

Program: Re-Energy

Grade 9 - Alberta Science Curriculum Connections



Activity Name	Organizing Idea	Learning Outcome
Activity: Renewable Energy Sources	Electrical Principles and Technologies	Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: What is Renewable Energy?	Electrical Principles and Technologies	Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Build a Solar Car	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
		Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Build a Solar Oven	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
		Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Construire un Four Solaire	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
		Describe and discuss the societal and environmental implications of the use of electrical energy

Activity: Introduction to Solar Electricity	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
		Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Introduction to Solar Heat Energy	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
		Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Solar Energy Transition with Six Nations of the Grand River	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
		Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Electrifying the Future of Transportation Guide		N/A
Activity: Build an Electric Vehicle Model	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
Activity: Exploring Electric Vehicle Charging Stations	Electrical Principles and Technologies	Describe and discuss the societal and environmental implications of the use of electrical energy

Activity: History of the Electric Vehicle	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
Activity: How is Your Community Adapting For Electric Vehicles?	Electrical Principles and Technologies	Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Planning a Trip in Your Electric Vehicle	Electrical Principles and Technologies	Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Electric Vehicles and Charging Stations with Six Nations of the Grand River	Electrical Principles and Technologies	Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: What EV Should You Buy?	Electrical Principles and Technologies	Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Build a Wind Turbine	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
		Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Introduction to Wind Energy	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe and discuss the societal and environmental implications of the use of electrical energy
Activity: Wind Turbine Simulator	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe and discuss the societal and environmental implications of the use of electrical energy

Activity: Build a Hydroelectric Generator	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
Activity: Introduction to Hydro Energy	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe and discuss the societal and environmental implications of the use of electrical energy
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
Activity: Pumped Hydro Storage	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
Activity: Build a Biogas Generator	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
Activity: Introduction to Biomass Energy	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe and discuss the societal and environmental implications of the use of electrical energy
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
Activity: Build a Flywheel Model	Electrical Principles and Technologies	Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions

<u>Activity: Build a Penny Battery</u>	Electrical Principles and Technologies	Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
<u>Activity: Endothermic and Exothermic Reactions</u>	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
	Matter and Chemical Change	Describe and interpret patterns in chemical reactions
<u>Activity: Energy Storage Match</u>	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe and discuss the societal and environmental implications of the use of electrical energy
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
<u>Activity: Exploring Energy Storage in Your Community</u>	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Describe and discuss the societal and environmental implications of the use of electrical energy
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
<u>Activity: Exploring How To make a Battery</u>	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Describe and discuss the societal and environmental implications of the use of electrical energy
	Matter and Chemical Change	Investigate materials, and describe them in terms of their physical and chemical properties
<u>Activity: Heat Transfer Lab</u>	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Describe and discuss the societal and environmental implications of the use of electrical energy

Activity: The Electrostatic Effect	Electrical Principles and Technologies	Investigate and interpret the use of devices to convert various forms of energy to electrical energy and electrical energy to other forms of energy
		Describe technologies for transfer and control of electrical energy
		Identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions