Program: Re-Energy	Grade 5 – Ontario Science and Technology Curriculum Connections	

greenlearning.ca
programs@greenlearning.ca

Activity Name	Organizing Idea	Learning Outcome
Activity: Renewable Energy Sources	**Grade 7-12**	
Activity: What is Renewable Energy?	**Grade 7-12**	
Activity: Build a Solar Car	**Grade 7-12**	
Activity: Build a Solar Oven	**Grade 7-12**	
Activity: Construire un Four Solaire	**Grade 7-12**	
Activity: Introduction to Solar Electricity	**Grade 6-12**	
Activity: Introduction to Solar Heat Energy	**Grade 6-12**	
Activity: Solar Energy Transition with Six Nations of the Grand River	**Grade 7-12**	
Activity: Electrifying the Future of Transportation Guide	**Grade 9-12**	
Activity: Build an Electric Vehicle Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	E. Earth and Space Systems: Conservation of Energy and Resources	E2. Exploring and Understanding Concepts – Demonstrate an understanding of the conservation of energy, and the forms, sources, and uses of energy and resources
Activity: Exploring Electric Vehicle Charging Stations	**Grade 7-12**	
Activity: History of the Electric Vehicle	**Grade 7-12**	
Activity: How is Your Community Adapting for Electric Vehicles?	**Grade 7-12**	

Activity: Planning a Trip in your Electric Vehicle	**Grade 7-12**	
Activity: Electric Vehicles and Charging Stations with Six Nations of the Grand River	**Grade 7-12**	
Activity: What EV Should You Buy?	**Grade 7-12**	
Activity: Build a Wind Turbine	**Grade 6-12**	
Activity: Introduction to Wind Energy	**Grade 6-12**	
Activity: Wind Turbine Simulator	**Grade 7-12**	
Activity: Build a Hydroelectric Generator	**Grade 6-12**	
Activity: Introduction to Hydro Energy	**Grade 6-12**	
Activity: Pumped Hydro Storage	**Grade 7-12**	
Activity: Build a Biogas Generator	**Grade 7-12**	
Activity: Introduction to Biomass Energy	**Grade 7-12**	
Activity: Build a Flywheel Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	E. Earth and Space Systems: Conservation of Energy and Resources	E2. Exploring and Understanding Concepts – Demonstrate an understanding of the conservation of energy, and the forms, sources, and uses of energy and resources
Activity: Build a Penny Battery	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	E. Earth and Space Systems: Conservation of Energy and Resources	E2. Exploring and Understanding Concepts – Demonstrate an understanding of the conservation of energy, and the forms, sources, and uses of energy and resources
Activity: Endothermic and Exothermic Reactions	**Grade 7-12**	
Activity: Energy Storage Match	**Grade 7-12**	
Activity: Exploring Energy Storage in Your Community	**Grade 7-12**	
Activity: Exploring How to Make a Battery	**Grade 7-12**	

Activity: Heat Transfer Lab	Grade 7-12	
Activity: Pumped Hydro Storage	Grade 7-12	
Activity: The Electrostatic Effect	Grade 7-12	

Program: Re-Energy	Grade 6 – Ontario Science and Technology Curriculum Connections	

greenlearning.ca
programs@greenlearning.ca

Activity Name	Organizing Idea	Learning Outcome
Activity: Renewable Energy Sources	**Grade 7-12**	
Activity: What is Renewable Energy?	**Grade 7-12**	
Activity: Build a Solar Car	**Grade 7-12**	
Activity: Build a Solar Oven	**Grade 7-12**	
Activity: Construire un Four Solaire	**Grade 7-12**	
Activity: Introduction to Solar Electricity	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Introduction to Solar Heat Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Solar Energy Transition with Six Nations of the Grand River	**Grade 7-12**	
Activity: Electrifying the Future of Transportation Guide	**Grade 9-12**	

Activity: Build an Electric Vehicle Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Exploring Electric Vehicle Charging Stations	**Grade 7-12**	
Activity: History of the Electric Vehicle	**Grade 7-12**	
Activity: How is Your Community Adapting for Electric Vehicles?	**Grade 7-12**	
Activity: Planning a Trip in your Electric Vehicle	**Grade 7-12**	
Activity: Electric Vehicles and Charging Stations with Six Nations of the Grand River	**Grade 7-12**	
Activity: What EV Should You Buy?	**Grade 7-12**	
Activity: Build a Wind Turbine	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Introduction to Wind Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Wind Turbine Simulator	**Grade 7-12**	

Activity: Build a Hydroelectric Generator	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Introduction to Hydro Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Pumped Hydro Storage	**Grade 7-12**	
Activity: Build a Biogas Generator	**Grade 7-12**	
Activity: Introduction to Biomass Energy	**Grade 7-12**	
Activity: Build a Flywheel Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Build a Penny Battery	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	C. Matter and Energy: Electrical Phenomena, Energy, and Devices	C2. Exploring and Understanding Concepts – Demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy
Activity: Endothermic and Exothermic Reactions	**Grade 7-12**	
Activity: Energy Storage Match	**Grade 7-12**	
Activity: Exploring Energy Storage in Your Community	**Grade 7-12**	
Activity: Exploring How to Make a Battery	**Grade 7-12**	

Activity: Heat Transfer Lab	Grade 7-12	
Activity: Pumped Hydro Storage	Grade 7-12	
Activity: The Electrostatic Effect	Grade 7-12	

Program: Re-Energy	Grade 7 – Ontario Science and Technology Curriculum Connections	

greenlearning.ca
programs@greenlearning.ca

Activity Name	Organizing Idea	Learning Outcome
Activity: Renewable Energy Sources	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: What is Renewable Energy?	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Build a Solar Car	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability

Activity: Build a Solar Oven	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Construire un Four Solaire	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Introduction to Solar Electricity	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Introduction to Solar Heat Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources

	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
Activity: Solar Energy Transition with Six Nations of the Grand River	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Electrifying the Future of Transportation Guide	**Grade 9-12**	
Activity: Build an Electric Vehicle Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Exploring Electric Vehicle Charging Stations	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: History of the Electric Vehicle	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences

Activity: How is Your Community Adapting for Electric Vehicles?	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Planning a Trip in your Electric Vehicle	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
Activity: Electric Vehicles and Charging Stations with Six Nations of the Grand River	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: What EV Should You Buy?	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Build a Wind Turbine	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources

Activity: Introduction to Wind Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Wind Turbine Simulator	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Build a Hydroelectric Generator	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources

Activity: Introduction to Hydro Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Pumped Hydro Storage	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Build a Biogas Generator	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Introduction to Biomass Energy	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources

Activity: Build a Flywheel Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources
Activity: Build a Penny Battery	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Endothermic and Exothermic Reactions	E. Earth and Space Systems: Heat in the Environment	E2. Exploring and Understanding Concepts – Demonstrate an understanding of heat as a form of energy that is associated with the movement of particles and is essential for many natural processes within Earth's systems
Activity: Energy Storage Match	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Exploring Energy Storage in Your Community	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Exploring How to Make a Battery	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: Heat Transfer Lab	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
	E. Earth and Space Systems: Heat in the Environment	E1. Relating Science and Technology to Our Changing World – Assess the benefits of technologies that reduce heat loss, and analyse various social and environmental impacts of the use of energy from renewable and non-renewable sources

Activity: Pumped Hydro Storage	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability
Activity: The Electrostatic Effect	B. Life Systems: Interactions in the Environment	B1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability

Program: Re-Energy

Grade 8 – Ontario Science and Technology Curriculum Connections

greenlearning.ca
programs@greenlearning.ca

Activity Name	Organizing Idea	Learning Outcome
Activity: Renewable Energy Sources	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
Activity: What is Renewable Energy?	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
Activity: Build a Solar Car	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
Activity: Build a Solar Oven	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
Activity: Construire un Four Solaire	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences

Activity: Introduction to Solar Electricity	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
Activity: Introduction to Solar Heat Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
Activity: Solar Energy Transition with Six Nations of the Grand River	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
Activity: Electrifying the Future of Transportation Guide	**Grade 9-12**	
Activity: Build an Electric Vehicle Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences

Activity: Exploring Electric Vehicle Charging Stations	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
Activity: History of the Electric Vehicle	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
Activity: How is Your Community Adapting for Electric Vehicles?	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
		A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
Activity: Planning a Trip in your Electric Vehicle	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	D. Structures and Mechanisms: Systems in Action	D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
Activity: Electric Vehicles and Charging Stations with Six Nations of the Grand River	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation

Activity: What EV Should You Buy?	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
Activity: Build a Wind Turbine	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
		C2. Exploring and Understanding Concepts – Demonstrate an understanding of basic fluid mechanics, including the properties and uses of fluids
Activity: Introduction to Wind Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
		C2. Exploring and Understanding Concepts – Demonstrate an understanding of basic fluid mechanics, including the properties and uses of fluids
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation

Activity: Wind Turbine Simulator	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
Activity: Build a Hydroelectric Generator	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
Activity: Introduction to Hydro Energy	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
		C2. Exploring and Understanding Concepts – Demonstrate an understanding of basic fluid mechanics, including the properties and uses of fluids
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
	E. Earth and Space Systems: Water Systems	E1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the sustainability of water resources

Activity: Pumped Hydro Storage	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
		C2. Exploring and Understanding Concepts – Demonstrate an understanding of basic fluid mechanics, including the properties and uses of fluids
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
	E. Earth and Space Systems: Water Systems	E1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the sustainability of water resources
Activity: Build a Biogas Generator	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
		C2. Exploring and Understanding Concepts – Demonstrate an understanding of basic fluid mechanics, including the properties and uses of fluids
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
Activity: Introduction to Biomass Energy	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation

Activity: Build a Flywheel Model	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
Activity: Build a Penny Battery	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
Activity: Endothermic and Exothermic Reactions	A. Stem Skills and Connections	A1. STEM Investigation and Communication Skills – Use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures
Activity: Energy Storage Match	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
Activity: Exploring Energy Storage in Your Community	A. Stem Skills and Connections	A3. Applications, Connections, and Contributions – Demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
Activity: Exploring How to Make a Battery		**N/A**
Activity: Heat Transfer Lab		**N/A**
Activity: Pumped Hydro Storage	C. Matter and Energy: Fluids	C1. Relating Science and Technology to Our Changing World – Analyse uses of various technologies that rely on the properties of fluids, and assess the impact of these technologies on society and the environment
		C2. Exploring and Understanding Concepts – Demonstrate an understanding of basic fluid mechanics, including the properties and uses of fluids
	D. Structures and Mechanisms: Systems in Action	D1. Relating Science and Technology to Our Changing World – Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation
	E. Earth and Space Systems: Water Systems	E1. Relating Science and Technology to Our Changing World – Assess the impact of human activities and technologies on the sustainability of water resources

Activity: The Electrostatic Effect		N/A