Project Guide

PROJECT Agriculture
Project-Based Learning and
Teaching Series

Change with the Times

Does change always result in progress?

ALBERTA milk

www.albertamilk.com/teacher-resources/

PROJECT Agriculture

The Canadian dairy industry is diverse, ranging from family farms to partnerships, and includes regular and organic dairy farms. Dairy cattle are an important feature of many Canadian and Alberta landscapes, and provide a range of products that many people use daily. The dairy industry also provides a range of jobs and occupations. Dairy farmers take their responsibilities seriously, including those for the animals in their care, as well as the impact their industry has on the environment. Milk and dairy products play an important role in a healthy and balanced diet.

The **PROJECT Agriculture** project-based learning resources encourage students to build understandings of the importance of agriculture to their daily lives, whether they live in rural or urban communities. These resources connect students to farmers across Alberta, through Alberta Milk's **Ask a Dairy Farmer** program.

Acknowledgements

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Change with the Times

Does change always result in progress?

Contents

Change with the Times can be accessed on the Alberta Milk website in the **Programs and Resources for Teachers** section at **https://albertamilk.com/teacher-resources/**. Project components include:

- This Project Guide
- Student **Learning Sources**
- **Developing Competencies** for Students
- Assessment Support
- Teacher Fast Facts and Student Vocabulary Support
- Project Tools

Project activities are provided in four sections:

- Spark Curiosity and Inquiry
- Search and Investigate
- Design and Create
- Publish and Share

Each section provides a suggested sequence of activities. These activities should be selected and modified to best meet the needs of your students.

Change with the Times

Does change always result in progress?

Project Summary

Alberta's geographic and environmental conditions were suited for First Peoples and early settlers to establish and develop communities, many of which have grown and changed. Soil conditions, climate, ongoing developments in technology and transportation have influenced the establishment and growth of communities.

Change with the Times encourages students to explore historical events and influences through the lens and example of agricultural activities. Students investigate stories, artifacts, evidence and examples of Alberta's rural roots. They examine connections between farming and Alberta's environments, changes and growth that farmers experienced over time as well as the impact of technology on agriculture and communities.

In this project, students are also encouraged to investigate stories of First Nations agricultural practices and traditional knowledge of the land and its resources.

Change with the Times supports learning in **Grades 4 and 5 Social Studies**, **Language Arts** and **Math** curricular areas, with connections to **Health and Life Skills** and **Information and Communication Technology** and support for competencies, literacy and numeracy.

Highlights

In this project, students share insights about their community's growth and change through interactive online timeline tours.

1. Students identify places, facilities, services and goods in their communities that come from agricultural activities. They consider and discuss what "progress" can mean.
2. Students work in groups to research agricultural sources and artifacts and explore how communities change over time. They identify examples of technological, social and geographic change. They research how their own communities may have roots in agriculture.

   Students can be provided with the option to identify communities in Alberta or other places in Canada, depending on the grade level focus.

Competency-focused student resources focus on managing information, critical thinking and cultural and global citizenship, as well as literacy and numeracy strategies.

3. Students create interactive timeline tours that show how communities have been affected by agriculture over time. They share their tours.

4. Students explore conclusions and perspectives through questions. Why is agriculture important to the growth and development of Alberta and Canada? What are the advantages and disadvantages of the changes that communities experience over time? Why is it important to understand how places and human activities change over time? Is change always positive? Why or why not?

Project Stages and Timing

Change with the Times provides a series of activities for the development of a project-based inquiry. Timeline options are suggestions only, as choices about activities will influence the time required for the project.

Project Stage	Activity Focus	Timing Options
Spark Curiosity and Inquiry	Activities in this stage ask students to explore the core question, what it means to them and how they want to focus their project. They select an inquiry question around which to develop their project.	4 to 5 class periods
Search and Investigate	Activities in this stage provide opportunities to search for and critically assess sources, organize information, consider perspectives and consult with experts to build understandings. They use **Learning Sources** handouts as trusted sources and **Developing Competencies** activity handouts to develop skills and understandings related to their projects.	7 to 10 class periods
Design and Create	Activities in this stage ask students to apply ideas and information to the creation of a project that shares their insights and learning.	5 to 7 class periods
Publish and Share	Activities in this stage suggest options to display and share completed projects.	3 to 5 class periods

Technology Integration

Digital creation tools can support learning in a project-based inquiry, including exploration, research, project creation and sharing. The following apps and online programs are referenced as options throughout the **PROJECT Agriculture** project-based series of learning and teaching resources.

Note that some online programs may require sign-in information, but do offer free versions. Some of these programs may also require varying degrees of support when used with students, while others may be more suitable for teacher use. Check for privacy settings in these apps and online programs if you do not want to make students' work public.

Google Classroom is a set of productivity tools that includes email, documents, and storage. Classroom was designed to save time, keep classes organized and improve communication. Classroom can be used to manage and share project work and sources.

Google Keep is a note-taking app that integrates with **Google Docs**. Notes, links, images, screenshots and videos can be shared. Plan and manage project tasks and keep research notes, vocabulary lists and trusted sources.

Google Drive provides online storage and creation of **Google Docs**, **Slides**, **Sheets** and **Forms**. It can be used to hold and share project work.

HyperDoc, found at **http://hyperdocs.co/**, uses interactive Google Docs or Slides that can be created as an instructional activity or lesson. Links to videos, trusted sources, class Padlet boards, Google Maps or other programs and apps can be embedded in a HyperDoc.

Padlet, found at **www.padlet.com**, is a virtual wall that allows sharing of any content (images, videos, documents, text) on a common topic.

Canva, found at **www.canva.com**, is a web-based graphic design tool and app that can be used to design posters, infographics, presentations, social media and photo collages. Students can sign up with a Google account or through an email address and password.

Pinterest, found at **www.pinterest.com**, is a social network that allows you to visually share, and discover, images or videos to your own or others' boards. **Padlet** and **Pinterest** boards can be set up to share project ideas and products with other teachers and classrooms.

Glogster, at **http://edu.glogster.com/**, is an online platform that allows you or your students to create interactive online posters, with text, images, graphics, audio and videos, and share them with others electronically. Glogster can be used to create profiles and timelines. Templates are provided on the website.

Apps such as **Evernote** and **OneNote** can be used to collect, organize and share sources of information and research, while online software such as **Skype** can enable conversations, face-to-face interviews and collaboration with other classrooms and community members.

Prezi, found at **www.prezi.com**, is a presentation tool that can be used as an alternative to traditional slide making programs such as **PowerPoint**. Instead of slides, Prezi makes use of one large canvas with pan and zoom capabilities. Students can use this tool to create and share projects and learning products.

MyHistro, found at **www.myhistro.com**, is an app that allows you to combine maps and timelines into one presentation, convert any public timeline into a personal pdf file or export into **Google Earth** format for offline storage.

Tiki-Toki, found at **www.tiki-toki.com**, is web-based software for creating interactive timelines that can be shared on the internet. The free account can be used to create a fully-functional timeline that can be shared. Tiki-Toki also provides desktop timeline software for Windows, Mac and Chromebooks that can be used to create timelines on local computers.

Read Write Think provides a simple timeline, found at **www.readwritethink.org/files/resources/interactives/timeline_2/**, that allows students to organize and create a timeline by date, time or event. Timelines can be saved as a file.

Wordle, accessed at **www.wordle.net**, and **Tagxedo**, accessed at **www.tagxedo.com**, provide online platforms that students can use to create word clouds.

Kahoot, at **www.getkahoot.com**, is a platform that allows students to create learning games from a series of multiple choice questions, with videos, images and diagrams. Students can create kahoots based on what they are learning about Canadian and Alberta history, geography, agriculture, natural resources and ways of life.

Snapchat, at **www.snapchat.com** offers a feature called **My Story**, created from video clips and pictures taken over time and made into a movie. Stories can be downloaded to students' camera rolls and shared via email with a class.

Sway, accessed at **www.sway.com**, is a digital storytelling app for the creation of interactive presentations, newsletters and personal stories. Sways can be shared with others through email and privacy settings can be customized.

Learning and Competencies

Change with the Times provides opportunities for student to think critically about their communities and assess the impact of change and progress.

Students work collaboratively to develop ideas, explore sources, consult with community members and experts and communicate their findings and insights. Technology-based skills are also developed as students use digital tools to research, create and publicly share their projects.

The chart that follows focuses on competencies that integrate and apply across curricular areas.

Glenbow Archives ND-3-6981b

Specific learning outcomes from the Alberta programs of study promote these competencies and the learning experiences in the **Change with the Times** project.

Assessment tools can be used to reinforce competency development and assess student growth around Alberta curriculum-specific learning outcomes. These assessment tools include a:

- **Learning Checklist** that support assessment of specific learning outcomes and development of competencies
- **Project Check-In** chart that provides criteria statements that students can use to self-assess or monitor their learning
- **Rubric** that can be customized for student use as they develop their projects

Consult **Assessment Support for Change with the Times** to find strategies and templates for assessment of learning and growth in student competencies.

The assessment checklists and templates include fillable text fields and checkboxes. These PDF documents can be saved and completed electronically.

Competency Focus	Curriculum Focus These project activities integrate across Alberta Social Studies, Language Arts and Math programs of study. **Click** the **@grade level subject area** on which you want to focus to go to a specific learning outcomes checklist.	Literacy and/or Numeracy Focus
Creativity and Innovation Students explore ideas, materials and processes to find out how communities were established and technology was used in the past. They consider how innovation is part of change.	Outcomes in the following curricular areas are supported by project activities that ask students to explore new ideas, generate creative solutions and create original products to investigate how technology and innovation influenced the growth of communities. **@Grade 4 Social Studies** **@Grade 5 Social Studies** **@Grade 4 Language Arts** **@Grade 5 Language Arts**	Students focus on the ways that diverse modes and media can be used to represent and share new ideas and innovative approaches to challenges and issues. They use diverse modes and media to share and present. Students create and interpret different representations of quantitative information.
Critical Thinking Students experience and assess a variety of sources and perspectives and use historical and contemporary evidence to make reasoned judgements about the impact of change.	Outcomes in the following curricular areas are supported by project activities that ask students to interact with sources to generate questions, draw comparisons, identify similarities and differences, make inferences and assess examples of change and progress in communities. **@Grade 4 Social Studies** **@Grade 5 Social Studies** **@Grade 4 Language Arts** **@Grade 5 Language Arts**	Students evaluate information from several sources to determine relevant and irrelevant information and consider the intent of a message or point of view. Students interpret, compare and use quantities commonly used in real-life situations. They interpret data from a graph or chart to make inferences and draw conclusions.
Manage Information Students use multiple literacies to access, share and create knowledge and build understandings.	Outcomes in the following curricular areas are supported by project activities that ask students to organize and synthesize information gathered from a variety of sources, including data and statistics. **@Grade 4 Social Studies** **@Grade 5 Social Studies** **@Grade 4 Language Arts** **@Grade 5 Language Arts** **@Grades 4 and 5 Math**	Students determine a purpose and develop questions to focus an information search. They select, sort and analyze information from a variety of sources and identify gaps. They organize texts according to their purpose or intent. Students organize objects, ideas or information using a classification system.
Problem Solving Students select strategies and resources to apply the research process to a problem or question.	Outcomes in the following curricular areas are supported by project activities that ask students to apply a research process and activate background knowledge, information or resources to build and apply understandings. **@Grade 4 Social Studies** **@Grade 5 Social Studies** **@Grade 4 Language Arts** **@Grade 5 Language Arts**	Students make connections to background knowledge. Students determine the chronology and duration of events encountered in real-life situations. They also navigate through maps, using traditional, non-digital or digital techniques.

Competency Focus	Curriculum Focus These project activities integrate across Alberta Social Studies, Language Arts and Math programs of study. **Click** the **@grade level subject area** on which you want to focus to go to a specific learning outcomes checklist.	Literacy and/or Numeracy Focus
Communication Students share ideas through oral, written and non-verbal media. They participate in formal and informal exchanges with others, while considering their and others' context and experiences.	Outcomes in the following curricular areas are supported by project activities that ask students to use a variety of oral, written or visual modes of expression when exchanging ideas, considering perspectives and points of view and working with others to construct understandings. **@Grade 4 Social Studies** **@Grade 5 Social Studies** **@Grade 4 Language Arts** **@Grade 5 Language Arts**	Students acquire subject and task-specific vocabulary related to their learning. Students present ideas or information in a logical and clear manner and begin to use effects to enhance communication.
Collaboration Students participate, exchange ideas and share responsibilities to complete their learning tasks.	Outcomes in the following curricular areas are supported by project activities that ask students to use language and text to build upon ideas or expand understandings with others, listen to and consider different perspectives and share roles and responsibilities to accomplish group tasks. **@Grade 4 Social Studies** **@Grade 5 Social Studies** **@Grade 4 Language Arts** **@Grade 5 Language Arts**	Students apply oral and written language, tone and formality, as appropriate, when communicating with peers and adults.
Global and Cultural Citizenship Students explore values and beliefs influenced the development of communities in the past and assess their relevance to growth and change in the future.	Outcomes in the following curricular areas are supported by project activities that ask students to consider a range of needs, perspectives or approaches and demonstrate respect for and commitment to the vitality of land, people and resources within local communities. **@Grade 4 Social Studies** **@Grade 5 Social Studies**	Students are encouraged to apply literacy-related skills as part of participation as a citizen in communities.
Personal Growth and Well-being Students draw on their strengths and interests to identify a research focus. They reflect on their own learning.	Outcomes in the following curricular areas are supported by project activities that ask students to expand their interests and develop their own thinking and learning processes as they speak, listen, read, write, view and represent. **@Grade 4 Language Arts** **@Grade 5 Language Arts**	Students reflect on their own learning and are encouraged to develop a sense of their strengths and challenges.

Project Activities

Change with the Times provides opportunities for students to think critically about their communities and assess the impact of change and progress through the project question. **Does change always result in progress?**

Spark Curiosity and Inquiry

Then and Now

Organize a collection of images of Alberta communities that contrast what they look like now with what they looked like in the past. Initiate the **Change with the Times** project by sharing these images and asking students to identify similarities and differences. Place the images on a **Padlet** board or create slides and display with an interactive whiteboard. Alternatively, create a poster with images to share.

A comprehensive collection of online photos is provided on the *Images of Prairie Towns* website at www.prairie-towns.com/index.html. Select two or three communities, including your own, to explore. Alternate between these historical photos and contemporary photos of the community. Many urban and rural communities provide photo galleries on their websites. Challenge students to identify and list examples of change.

Connect to Experiences

Share some stories about how you have seen your community change and grow over time. If possible, make connections to the agricultural "roots" of your community. Consider changes such as urban areas taking over what used to be farmland, agricultural products that were available in your community and/or technology that has changed over time.

Provide students with the opportunity to explore local print and online newspapers or other community-based media. Use the opportunity to look for current events examples that reflect community growth and change. Identify ways that technology may influence growth and change in your community.

Connect to Prior Learning

Students can be challenged to find images of Alberta communities from previous units of study that reflect past and present and post them on a class

Customize this project by creating your own **Hyperdocs**, using the links from this guide and selecting those activities you think are most appropriate for your students.

The Central Alberta Museums website provides a Now and Then photo collection at **www.unlockthepast.ca/Now-and-Then-Photos**. Share these photo examples with students to focus on changes over time in communities.

Consider creating a class version of a **KWHL Chart**, collecting information on what students know, what they want to know, how they think they will find out, and then, completing the what they learned after sharing their projects.

Padlet board. Alternatively, students can work collaboratively to construct **"Then and Now" T-Charts**.

Integrate

Integrate with Wellness curriculum by inviting students to create a personal **Padlet** board that explores how they have changed over time. Name the boards with a title like "Me: Then and Now."

The word "progress" originally meant to "step forward." Explore this meaning with students.

Statistics Canada provides an infographic called *150 Years of Canadian Agriculture* at **www.statcan.gc.ca/pub/11-627-m/11-627-m2017018-eng.htm**. Share this infographic with students on an interactive whiteboard and use it to discuss the concepts of progress and change.

Progress and Change

Introduce and explore the concept of "progress" with students. Progress often refers to changes that make conditions better for all people or the world.

- Challenge students to think about whether change always results in progress. Is progress always a "good" thing? Why or why not?
- Ask students if they've ever heard the idea that progress cannot be stopped? Talk about how they think things keep moving forward, advancing, changing or developing. Ask students if they think communities experience ongoing progress.
- Does change always result in a better quality of life? For people? For communities? For the environment?
- Encourage students to consider why conditions and events from the past can help us understand how progress occurs.

This project-based inquiry focuses on the human activity of agriculture. It can be expanded by having students explore and compare other human activities that depend on the land and natural resources of Alberta and Canada.

Project Context and "Wonder" Questions

Challenge students to build a deeper understanding of their own communities by exploring the influence of past ways of life, technology and human activities. Tell students they will focus on a project "wonder" question that explores the influence of agricultural activities and technology on progress and change in Alberta or Canadian communities.

Students will become "timeliners" and create a **digital or poster timeline** that explores progress and change through the lens of agricultural activities. They can be asked to share their timelines online, with classmates, family or their school community.

Remind students that the core question for their project-based inquiry is: **Does change always result in progress?**

Encourage students to pose and record questions they "wonder" about when they are asked to think about change and progress in their own or other communities. Students can record their questions on a digital bulletin board or poster paper.

Provide support by suggesting and exploring potential "wonder" questions that help students respond to the core question. **Draw ideas from the following sample questions and the background sources that may support initial exploration of each question. Note that some background sources are suitable for students, while others are provided as sources of professional knowledge.**

Students should be encouraged to develop and/or select their own project "wonder" question as well as the final product they create.

- **Sample Wonder Questions:** What does agriculture provide to communities today? What did agriculture provide in the past? Are the products provided by agriculture "better" today than they were in the past?

  ### Consult Teacher or Student Background Sources

  Help students think about products that come from agricultural activities on the Agriculture and Agri-Food Canada **Discover Agriculture** website at **www.agr.gc.ca/eng/about-us/publications/discover-agriculture/?id=1411999466585**.

- **Sample Wonder Question:** Why haven't agricultural products changed over time, while the technology used to produce them has changed?

- **Sample Wonder Questions:** What role did agriculture play in the lives of First Nations, Métis and Inuit peoples? How did First Nations, Métis and Inuit perspectives and ways of knowing affect their agricultural practices?

  ### Consult Teacher or Student Background Sources

  The Learning Circle: Classroom Activities on First Nations in Canada Ages 8 to 11, accessed online on the Indigenous and Northern Affairs Canada website at **https://www.aadnc-aandc.gc.ca/eng/1302868012055/1302868605384**, can provide you with background information and teaching strategies on traditional ways of knowing and ways of life.

  Saskatchewan **Agriculture in the Classroom** provides *Métis Agriculture in Saskatchewan*, a lesson plan that includes information on Métis traditional foods and farming practices, at **http://aitc.sk.ca/Portals/0/INNO/resources/ClassResources/Lesson%205%20%20-%20Metis%20Agriculture%20in%20Saskatchewan.pdf**.

- **Sample Wonder Questions:** How did First Nation knowledge of the land contribute to early agriculture in Alberta or other Canadian communities? How do First Nations, Métis and Inuit ways of knowing contribute to agricultural practices and communities today?

  ### Consult Teacher or Student Background Sources

  Build your professional knowledge by consulting the digital resource *Walking Together: First Nations, Métis and Inuit Perspectives in Curriculum: Traditional Life on the Land* at **www.learnalberta.ca/content/aswt/documents/connection_to_land/traditional_life_on_the_land.pdf**.

Additional information is available in the *Walking Together* digital resource at **www.learnalberta.ca/content/aswt/**.

Agriculture also played a role in the legislated assimilation of First Nation peoples. You can find background information to support students in Indigenous and Northern Affairs Canada's *First Nations in Canada*, at **www.aadnc-aandc.gc.ca/eng/1307460755710/1307460872523#chp4**.

If students select this wonder question for their project, encourage them to consider how the government's view of agriculture as a way of "civilizing" First Nations conflicted with First Nation perspectives, values and ways of knowing.

All land in Alberta is Treaty land. As students consider the concepts of change and progress, it is important that they by provided with some background information regarding Treaty 6, 7 and 8. The **Empowering the Spirit** website, at **www.empoweringthespirit.ca/treaty-education**, provides professional learning resources that can support your own learning and discussions with students.

- **Sample Wonder Questions:** To what extent did First Nations, Métis and Inuit concept of interconnectedness impact the land and resources in the past and present? Has the idea of respectful use of land and resources changed over time? In what ways?

Consult Teacher or Student Background Sources

Consult the *Walking Together* digital resource at **www.learnalberta.ca/content/aswt/** for information and insights into Traditional Environmental Knowledge (TEK). Explore TEK practices and perspectives and wisdom from Elders who are knowledgeable in this area at **www.learnalberta.ca/content/aswt/#/traditional_environmental_knowledge/beginning_together**.

Community-supported agriculture provides one perspective through which the influence of First Nations, Métis and Inuit values and beliefs about the interconnectedness of land and human activities can be explored. An introductory summary of this approach to farming is provided in *Fresh, Local, and Financially Sound: Community Supported Agriculture in Canada* on the **ActiveHistory.ca** website at **http://activehistory.ca/2012/07/fresh-local-and-financially-sound-community-supported-agriculture-in-canada/**. These resources are suitable for professional background knowledge.

- **Sample Wonder Questions:** To what extent is the past reflected in the present? Is there evidence of agricultural roots in or around our community? What kind of evidence? If there is no evidence, why do you think there is not? What kinds of farms and/or agricultural activities are found around our community? How long have these farms been here?

- **Sample Wonder Question:** In what ways is life in our community today better or easier than it was in the past? Why?

- **Sample Wonder Question:** Should more be done to support agricultural activities in the future? Why or why not?

Provide students with the option to identify and investigate the "wonder" question that interests or intrigues them most.

Scaffold

Organize students to work collaboratively in small groups to investigate a project question that they select together. Alternatively, provide students with the choice to work individually or with a partner. Provide additional support to groups or individual students as they define their project questions. Provide more or less structure for the project questions that students select.

Organize student projects and their questions in the classroom or in a digital environment. For example, student-selected questions can be posted on poster paper around the classroom. As students find sources and information, "sticky-note" descriptions can be added to the posters.

Alternatively, a **Padlet**, **Google Drive** or **OneNote** board can be established for clusters of student-selected questions. Students can add their websites, articles, images and information to each board. Start and support students by selecting and adding initial resources and trusted sources to the posters or digital boards.

Share the **Rubric** with students before they begin their project so students keep the criteria in mind and set their own project goals. Discuss and adjust the criteria as appropriate with their students. Find the **Rubric** in **Assessment Support for Change with the Times**.

Need to Know

Once students select their project questions, have them create a **Need to Know** paper, poster or digital list that identifies what they think they need to know. Their lists may include bulleted and brainstormed points, questions with more specificity, and/or community places or people that they want to find out more about. A **Need to Know** list makes learning visible to students. It includes both knowledge- and process-based questions, such as:

- What skills and knowledge do we need to start the project?
- What does progress mean?
- How has what we define as technology changed over time?
- Why do people have different opinions about the effect of change?

A **Need to Know** list can be used as an exit ticket or a support for what will be learned next. For example, "How did what you learned today help you answer a Need to Know question?" or " My goal today is to answer the Need to Know question...."

This list can be part of a **Know, Need to Know, Next Steps** Triple T-chart that students create to plan their project. Find these graphic organizers in **Change with the Times Project Tools**.

Search and Investigate

Trusted Sources

Students can be provided with a number of options to identify, select, investigate and explore information that will support predictions they make or answers they develop to respond to their project "wonder" questions.

Discuss the use of sources from the classroom, library or approved websites. Encourage students to consider the credibility and reliability of the sources they use.

A digital bulletin board, such as **Padlet**, **Google Drive**, **Google Classroom** or **HyperDoc,** or a classroom poster can be used to establish a "trusted sources" repository. Select websites, print or online books or other information sources that best support the learning needs of your students. List website urls, book or information source titles on the digital bulletin board, shared document or classroom poster.

Use the student **Learning Sources** provided with this project as trusted sources that students can start with. These student resources can be used to spark student discussion and inquiry and support initial research, depending on the project question that students have selected. **Developing Competencies** student resources provide opportunities for students to focus on skills and develop or strengthen competencies. They are meant to be used with the **Learning Sources**. **Select and use those Learning Sources and Developing Competencies resources that are most relevant to you and your students' interests and project focus. Both provide fillable text fields and can be downloaded and completed electronically.**

As students start their research, structure opportunities to develop skills and make decisions to ensure they maintain the focus of their project.

Manage Collaboration

Review and revisit group work protocols to ensure that all students contribute to and participate in their projects. Timeline apps or software, such as the simple timeline provided on **Read Write Think**, is an ideal tool for creating a project timeline.

Connect to Prior Learning

Have students revisit sources they may have used in other projects or learning experiences. Use the **Learning Sources** and **Developing Competencies** student resources as starting points for brainstorming connections and making inferences that support students' project questions.

Consider maintaining posters in the classroom as a means of recording, displaying and sharing information. As students conduct their research and complete learning tasks with the **Learning Sources**, **Developing Competencies** handouts and other sources, have them add information to these posters. For example, posters can list and illustrate examples of artifacts, important events and changing ways of life. Posters can support ELL learners and those students who have difficulty recalling, spelling and identifying vocabulary.

Students can be asked to use the **Thinking about Sources (Reading and Analyzing Non-Fiction: RAN)** graphic organizer to select and analyze sources and determine their information needs. Students identify what they think they know, what was confirmed, new information and wonderings.

Emphasize the skill of making inferences with the **Making Inferences** graphic organizer. Students identify facts they find in their research, what they think and why. Find these graphic organizers in **Change with the Times Project Tools**.

Scaffold

Organize and select the **Learning Sources** and **Developing Competencies** student resources that are most relevant to the project questions that students have selected.

Encourage students to keep track of "insightful observations" as they research, by recording key words and phrases as well as sketches, doodles or drawings.

Use a reading support app, such as **Read&Write for Google Chrome**, with **Learning Sources** for those students who require additional support with vocabulary and reading skills.

> Students can also be asked to use **Read & Write for Google** to highlight words in the PDF **Learning Sources**. The highlighted words are sorted into students' **Google Drives** and can be shared.

Integrate

Integrate with **Language Arts** curriculum by creating a classroom word bank. Collect vocabulary words, creating a word bank for students to use during later writing activities. Vocabulary from the **Learning Sources** and **Developing Competencies** student resources is provided in **Teacher Fast Facts and Vocabulary Support**.

Ask students to further categorize key words in their word banks into categories such as descriptive words, items, places and people. Use the word banks and categories to construct **descriptive paragraphs** about topics such as change, progress, then and now, and urban or rural ways of life. Encourage students to add imagery to their paragraphs by using descriptive language.

Create digital word banks by using **Google Slides** for each category. Have students add words to each slide from their investigations, research and discussions.

> As students use these and other sources, remind them to consider:
> - What is my project question?
> - How will I locate information?
> - What sources will I use?
> - How will I know my source is reliable? How will I know it can be trusted?

The **Learning Sources** and **Developing Competencies** handouts included with this project are listed on the following pages. **Developing Competencies** handouts have been designed to support one or more of the **Learning Sources**.

- Select those handouts that best fit the project questions that students select.
- Some students may benefit from selecting handouts independently to support their project questions.
- Select handouts to introduce or reinforce research information that is most relevant to students' project choices.
- Use **Developing Competencies** handouts to focus on competencies and develop skills that students are expected to apply to their project work.

> As students select their sources, remind them to consider:
> - How do the sources I use influence my project plans?
> - How do I choose which information I use?
> - What connections do I see between my research sources and what I already know and can do?
> - How will I organize my information?
> - How will I keep track of the sources I have used?

Scaffold

Provide options for student research and inquiry that accommodate different levels of complexity.

- Realign or simplify the core project question to focus on whether change and progress always provides improvements to ways of life. Encourage students to explore the core question with a series of examples that they identify from their research.
- Provide students who need additional support with opportunities to use information provided in the **Learning Sources** as the basis of their research. Work with students who require support to identify events and change for their timelines.
- Use a **think-aloud strategy** to model a thinking process as you work though **Learning Sources** with students who need support. Focus on positive and challenging aspects of change and progress.
- Pre-teach the vocabulary that students will encounter in the **Learning Sources**.
- Use the questions in **Developing Competencies** for class discussions.
- Provide students with a list of specific sources that can help them narrow and focus their research. **First Farmers**, **Trains, Towns and Agriculture** and/or **Cities and Farms** could be used to guide students through a comparison of "then and now."

Use these descriptions of student **Learning Sources** and **Developing Competencies** handouts to help you make decisions about how students can use them to support their project work.

Learning Source: *First Farmers*

This **Learning Source** provides an introduction to the influence and importance of traditional territories and agricultural practices of First Nation peoples.

Revising an Ancient Agricultural Practice: The Root Gardens of Canada's West Coast Aboriginals, found at **http://soiledandseeded.com/magazine/issue06/root_gardens.php**, describes traditional root gardens and offers an insight into indigenous coastal agriculture. This article is appropriate for teacher background.

The **Learning Sources** and **Developing Competencies** handouts include fillable text fields. Students can download and save the PDF files to electronically complete the activities.

Note that some students may require additional accommodations and support to complete the **Developing Competencies** activities.

Developing Competencies: Organize Information to Explore Connections to Agriculture introduces the idea of historical research, asks students to think about past connections to agriculture and provides an example of a community research project. It is designed to be used with **First Farmers**.

Learning Source: *Growing Farms and Communities*

This **Learning Source** introduces information about early settlement and the reasons that European settlers were motivated to come to the land that would later become Alberta.

The following additional website sources can be added to classroom trusted sources boards.

The **Alberta Regional Dashboard**, found at **http://regionaldashboard.alberta.ca/#/**, provides information and links to communities across Alberta. An introduction and weblink to the community's website is provided. Some community introductions provide information on agricultural activities and history.

Additional resources can be accessed on the **Black Gold School District's Grade 4 Social Studies** website at **http://engagingstudents.blackgold.ca/index.php/division-ii/soc-d2/social-4/4-2-the-stories-histories-and-the-people-of-alberta/**.

A Note about Primary Sources This source includes an excerpt from a primary source created in the late 1800s. Some of the language in this source has been replaced with terms or phrases that students may find easier to understand. These terms and phrases are in italics. Definitions of some terms are embedded in brackets.

Developing Competencies: Use Primary Sources to Explore Community Settlement focuses on literacy and critical thinking skills and is designed to be used with **Growing Farms and Communities**.

Students can also be asked to compare Alberta's current political boundaries with those that existed in the late 1800s.

The following additional website source can be added to classroom trusted sources boards.

Online historical maps can also be found on a number of different websites. The **Online Historical Map Digitalization Project** at **www.rootsweb.ancestry.com/~canmaps/index.html** provides maps of Alberta and Saskatchewan in the early 1900s. **Canadian Geographic** provides *Historical Maps of Canada* at **www.canadiangeographic.ca/mapping/historical_maps/**.

Use the **What I See** graphic organizer with the **Picture Frame** graphic organizer. Students identify what they can see, what they think they see and what they wonder. Find these graphic organizers in **Change with the Times Project Tools**.

Learning Source: *Trains, Towns and Agriculture*

This **Learning Source** explores early beginnings of Alberta communities that were planned by railway companies to provide services for early homesteaders and farmers.

Developing Competencies: Use Photos to Explore the Past asks students to analyze historical photos and is designed to be used with **Trains, Towns and Agriculture**. This student resource includes a **Picture Frame** graphic organizer that students use to analyze details in a photograph. This organizer can be used to analyze other photographs or visuals.

Learning Source: *Growing Cooperative Communities*

This **Learning Source** illustrates the importance of cooperation to the growth of Alberta communities through examples from the history of dairy farming, including creameries and cheese factories.

Developing Competencies: Evaluate Decisions with Evidence from the Past asks students to examine values important to communities and is designed to be used with **Growing Cooperative Communities**.

Learning Source: *Cities and Farms*

This **Learning Source** draws out the connections between urban and rural communities through examples that connect farm products and technology to the growth of larger urban communities.

Developing Competencies: Use Artifacts to Assess Change asks students to research artifacts as examples of technology and evidence of change and progress. It is designed to be used with **Cities and Farms**.

The following additional website source can be added to classroom trusted sources boards.

Taste Alberta: Farming Across a Century, an article originally published in the **Edmonton Journal** by Lloyd Wipf, profiles the changes that a dairy farm has experienced. It can be accessed on the **Alberta Milk** website at **https://albertamilk.com/news/2015/08/taste-alberta-farming-across-century/**.

Canada's Museum of Science and Innovation website at **https://ingeniumcanada.org/ingenium/collection-research/collection.php** can be used as a source of agricultural artifacts. Use the photos to create cards or slides. Have students work in groups to construct "yes" or "no" questions. Have groups take turns posing their questions until they infer the purpose and use of the artifact.

Learning Source: *The Face of Progress*

This **Learning Source** explores facts and information related to changes in Canadian communities and farms.

Developing Competencies: Evaluate Evidence of Change asks students to consider changes to Canada's urban and rural environments and identify examples of cause and effect. It is designed to be used with **The Face of Progress**.

The following additional website source can be added to classroom trusted sources boards.

Dairy Farming: Deeply Rooted for a Strong Future, published by the **Dairy Farmers of Canada**, provides stories that trace the emergence of dairy farming in the order in which provinces joined Confederation. The stories profile 10 heritage dairy farms and families, including their history, connections to their communities, technology and the future. This PDF resource can be downloaded at **www.dairyfarmers.ca/news-centre/news/policy/dairy-farmers-of-canada-is-proud-to-present-the-book-dairy-farmers-deeply-rooted-for-a-strong-future**.

Use the **Grid Graph** graphic organizer to have students focus on numeracy and math skills, using statistics in **The Face of Progress**. Use the *Changing Populations* chart to guide students through the creations of bar graphs that represent either population growth or changing farm populations. Label each block in the grid to represent hundreds or ones. Have students colour each block to show the population statistics. Find this graphic organizer in **Change with the Times Project Tools**.

Expert Options

If appropriate, plan to invite any relevant and available experts from the community that you or students may be able to identify and contact.

Work with students and provide information about how to gather information, artifacts, images or additional sources from these experts. If you have contacts and resources, organize and provide trusted interview sources that students can access.

Consider ideas such as the following:

- What adults in our school and broader community are available for interviews?
- How can I provide opportunities for students to take or collect photographs and/or artifacts?
- How can parents or grandparents support students' project-based inquiries as interview subjects?
- How can community Elders or Knowledge Keepers provide support for students' project-based inquiries?
- How can I manage student groups to ensure that individual students have opportunities to participate in groups?
- What interview skills should be taught and reinforced with students?

Students can also submit questions to **Alberta Milk's Ask a Dairy Farmer** website feature, at **https://albertamilk.com/ask-dairy-farmer/**. Prepare the questions so that they are meaningful and relevant. Have students search this webpage in advance to find existing questions and answers that are relevant to their project-based inquiries.

CBC News Online. **www.cbc.ca/news/canada/manitoba/anthropolgy-students-lockport-farmers-1.3644247**

Information Management

Plan class time to debrief students on the research they have collected. What have they found to be the most surprising, interesting, impressive or important? How do they think their research shows evidence of change or progress?

- Work with students to develop an organizational structure that helps them organize information for their timeline projects.
- Suggest that students start by using index cards, handmade cards or digital cards to identify important facts, ideas and events that they think should be included in their timelines. These cards can then be organized and grouped around time periods and topics.
- Have students practice recording information on their paper or digital cards, using one main fact, idea or event per card.
- On each card, identify or add images, quotations or other visuals that support the facts, ideas and events.
- Discuss ways that the cards can be used to design and create their projects, including sequencing and grouping their research results.

Reinforce self- and group-assessment skills with the **Making Connections** graphic organizer. Students identify facts they connected with, puzzles and feelings. Find this graphic organizer in **Change with the Times Project Tools**.

Organize the cards to storyboard the timeline so that it answers students' project question as well as the core question: **Does change always result in progress?**

Assess

Consult with individual students to review how they assessed themselves in the **Target Learning** features that are provided in some of the **Developing Competencies** student resources.

Find the **Project Check-In** in **Assessment Support for Change with the Times**.

Have students use the **Project Check-In** chart to self-assess competency development – combinations of knowledge, skills and attitudes that students apply through curricular learning outcomes.

Observe students' research skills as they work together in groups. Ask students to individually reflect on the types of sources they used in their research, source credibility and the information they gained from each.

Have students maintain and use a **reflective journal** to keep notes as they progress through their projects. Pose questions such as the following as students start their inquiries, complete their research and start to design their projects:

- What is going well?
- What are we having trouble with?
- What questions do we have?
- What do we need to do next?

Suggest that students also use these reflective questions to complete a check-in on their group work and collaborative skills.

Design and Create

Project Creation

Share example of timelines with students. Online apps that are commonly used in classrooms can provide a good source of student work. If students choose to use a digital app or online software to construct their timelines, introduce students to its features and functions. Apps and software such as **Tiki-Toki**, **MyHisto** and **Read Write Think Timeline** offer different levels of complexity and will require different levels of support.

There are a number of different approaches that students can use to create their timeline projects. Share the suggested approaches as options and encourage students to adapt them or develop their own ideas.

Discuss options for timeline construction, reminding students that their timelines should focus on change and progress in a community. Timelines can be constructed around a chronological approach or students can be provided with options to use other formats.

- Construct a **mural or a three-panel brochure or pamphlet** to represent a series of timeline "snapshots" showing what a community looked like during different time periods, including the 1800s, early 1900s, mid-1900s, and present day. Each time period can then be summarized with a paragraph or bulleted list of important events, changes, or developments.
- Create a **two or three-dimensional timeline**, using a series of three or four mobiles to show how a community has changed over time. Mobiles can be constructed using wire coat hangers, with a text summary of a time period attached to the top of the hanger, and examples of artifacts, illustrations, or photographs hanging from the bottom. Hangers can then be attached to a string hooked across a bulletin board.
- Use a **comic book theme** to create the timeline, with a main character or group of characters, who "time travel" through different eras of Alberta's farming and rural history.
- Create a **Reader's Theatre dialogue** between farmers from different time eras. The dialogue can also be presented in a panel discussion, or as a "Back to the Future" radio broadcast or podcast.
- Developing a comparison between two time periods. Students can use a **T-Chart** to record key events, developments, and ideas for the two time periods. They can then use the **Venn** to compare the differences between these two time periods as well as record the similarities.

Graphic organizers are provided in **Change with the Times Project Tools**.

Scaffold

Provide options that provide support and accommodate different strengths, interests and abilities in the creation of the timeline projects, such as:

- Model the process of using a **Learning Source** to identify an example

of change within a time period. Guide students who need additional support in finding two or three other examples on which to focus their timeline creation.

- Provide various group structures within which students who require support can work. For example, ask each student in a project group to focus on one Learning Source to identify examples of change and progress for their timeline.
- Provide a sequenced criteria list that students must meet at a minimum with their projects. Negotiate where students should be on the criteria list. Customize the project **Rubric** to address the criteria negotiated with students.
- Focus on information provided in the Learning Sources and work with students who require support to identify events and change for their timelines.
- Provide opportunities for students to give each other feedback and suggestions. Use **modeling**, **think-pair-share**, **think-aloud** and **stand and share** sessions with students so they can benefit from the ideas and progress of their classmates.

  In a stand and share session, students all stand. When they volunteer an idea, response or information, they sit down. If a student volunteers an idea that another student was thinking of, that student can also sit down. This strategy can create a sharing context with minimal pressure and promote a collaborative environment.
- Use a **Think Sheet** graphic organizer to have students self-check their progress as they create their projects with the following questions:
  - What would be helpful to know more about?
  - What does this have to do with the core project question?
  - Where are we stuck?
  - Where do we need more information?
  - How would we summarize where we are right now?

Find the **Rubric** in **Assessment Support for Change with the Times**. Find the **Think Sheet** graphic organizer in **Change with the Times Project Tools**.

The **Project Check-In** chart can be found in **Assessment Support for Change with the Times**.

Assess

Help students understand that their timelines will be assessed according to the criteria on the **Rubric**. Share the rubric with students and make connections between the criteria on the **Project Check-In** chart and the **Rubric**. Discuss how their completed timelines involve the competencies they have developed through their work on their projects.

Publish and Share

Peer Share

Sharing with peers in the classroom can create and reinforce a sense of community.

Use a **carousel strategy** to have students share their research and learning with other students or groups in the class. Ask each group to organize a display of their research results on a table. Place a comment sheet on each group table. Have groups rotate through the displays at timed intervals. One group member can remain with his or her display to present group research. Encourage visiting groups to record their feedback, in the form of questions or comments. Alternatively, groups can stay together and be asked to record feedback on the comment sheet on each table.

Students can be asked to make a **Sway** to share their learning with classmates as well as with parents and other family members at Demonstration of Learning opportunities. **Google Classroom** and **Google+ Community** can also be used to share ongoing project work and completed projects.

Public Share

If appropriate, provide students with an opportunity to share and communicate their findings and conclusions with parents, family members and community members.

Publicly sharing student projects can range from posting student timelines to school or community **Padlet** boards to sharing timelines with other schools or classrooms in your jurisdiction. Mural or brochure-formatted timelines can be photographed to share online.

Be aware of FOIP issues and jurisdiction policies when structuring and implementing sharing opportunities.

Reflection

Provide students with options to reflect on their projects and learning, using questions such as the following:

- Why is agriculture important to the growth and development of Alberta and Canada?
- What are the benefits and challenges of changes that communities have experienced over time? To people? To the land? To ways of life? With technology?
- Why is it important to understand how places and human activities change over time?
- Is change always positive? Why or why not?

Challenge students to pose their own reflection questions as well.

Students can be asked to reflect on these questions by selecting from activities such as:

- Adding reflection cards (index or digital note cards) to their project timelines
- Creating a written response (blog, paragraph, media article)
- Making a mind map or bubble map
- Creating a poster

Questions such as these can also be used on exit slips.

Curriculum Support

Change with the Times supports specific learning outcomes in **Grades 4 and 5 Social Studies**, **Language Arts** and **Math** curriculum. The learning outcomes in the charts that follow are developed and/or reinforced with the activities of this project. Use the check boxes to keep track of the learning outcomes that are appropriate for your grade and subject area context.

The activities in this project may also be used to support learning outcomes in the **Health and Life Skills** program of studies related to group roles and processes, respectful communication and learning processes.

Project activities also support learning outcomes in the **Information and Communication Technology (ICT)** program of studies. ICT outcomes are also addressed in the Social Studies and Language Arts programs of studies.

Social Studies Grade 4	**4.1.1 Value Alberta's physical geography and natural environment:** ☐ (3) appreciate the variety and abundance of natural resources in Alberta (ER, LPP) ☐ (5) appreciate how land sustains communities and quality of life (ER, LPP) **4.1.4 Analyze how Albertans interact with their environment by exploring and reflecting upon the following:** ☐ (1) In what ways do the physical geography and natural resources of a region determine the establishment of communities? (LPP) ☐ (2) How are natural resources used by Albertans (i.e., agriculture, oil and natural gas, forests, coal)? (ER, LPP) **4.2.2 Assess, critically, how the cultural and linguistic heritage and diversity of Alberta has evolved over time by exploring and reflecting upon the following**: ☐ (11) How are agriculture and the establishment of communities interconnected? (ER, LPP)	**4.S.1 Develop skills of critical thinking and creative thinking:** ☐ (2) evaluate, critically, ideas, information and positions from multiple perspectives ☐ (3) re-evaluate opinions to broaden understanding of a topic or an issue **4.S.2 Develop skills of historical thinking:** ☐ (2) use historical and community resources to understand and organize the sequence of local historical events **4.S.3 Develop skills of geographic thinking:** ☐ (2) construct graphs, tables, charts and maps to interpret information ☐ (3) use historical maps to make meaning of historical events and issues **4.S.5 Demonstrate skills of cooperation, conflict resolution and consensus building:** ☐ (4) work collaboratively with others to complete a group task ☐ (5) share information collected from electronic sources to add to a group task **4.S.7 Apply the research process:** ☐ (2) organize and synthesize information gathered from a variety of sources ☐ (3) use graphic organizers, such as webbing or Venn diagrams, to make meaning of information ☐ (4) draw and support conclusions, based on information gathered, to answer a research question ☐ (5) formulate new questions as research progresses ☐ (7) access and retrieve appropriate information from the Internet by using a specific search path or from given uniform resource locations (URLs) ☐ (8) navigate within a document, compact disc or software application that contains links ☐ (9) organize information gathered from the Internet or an electronic source by selecting and recording the data in logical files or categories **4.S.8 Demonstrate skills of oral, written and visual literacy:** ☐ (1) organize and present information, taking particular audiences and purposes into consideration ☐ (5) communicate effectively through appropriate forms, such as speeches, reports and multimedia presentations, applying information technologies that serve particular audiences and purposes

Social Studies Grade 5	**5.1.1 Value Canada's physical geography and natural environment:** ☐ (1) appreciate the variety and abundance of natural resources in Canada (ER, LPP) ☐ (4) appreciate how the land sustains communities and the diverse ways that people have of living with the land (GC, LPP) ☐ (5) appreciate the influence of the natural environment on the growth and development of Canada (LPP) **5.1.3 Analyze how people in Canada interact with the environment by exploring and reflecting upon the following:** ☐ (1) In what ways do natural resources and the physical geography of a region determine the establishment of communities? (ER, LPP) ☐ (2) How are natural resources used, exchanged and conserved in Canada? (ER, LPP) **5.2.2 Examine, critically, the ways of life of Aboriginal peoples in Canada by exploring and reflecting upon the following** ☐ (1) What do the stories of First Nations, Métis and Inuit peoples tell us about their beliefs regarding the relationship between people and the land? (I, CC, TCC, LPP) **5.3.1 appreciate how changes impact citizenship and identity:** ☐ (1) Recognize how economic and political changes impact ways of life of citizens (C, ER, I, PADM)	**5.S.1 Develop skills of critical thinking and creative thinking:** ☐ (2) evaluate ideas, information and positions from multiple perspectives ☐ (3) re-evaluate personal opinions to broaden understanding of a topic or an issue ☐ (4) generate original ideas and strategies in situations of individual and group activities **5.S.2 Develop skills of historical thinking:** ☐ (2) use historical and community resources to understand and organize the sequence of national historical events ☐ (4) organize information, using such tools as a database, spreadsheet or electronic webbing **5.S.3 Develop skills of geographic thinking:** ☐ (2) construct maps, diagrams and charts to display geographic information ☐ (3) use historical maps to make meaning of historical events and issues **5.S.5 Demonstrate skills of cooperation, conflict resolution and consensus building:** ☐ (3) work collaboratively with others to achieve a common goal ☐ (4) record group brainstorming, planning and sharing of ideas by using technology **5.S.7 Apply the research process:** ☐ (1) determine themes, patterns and trends from information gathered ☐ (2) use graphs, tables, charts and Venn diagrams to interpret information ☐ (3) draw and support conclusions, based on information gathered, to answer a research question ☐ (4) cite references as part of research ☐ (6) access and retrieve appropriate information from the Internet by using a specific search path or from given uniform resource locations (URLs) ☐ (7) navigate within a document, compact disc or software application that contains links ☐ (8) organize information gathered from the Internet or an electronic source by selecting and recording the data in logical files or categories **5.S.8 Demonstrate skills of oral, written and visual literacy:** ☐ (1) select appropriate forms of delivery for written and oral information, taking particular audiences and purposes into consideration ☐ (7) communicate effectively through appropriate forms, such as speeches, reports and multimedia presentations, applying information technologies that serve particular audiences and purposes

Language Arts Grade 4

1.1 Discover and Explore

Express ideas and develop understanding

☐ compare new ideas, information and experiences to prior knowledge and experiences

☐ ask questions, paraphrase and discuss to explore ideas and understand new concepts

☐ share personal responses to explore and develop understanding of oral, print and other media texts

1.2 Clarify and Extend

Consider the ideas of others

☐ identify other perspectives by exploring a variety of ideas, opinions, responses and oral, print and other media texts

Combine ideas

☐ use talk, notes, personal writing and representing to record and reflect on ideas, information and experiences

Extend understanding

☐ explore ways to find additional ideas and information to extend understanding

2.1 Use Strategies and Cues

Use prior knowledge

☐ use ideas and concepts, developed through personal interests, experiences and discussion, to understand new ideas and information

2.2 Respond to Texts

Experience various texts

☐ experience oral, print and other media texts from a variety of cultural traditions and genres

Construct meaning from texts

☐ identify the main events in oral, print and other media texts; explain their causes, and describe how they influence subsequent event

☐ develop own opinions based on ideas encountered in oral, print and other media texts

2.4 Create Original Text

Generate ideas

☐ use a variety of strategies for generating and organizing ideas and experiences in oral, print and other media texts

Structure text

☐ produce oral, print and other media texts that follow a logical sequence, and demonstrate clear relationships between character and plot

☐ produce narratives that describe experiences and reflect personal responses

3.1 Plan and Focus

Determine information needs

☐ ask relevant questions, and respond to questions related to particular topics

Plan to gather information

☐ develop and follow a class plan for accessing and gathering ideas and information

3.2 Select and Process

Use a variety of sources

☐ locate information to answer research questions, using a variety of sources, such as maps, atlases, charts, dictionaries, school libraries, video programs, elders in the community and field trips

3.3 Organize, Record and Evaluate

Organize information

☐ organize ideas and information, using appropriate categories, chronological order, cause and effect, or posing and answering questions

☐ record ideas and information that are on topic

☐ organize oral, print and other media texts into sections that relate to and develop the topic

3.4 Share and Review

Share ideas and information

☐ communicate ideas and information in a variety of oral, print and other media texts, such as short reports, talks, posters

4.3 Present and Share

Present information

☐ present to peers ideas and information on a topic of interest, in a well-organized form

5.2 Work within a Group

Cooperate with others

☐ take responsibility for collaborating with others to achieve group goals

Work in groups

☐ share personal knowledge of a topic to develop purposes for research or investigations and possible categories of questions

☐ use brainstorming, summarizing and reporting to organize and carry out group projects

Language Arts Grade 5

1.1 Discover and Explore

Express ideas and develop understanding

- ☐ use appropriate prior knowledge and experiences to make sense of new ideas and information
- ☐ read, write, represent and talk to explore personal understandings of new ideas and information
- ☐ use own experiences as a basis for exploring and expressing opinions and understanding

1.2 Clarify and Extend

Consider the ideas of others

- ☐ seek the viewpoints of others to build on personal responses and understanding

Combine ideas

- ☐ use talk, notes, personal writing and representing to explore relationships among own ideas and experiences, those of others and those encountered in oral, print and other media text

Extend understanding

- ☐ search for further ideas and information from others and from oral, print and other media texts to extend understanding

2.1 Use Strategies and Cues

Use prior knowledge

- ☐ describe ways that personal experiences and prior knowledge contribute to understanding new ideas and information

2.2 Respond to Texts

Experience various texts

- ☐ experience oral, print and other media texts from a variety of cultural traditions and genres
- ☐ write or represent the meaning of texts in different forms

Construct meaning from texts

- ☐ support own interpretations of oral, print and other media texts, using evidence from personal experiences and the text

2.4 Create Original Text

Generate ideas

- ☐ use texts from listening, reading and viewing experiences as models for producing own oral, print and other media texts

Structure text

- ☐ use structures encountered in texts to organize and present ideas in own oral, print and other media texts
- ☐ use structures encountered in texts to organize and present ideas in own oral, print and other media texts

3.1 Plan and Focus

Determine information needs

- ☐ identify categories of information related to particular topics, and ask questions related to each category

Plan to gather information

- ☐ develop and follow own plan for gathering and recording ideas and information

3.2 Select and Process

Use a variety of sources

- ☐ locate information to answer research questions, using a variety of sources, such as newspapers, encyclopedias, CDROMs, a series by the same writer, scripts, diaries, autobiographies, interviews and oral traditions

3.3 Organize, Record and Evaluate

Organize information

- ☐ use clear organizational structures, such as chronological order, and cause and effect, to link ideas and information and to assist audience understanding
- ☐ organize ideas and information to emphasize key points for the audience

Record information

- ☐ combine ideas and information from several sources

3.4 Share and Review

Share ideas and information

- ☐ communicate ideas and information in a variety of oral, print and other media texts, such as illustrated reports, charts, graphic displays and travelogues

4.3 Present and Share

Present information

- ☐ organize ideas and information in presentations to maintain a clear focus and engage the audience

5.2 Work within a Group

Cooperate with others

- ☐ accept and take responsibility for fulfilling own role as a group member

Work in groups

- ☐ formulate questions to guide research or investigations, with attention to specific audiences and purposes
- ☐ contribute ideas to help solve problems, and listen and respond constructively

Math Grade 4	**Number** **Develop number sense.** ☐ 1. Represent and describe whole numbers to 10 000, pictorially and symbolically. ☐ 2. Compare and order numbers to 10 000. ☐ 8 . Demonstrate an understanding of fractions less than or equal to one by using concrete, pictorial and symbolic representations to name and record fractions for the parts of a whole or a set. **Patterns and Relations (Patterns)** **Use patterns to describe the world and to solve problems.** ☐ 1. Identify and describe patterns found in tables and charts. ☐ 2. Translate among different representations of a pattern, such as a table, a chart or concrete materials. ☐ 3. Represent, describe and extend patterns and relationships, using charts and tables, to solve problems. ☐ 4. Identify and explain mathematical relationships, using charts and diagrams, to solve problems. **Statistics and Probability (Data Analysis)** **Collect, display and analyze data to solve problems.** ☐ 2. Construct and interpret pictographs and bar graphs involving many-to-one correspondence to draw conclusions.

Math Grade 5	**Number** **Develop number sense.** ☐ 1. Represent and describe whole numbers to 1 000 000. ☐ 2. Use estimation strategies in problem-solving contexts. ☐ 7 . Demonstrate an understanding of fractions by using concrete, pictorial and symbolic representations to create sets of equivalent fractions. ☐ 8 . Describe and represent decimals (tenths, hundredths, thousandths), concretely, pictorially and symbolically ☐ 9. Relate decimals to fractions and fractions to decimals (to thousandths) **Patterns and Relations (Patterns)** **Use patterns to describe the world and to solve problems.** ☐ 1. Determine the pattern rule to make predictions about subsequent elements. **Statistics and Probability (Data Analysis)** **Collect, display and analyze data to solve problems.** ☐ 1. Differentiate between first-hand and second-hand data. ☐ 2. Construct and interpret double bar graphs to draw conclusions.