

Program: Re-Energy

Grade 4 – 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	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: Light and Sound	C1. Relating Science and Technology to Our Changing World – Assess the impacts on society and the environment of technological innovations related to light and sound
	D. Structures and Mechanisms: Machines and Their Mechanisms	D1. Relating Science and Technology to Our Changing World – Evaluate the impacts of various machines and their mechanisms on society and the environment
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
	C. Matter and Energy: Light and Sound	C1. Relating Science and Technology to Our Changing World – Assess the impacts on society and the environment of technological innovations related to light and sound
	D. Structures and Mechanisms: Machines and Their Mechanisms	D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms

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
	C. Matter and Energy: Light and Sound	C1. Relating Science and Technology to Our Changing World – Assess the impacts on society and the environment of technological innovations related to light and sound
	D. Structures and Mechanisms: Machines and Their Mechanisms	D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
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: Light and Sound	C1. Relating Science and Technology to Our Changing World – Assess the impacts on society and the environment of technological innovations related to light and sound
		C2. Exploring and Understanding Concepts – Demonstrate an understanding of light and sound as forms of energy that have specific characteristics and properties
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: Light and Sound	C2. Exploring and Understanding Concepts – Demonstrate an understanding of light and sound as forms of energy that have specific characteristics and properties
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
	C. Matter and Energy: Light and Sound	C1. Relating Science and Technology to Our Changing World – Assess the impacts on society and the environment of technological innovations related to light and sound
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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D1. Relating Science and Technology to Our Changing World – Evaluate the impacts of various machines and their mechanisms on society and the environment
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D1. Relating Science and Technology to Our Changing World – Evaluate the impacts of various machines and their mechanisms on society and the environment
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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms

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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D1. Relating Science and Technology to Our Changing World – Evaluate the impacts of various machines and their mechanisms on society and the environment
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
Activity: Introduction to Hydro Energy	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: Machines and Their Mechanisms	D1. Relating Science and Technology to Our Changing World – Evaluate the impacts of various machines and their mechanisms on society and the environment
		D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
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
	D. Structures and Mechanisms: Machines and Their Mechanisms	D2. Exploring and Understanding Concepts – Demonstrate an understanding of the basic principles and functions of machines and their mechanisms
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	