Resourceful Alberta

Program Description: Step back in time with a guided tour of Resource Ridge. Students will explore the Coal Mine Tunnel and the Dingman No.1 Oil Well before visiting a historic windmill and waterwheel. Learn how we are rediscovering the power of renewable resources and what the future might hold with a visit to Innovation Crossing, where students will see the latest in sustainable energy technology. This program will guide students towards a better understanding of Alberta's energy history and how we can take lessons from the past to influence a resourceful future.

Grade(s): Grade 3, Grade 4, Grade 5, Grade 6

Program of Studies Connections:

Grade	Subject	Organizing Idea	Learning Outcomes	Knowledge	Understandings
3	Science	*Matter:* Understandings of the physical world are deepened by investigating matter and energy.	Students investigate and analyze how materials have the potential to be changed.	First Nations communities respectfully interact with natural materials.	Interaction with natural materials by First Nations is guided through living in harmony and balance with the land.
3	Science	*Earth Systems:* Understandings of the living world, Earth, and space are deepened by investigating natural systems and their interactions.	Students analyze changes in Earth's surface and explain how its layers hold stories of the past.	Human activities that can change Earth's surface include getting and using resources and stewardship. Earth's surface contains layers that have been deposited over long periods of time.	Plant, human, and other animal activities can cause changes to Earth's surface. The history of Earth's surface can be explained by examining its layers.
3	Social Studies	*Time and Place:* Exploring the dynamic relationships between people, place, and time supports understanding of perspectives and events to make meaning of the world.	Students investigate natural and created features of Alberta.	Since time immemorial, Alberta has been the traditional territory of many First Nations. There are different physical regions within the political boundaries of Alberta. Physical regions can be distinguished based on physical features, i.e., landforms and bodies of water.	First Nations were the first inhabitants of Alberta. Alberta has distinct physical features and regions.

				Natural landmarks, such as physical features, and constructed landmarks can hold historical significance.	
3	Social Studies	*Systems:* Evaluating processes and structures of organizations builds understanding of decision making in the world.	Students examine natural resource use in Alberta.	Renewable resources that are generated and replaced through natural processes include • water • wind • sun Non-renewable resources that have been foundational to the growth of Alberta are • coal • oil • natural gas Availability of natural resources can vary between physical regions. Settlement in Alberta has been influenced by the location of natural resources. Economic development in Alberta can be influenced by availability of natural resources.	Natural resources can influence development in a region.
4	Science	*Earth Systems:* Understandings of the living world, Earth, and space are deepened by investigating natural systems and their interactions.	Students investigate the systems of Earth and reflect on how their interconnections sustain life.	Natural resources are materials from nature that are used to meet human needs and include • air • water • soil • minerals • metals • forests • organisms Conservation is the preservation and protection of Earth's systems from pollution, depletion, or extinction.	Earth's systems include natural resources that are central to human well-being. Conservation can impact land, natural resources, and organisms. Many First Nations practice traditional methods of conservation, including taking only what is needed.

				Conservation can be practiced through community or global actions, such as use of energy-efficient alternatives.	Conservation of Earth's systems involves personal, community, and global action.
5	Science	*Energy:* Understandings of the physical world are deepened by investigating matter and energy.	Students investigate and analyze various energy resources.	Energy resources are renewable or non-renewable. Renewable energy resources are not depleted over time as they can be naturally replenished if handled responsibly. Renewable energy resources include • solar • wind • biomass • geothermal • tidal • water and hydro Non-renewable energy resources are depleted over time because they will not be naturally replenished for thousands or millions of years. Non-renewable energy resources include nuclear and fossil fuels. Alberta relies on both renewable and non-renewable energy resources to fulfill energy needs, including • fossil fuels • water and hydro • wind • biomass	Humans rely on energy resources to fulfill energy needs.

6	Science	*Energy:* Understandings of the physical world are deepened by investigating matter and energy	Students investigate energy resources and explain factors that influence their use.	Responsible management of energy resources includes respect for land and resource. Some energy resources can be used before processing, such as • wood • wind • water Some energy resources can be used after processing, such as • wind • solar • fossil fuels • nuclear • hydro • biofuel Many energy resources are processed into electricity. Energy resources can be used in daily life in various ways, such as • heating and cooling • lighting • cooking • transportation	Energy resources can be managed for use in daily living.
6	Science	*Earth Systems:* Understandings of the living world, Earth, and space are deepened by investigating natural systems and their interactions.	Students investigate climate, changes in climate, and the impact of climate change on Earth.	Earth's systems interact with the Sun and each other to impact climate in various ways, including greenhouse gases trapping heat from the Sun. The release of greenhouse gases into the atmosphere contributes to the warming of Earth. Clean energy production has the potential to reduce net greenhouse gas production.	Complex interactions between humans, Earth's systems, and the Sun can impact climate and climate change.

				Personal actions that can help address human causes of global climate change includes using clean, affordable, and reliable energy sources responsibly.	