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

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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	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: 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
	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: 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
	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: 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
	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: 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
	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: 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
	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: 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	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: 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
	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: 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
	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: 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
	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 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
	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: 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
	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: 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	