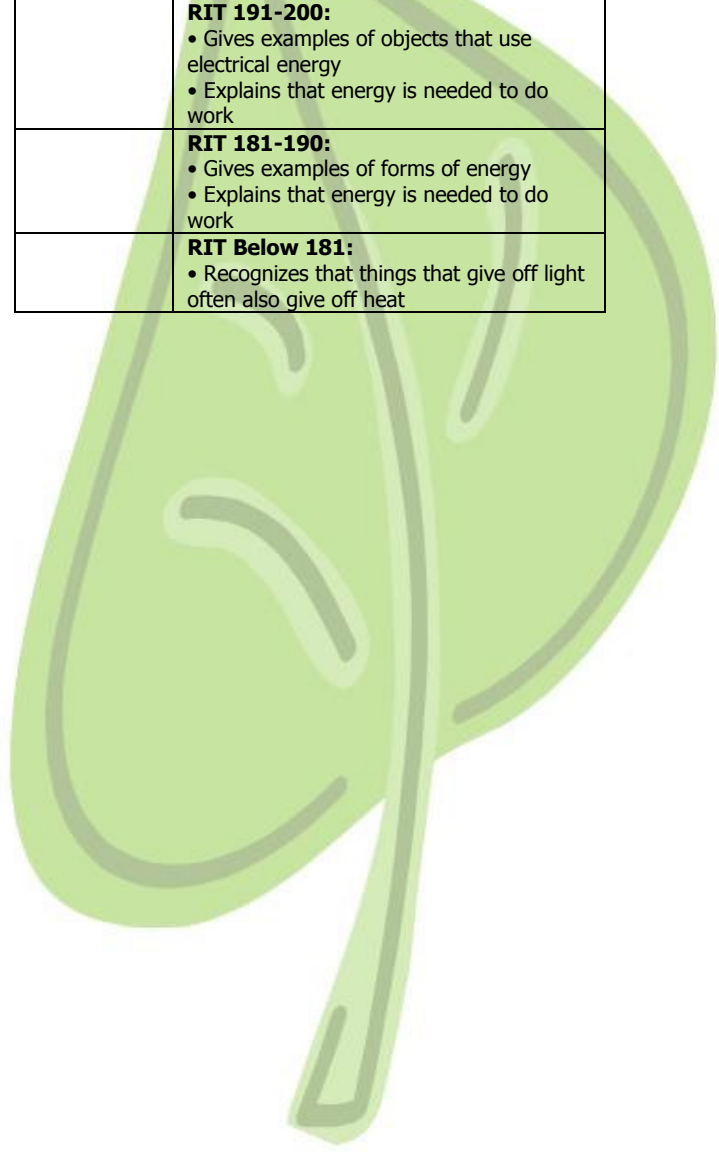


Science DesCartes: Physical Science

Skills: Energy and Its Transformations

Students:	DesCartes Skills: (Highlight the skills related to your chosen standard/concept)
	RIT 231-240: <ul style="list-style-type: none"> • Gives examples of potential energy • Recognizes that only radiation can transfer heat through empty space
	RIT 221-230: <ul style="list-style-type: none"> • Recognizes the major forms of energy • Defines kinetic energy • Gives examples of kinetic energy • Gives examples of potential energy • Defines a calorie as heat needed to increase the temperature of one gram of water one degree Celsius • Recognizes that the Sun's energy from millions of years ago is trapped in fossil fuels • Defines an insulator as a material that blocks the transfer of heat • Analyzes applications of thermal conductors and insulators • Classifies examples of chemical changes that show release or absorption of energy • Gives examples that show that some chemical reactions release energy while others require input of energy
	RIT 211-220: <ul style="list-style-type: none"> • Explains that energy cannot be created or destroyed, only changed from one form to another • Defines kinetic energy • Relates kinetic energy to the speed of an object • Calculates calories given mass and temperature change • Explains that the Sun's energy travels to Earth in a variety of wavelengths (e.g., visible light, radio, infrared, UV, microwaves) • Recognizes that heat can move from object to object by conduction • Classifies examples of heat transfer as conduction • Understands that heat flows from warmer to cooler objects until both reach equilibrium • Gives examples of energy transfer through radiation • Defines an insulator as a material that blocks the transfer of heat • Analyzes applications of thermal conductors and insulators • Describes ways that energy may be changed as a result of a chemical reaction • Explains that when energy is converted from one form to another, heat is often produced as a by-product • Recognizes that mechanical machines produce heat
	RIT 201-210: <ul style="list-style-type: none"> • Understands that sound is a form of energy • Relates kinetic energy to the speed of an object • Interprets diagrams showing conversions between

	<p>potential and kinetic energy</p> <ul style="list-style-type: none"> • Recognizes that heat can move from object to object by conduction • Compares ability of materials to conduct heat • Predicts how well different volumes of liquid will retain heat • Defines an insulator as a material that blocks the transfer of heat • Makes predictions about the transformation between kinetic and potential energy • Describes the transformations of energy that may occur in electrical systems • Explains that a turbine is a machine that is used in the transformation of mechanical to electrical energy
	RIT 191-200: <ul style="list-style-type: none"> • Gives examples of objects that use electrical energy • Explains that energy is needed to do work
	RIT 181-190: <ul style="list-style-type: none"> • Gives examples of forms of energy • Explains that energy is needed to do work
	RIT Below 181: <ul style="list-style-type: none"> • Recognizes that things that give off light often also give off heat



Science DesCartes: Physical Science

Skills: Energy and Its Transformations

Lesson Title:

Standard/Concept for All:

Introduction: (Get Attention; Connect to Prior Knowledge)

For Students Ready for a Challenge:

Lesson/Activity:

Resources:

Means of Assessment:

For Most Students:

Lesson/Activity:

Resources:

Means of Assessment:

For Students Needing Extra Support:

Lesson/Activity:

Resources:

Means of Assessment:

Closure/Summary for All: