

Program: Re-Energy

Grade 5 – Ontario Science and Technology Curriculum Connections



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: The Electrostatic Effect	Grade 7-12	

Program: Re-Energy

Grade 6 – Ontario Science and Technology Curriculum Connections



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: The Electrostatic Effect	Grade 7-12	

Program: Re-Energy

Grade 7 – Ontario Science and Technology Curriculum Connections



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

<u>Activity: Build a Solar Oven</u>	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
<u>Activity: Construire un Four Solaire</u>	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
<u>Activity: Introduction to Solar Electricity</u>	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
<u>Activity: Introduction to Solar Heat Energy</u>	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: 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
	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

<u>Activity: Build a Flywheel Model</u>	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
<u>Activity: Build a Penny Battery</u>	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
<u>Activity: Endothermic and Exothermic Reactions</u>	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
<u>Activity: Energy Storage Match</u>	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
<u>Activity: Exploring Energy Storage in Your Community</u>	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
<u>Activity: Exploring How to Make a Battery</u>	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
<u>Activity: Heat Transfer Lab</u>	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: 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



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: The Electrostatic Effect		N/A