

Grades 1-3, Science, Week 1 – Constructing Ideas

Curriculum Connections: (1) Building Things > (2) Buoyancy and Boats > (3) Building with a Variety of Materials

Exploring Structures	Observing Trial and Error	Evaluating and Questioning	Experimentation and Persistence	Reflect, Adjust, Refine, and Interpret
<p>Have you ever seen construction workers building houses and wondered how everything works together? How does the wood stay together, and what makes a building strong and safe in cold, wet, or windy weather?</p> <p>Explore a variety of building materials (e.g., wood, plastic, paper, cardboard, etc.) by creating a structure or object of your choice—it could be anything you can imagine! Draw a picture of your creation and label the parts or explain them to a family member. What does each part do? Why are they important?</p>	<p>Would you use the same materials you used to build your structure/object to build a boat? Would some materials be better than others at keeping the boat afloat?</p> <p>Using a variety of building materials, see what happens when you put them in water in your kitchen sink. What happens when you push them underwater? Try using these materials to build small floating objects or boats. Which one floats best? Is there a shape that could help the boat float? Try adding weight (e.g., bolts or coins) and keeping track of which materials float best with weight.</p>	<p>What did you notice about how the materials changed in water? What do you wonder?</p> <p>Brainstorm a list of questions that will help you make a prediction about which shapes and/or materials would hold the most weight and still float on water. Which questions would help you solve the problem or guide your experiment?</p> <p>How can you use what you observed to build the best boat possible using materials found only at home? Make a prediction, then draw designs for three boats using different materials.</p>	<p>What worked, and what didn't work?</p> <p>Scientists don't give up when things don't go their way—they're persistent! When experiments don't go according to plan, you learn as much as when they <i>do</i> go according to plan. Trying ideas and making mistakes helps you rule out possibilities and find solutions.</p> <p>Try building three small boats out of different materials using the designs you drew. Which one will float the longest with weight on or in it? Load them up and time how long they float to see if you were right! Take a picture of your best boat design and email it along with its float time to your teacher.</p>	<p>Reflect on what you have learned about building materials and use a combination of household materials to construct a strong bridge that can carry weight (e.g., tuna cans).</p> <p>First, try different bridge designs using different materials to find the strongest materials, then adjust your design to improve it.</p> <p>Build a bridge that spans between two dining chairs—move them as far apart as you think you can—measure the length, then add as much weight as you can until your bridge collapses. How much weight could your bridge hold? Why did it collapse? What might make it stronger?</p>

Grades 1-3, Science, Week 2 – Towering Materials (Testing Materials and Designs)

Design a tower using household recycling and other available materials! Start by imagining the materials and shapes that will help you construct a tower that doesn't crush, bend, or topple over easily. Draw 3 possible designs for your tower, labeling the materials you'll use. Pick the design you think will be the strongest. Which materials will work best, and why? Build the tallest freestanding tower possible, without it tipping over or being held up by anything (or anyone) else. When your tower is built, take a selfie with it to send to your classroom teacher, then ask a family member to help you measure the height of your tower. You can use a measuring tape, or an invented unit of measurement—like arm-lengths.

Grades 4-6, Science, Week 1 – Investigating the Natural World Around Us

Curriculum Connections: (4) Waste and Our World > (5) Wetland Ecosystems > (6) Trees and Forests

Natural Exploration	Critical Observation	Questioning and Experimentation	Evaluation and Persistence	Reflect, Adjust, Refine, and Interpret
<p>Plants and animals make waste that is recycled in nature. Explore your yard or a public park looking for examples of natural waste (e.g., waste that does not come from human activity).</p> <p>Which types of animals and organisms benefit from natural waste and how? Is all waste that comes from human activity necessarily bad? Why or why not? How could waste from human activity be disposed of in a way that helps the natural world?</p> <p>Reflect on these questions in a journal entry using pictures and words.</p>	<p>On a neighbourhood walk, Look for examples of litter. Identify which types of waste are most common. Create a chart to organize waste by the types of materials it is made of. Take field notes of what you find, using pictures and words to represent and describe what you see.</p> <p>Do the materials break down easily in nature, or do they last in the environment for many years? How could this litter be disposed of differently?</p> <p>Design a poster reminding people about how to properly dispose of their waste and the benefits of reducing some types of waste overall.</p>	<p>Wetland ecosystems and their habitats are unique, diverse, and important to plants, animals, and humans. On a walk through our local wetlands, carefully observe, identify, and take field notes about the plants and animals that can be found there. Use pictures and words to represent and describe your observations.</p> <p>Do you notice ways that human actions could be impacting wetland ecosystems? How? How could individuals and groups act to preserve and improve the quality of wetland habitats through conservation?</p> <p>Create a plan that identifies human actions to protect wetland habitats.</p>	<p>Trees and forests are important habitat for animals and capture carbon and produce oxygen for humans. On an urban forest walk, notice the different types of trees.</p> <p>What does their bark look like? What do their branches look like? What do their leaves look like, what shapes are they, and do they grow in patterns on trees? What sorts of animals can be found on, under, or around them and how do they affect each other?</p> <p>Take field notes of your observations, sketch 4 different trees you find on your walk, and organize them based on their characteristics. Compare and contrast the similarities and differences between the 4 types of trees you identified on your walk.</p>	<p>Why is the natural world so important? Identify reasons why trees and forests are so important to animals and humans.</p> <p>Reflect on the ways that humans rely on trees and forests. What are examples of human actions that support forests? What are some examples of human actions that put forests at risk? How can we balance the use of trees to meet many human needs with the need for a life-supporting environment?</p> <p>Do you notice a conflict between human need and conservation? Write a 3-paragraph essay comparing and contrasting perspectives on the need for tree/forest use and the need for conservation. Develop an opinion about actions humans should take. Use evidence to support your position.</p>

Grades 4-6, Science, Week 2 – Scientific Inquiry in Action

“Stewardship” and “Conservation” are words we use when we are showing “respect for living things and environments, and commitment for their care.” (Alberta Education, 1996) Demonstrating care for the natural world benefits *all* living things. How could you reduce waste in your own life and persuade others to do the same? Plan an experiment that would help you solve the real-world problems of consumption of natural resources and waste in our natural world. You will develop and implement a plan to reduce waste and monitor what happens over one to two weeks. Communicate the evidence from your experiment in any one or combination of: a poster, letter to our local government officials, public service announcement, or a community action plan. How can our community follow the same steps you did? Try to identify ways that humans can change their behaviour to avoid the unnecessary production of waste. Inspire others to use our limited natural resources more responsibly while demonstrating respect for diverse perspectives.

Grades 1-3, Social Studies, Week 1 – Family and Community Histories

Curriculum Connections: (1) My family, My History, My Community > (2) Canada’s Dynamic Communities > (3) Communities in the World

Thinking about History	Thinking about Land	Thinking Critically	Questions and Research	Making Connections
<p>Families all look different, and they change over time.</p> <p>How has your family changed over your lifetime? What different types of communities or groups do you belong to? In what ways do you belong to more than one group or community at the same time?</p> <p>First, draw a picture of your family. Next, create a flag that represents your family history, or the history of one of the communities you belong to.</p>	<p>Many people feel a strong connection to the place where they live.</p> <p>What helps us to recognize different groups or communities? Where is your community on a map, and how can it be identified? What does the landscape look like where you live? How is this different from other parts of Canada?</p> <p>Using family photos, books, or the internet, look at pictures of different landscapes across Canada (e.g., Arctic, Plains, Atlantic). Draw 2-3 symbols to represent each of these different landscapes.</p>	<p>Much like families, communities also change over time.</p> <p>How has your community changed over time? What are some examples of traditions, celebrations and stories that started in the past and continue today in your family or community?</p> <p>Create a timeline of important events in your family or community history. Ask family or community members what their childhood was like. What did they wear? What did they do for fun? What was important to them? How does this compare to your life?</p>	<p>How could you begin to learn more about the people and places that make up your community? How can you learn more about the communities of others?</p> <p>Many families and communities have important objects that tell stories of their histories. Are there any important objects in your family or community? What are they? Take or draw a picture of one of them. Explain why it is important. Ask a family friend about an important object in their family or community history. How is it similar and/or different from yours?</p>	<p>People celebrate important events in many ways. How do traditions, celebrations, stories, and customs reflect the identities of communities? Food is involved in many celebrations. Does your family have any recipes or meals that you enjoy on special occasions? What are they?</p> <p>Talk to an adult in your family or community about a traditional recipe. What are the ingredients? How do you make it? Ask them to teach you how to make it. What is the story behind this recipe? Find a recipe from another culture and try it at home. Why is this dish special to that culture?</p>

Grades 1-3, Week 2 – Growing and Changing Communities

In what ways can individuals and groups contribute to positive change in the world? Take a walk through your community and look carefully for important features of the landscape, buildings, parks, statues, or monuments. How do these things contribute to and improve your life? Draw a map of your local community and mark the locations of the features you observed. Do you notice anything missing? What sorts of features could improve your quality of life or contribute to positive community change? Design and sketch the feature you’d like to see in your local community and represent it with a symbol on your community map. Use recyclable household supplies to build a model of your invented feature, then write 3-5 sentences describing the model and why you think it would be important to build as your community continues to change and grow.

Grades 4-6, Social Studies, Week 1 – Zoom In, Zoom Out: The Stories of Our Peoples

(4) The Stories, Histories and Peoples of Alberta > (5) Histories and Stories of Ways of Life in Canada > (6) Citizens Participating in Decision-Making

Thinking about History	Thinking about Land	Thinking Critically	Inquiry and Research	Active Citizenship
<p>Before this province was known as “Alberta”, Indigenous communities lived here for thousands of years.</p> <p>Which Indigenous peoples (First Nations) originally inhabited the different areas of our province? How did the arrival of diverse groups of people determine the establishment and continued growth of rural and urban communities?</p> <p>Using books and the internet (Historica Canada, the Canadian Encyclopedia), explore historical maps and the timeline of Indigenous history in Alberta.</p>	<p>Places are often named after a description of the land, significant events, or historical figures.</p> <p>How does the name “Head Smashed-In Buffalo Jump” reflect the history of the land where it is located? How does the name “Writing-on-Stone Provincial Park” reflect the land where it is located?</p> <p>How do these historic sites reflect the Indigenous history of our province?</p> <p>Research these two historic sites. Choose one and build a model of the site using materials found at home. Write a short description of the significance of this place and how it represents the land.</p>	<p>One of the oldest and more widespread ways of sharing knowledge is through oral storytelling.</p> <p>What do the stories of Indigenous (First Nations, Métis, and Inuit) peoples tell us about their beliefs regarding the relationship between people and the land? How were the natural environment and geography of each region of Canada determining factors of the diversity among Indigenous groups?</p> <p>Identify important animals, plants, and/or natural processes (e.g., the sun rising) in Indigenous stories passed down through generations. Create a short graphic novel depicting how the stories of these animals or plants help us to learn valuable lessons about our world.</p>	<p>Immigrants to Western Canada contribute to the cultural makeup of the region.</p> <p>What do stories of immigrants from Ukraine, Poland, Russia and Germany tell us about their history and presence in Western Canada? How were European immigrants affected by pressures to conform in Western Canada? How do the experiences of newcomers continue to shape the identity of Alberta today?</p> <p>Write a short information book answering the questions above.</p> <p>Use the Canadian Museum of Immigration at Pier 21 and The Canadian Encyclopedia websites as sources for information.</p>	<p>We are all valuable members of our communities, and we all have the ability to make positive impacts.</p> <p>Individuals, groups, and/or associations within a community shape the decision-making process. Is there a current event or issue in our community that concerns you? Why is this an important issue?</p> <p>Write a letter to a local representative about an issue in our community. This should be an issue that you care deeply about. Tell them what the problem is, how it affects us, and what you think should be done to address the problem.</p>

Grades 4-6, Social Studies, Week 2 – Picturing Diversity as Canada’s Identity

It’s important to look at media critically and to consider issues from multiple perspectives. Examining a variety of historical photographs and newspaper articles using the Internet ([Alberta Heritage Resources](#), Historica Canada, The Canadian Encyclopedia) consider who/what is and who/what is *not* represented, and *how* the subjects and objects are represented. What can images tell you about the era when a photo was taken? How do you know? Think about the style of dress, the buildings and objects in the background, and what people are doing in the pictures. Take or collect a variety of pictures and create a photo collage that demonstrates a diversity of cultural influences in Alberta. Use the collage to tell the story of diversity in your community. Write a poem that celebrates the strength in diversity to accompany the collage.