

Galt

MUSEUM
& ARCHIVES

stories unfolding...



Uncovering Secrets

ARCHAEOLOGY
in southwestern **ALBERTA**



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**TEACHER'S
MANUAL**

UNCOVERING SECRETS: ARCHAEOLOGY OF SW ALBERTA TEACHER'S GUIDE

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These ideas for classroom activities designed to complement a visit to The Galt. It contains information to assist you in planning your visit, information and activities for both before and after your visit, and outlines what you can expect from your education program.

The Galt's Mission

The Galt Museum & Archives engages and educates our communities in the human history of southwestern Alberta by preserving and sharing collections, stories and memories that define our identity and guide our future.

Program Overview

Uncovering Secrets: Archaeology of SW Alberta is designed to introduce students to both the process and the results of archaeology in southwestern Alberta. Through the program students will discover the types of archaeological sites in southern Alberta, what the sites tell us about the peoples who have lived here and how archaeology is used to add to our knowledge of the human history of the area. In addition, the program will introduce students to the process of archaeology—how archaeologists work (how a dig is managed), the legal ownership of archaeological finds and more.

Program Length

Uncovering Secrets: Archaeology of SW Alberta runs throughout the school year and is designed to be 90 minutes in length. Groups wishing to remain for a longer time period, should make arrangements with the Education Coordinator.

Curriculum Connections

Like history, archaeology may be thought of in two distinct manners: as the process by which archaeologists work (how they do what they do) and the product archaeologists find (what we know based on their work). This program focuses on both process and product.

The process component of the program will assist students in developing historical thinking skills, in recognizing the role of oral history in our understanding of places and events and in understanding how historians and archaeologists work together using a wide range of material (oral history, archaeological information, written material and more) to create a more complete history.

The product component will provide students with information on the human history of southwestern Alberta related to the past 10,000 years.

The program is designed to complement some of the following areas of the curriculum

4.1 Alberta: A Sense of the Land

General Outcome

Students will demonstrate an understanding and appreciation of how elements of physical geography, climate, geology and paleontology are integral to the landscapes and environment of Alberta.

4.1.3 Examine, critically, how geology and paleontology contribute to knowledge of Alberta's physical geography by exploring and reflecting upon the following questions and issues:

- How did archaeologists and paleontologists discover the presence of dinosaurs in Alberta? (LPP, TCC)

4.1.4 Analyze how Albertans interact with their environment by exploring and reflecting upon the following questions and issues:

- In what ways do the physical geography and natural resources of a region determine the establishment of communities? (LPP)
- How are natural resources used by Albertans (i.e., agriculture, oil and natural gas, forests, coal)? (ER, LPP)

- How can ownership of a discovered artifact be determined? (C, ER, PADM)
- Whose responsibility should it be to ensure the preservation of national parks, provincial parks and protected areas in Alberta? (C, LPP, PADM)

5.2 Histories and Stories of Ways of Life in Canada

General Outcome

Students will demonstrate an understanding of the people and the stories of Canada and their ways of life over time, and appreciate the diversity of Canada's heritage.

Students will:

5.2.2 Examine, critically, the ways of life of Aboriginal peoples in Canada by exploring and reflecting upon the following questions and issues:

- 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)

How were the natural environment and geography of each region of Canada determining factors of the diversity among Aboriginal groups (e.g., languages, symbolism)? (LPP, TCC)

- In what ways do anthropology and archaeology contribute to our understanding of First Nations, Métis and Inuit peoples? (CC, LPP, TCC)

Confirmation, Cancellations, and Contact Information

Your program has been scheduled as per the information on your confirmation sheet. If you have any questions about your booking or the program, please contact the Education Coordinator at tours@galtmuseum.com or (403) 320-4248. If you must cancel or reschedule a program, please let us know as soon as possible. We will try to fit your class in at another time as time permits.

Payment

Payments can be made in advance of the program or on the day of the program. The Galt accepts VISA, MasterCard, debit, cash, and cheques. Cheques should be made out to the City of Lethbridge. If payment is made in advance, receipts will be available on the day of the program. Otherwise, receipts will be mailed out to the school. The payment amount is \$45 per class per program.

Expectations for Visitors

There should be one or two adult supervisors per class. More adults are always welcome and there is no cost for adult supervisors. Younger siblings accompanying the class with their parents are also most welcome to attend the program.

- Running is not permitted in The Galt. There is green space to the south of The Galt if the class requires a space to stretch their legs.
- In order to protect and preserve the artifacts, drinks, food, and chewing gum are not permitted in the galleries or Archives. Drinking and eating are permitted in the Viewing Gallery.
- Because they are fragile and irreplaceable, artifacts on display should not be touched or handled.
- It is requested that there be no flash photography in the galleries. Light can, over time, damage the artifacts. Flash photographs can be taken in the viewing gallery and programming areas (i.e. classroom).
- Visitors are not required to whisper. Indoor voices are preferred.
- Washrooms are located on the main floor in the old part of the building.

The Role of Adult Supervisors

Adult supervisors are an integral part of The Galt's programs. The following suggestions are provided to help make their role clearer and easier to manage. Some teachers find it useful to photocopy these suggestions for their adult supervisors.

- ✓ Float around and assist during the activities.
- ✓ Maintain the focus of the activities as you assist students through the activities. Remind students of what they are trying to discover and help them troubleshoot problems they may encounter.
- ✓ Depending on the activity, supply the students with answers to questions and additional information. Your Museum Education volunteer (docent) or Education Coordinator will answer any questions you may have. If a question can not be answered during the program, it will be recorded and more information will be forwarded to the school.
- ✓ Assist in keeping students together.
- ✓ Ensure that students do not: run in the galleries, touch the artifacts on display, or drink or chew gum in the exhibits.
- ✓ Ask any available staff for assistance if there is an emergency.
- ✓ Encourage the students to ask questions and get involved.
- ✓ Enjoy your visit.

Your Arrival at the Galt

- The Galt has a parking lot north of the building with bus and vehicle parking.
- Buses and vehicles may drop off and pick up students at the north east corner of the building (using the east entrance). This is a fire access road so please do not leave vehicles here once they are emptied.
- Please enter through the east entrance. There is a coat room down the hallway to your left as you enter. Please leave all coats and backpacks here. Students do not need to remove boots. This coat room is solely for the use of programs and is not for general visitors.
- Galt staff will meet you at the east entrance.

Background Information for Uncovering Secrets: Archaeology of SW Alberta—Teacher's Guide

Numerous archaeological sites exist around southern Alberta and archaeologists believe that many, many more wait to be found (or, unfortunately, lost forever).

Archaeology is a fascinating way to discover the human stories hidden under the soils and across the landscape of southern Alberta. Archaeologists uncover bison bones that are 11,000 years old by digging several metres under the prairie grasses. They excavate depressions that turn out to be garbage dumps and privies to learn about the people who lived in a coal mining town in the Crowsnest Pass. Dart points found in conjunction with ancient animal bones uncovered by erosion, family belongings unearthed in the remains of an historic ranch building, and surveys compiled of human and animal figures carving into stone help us understand those who lived here before our time.

HOW ARCHAEOLOGISTS WORK

Archaeologists use a wide variety of methods to study the past.

The most common archaeological technique (and the one most people think of when they consider archaeology) is excavation. Excavation generally begins with a survey of the surface to identify evidence that indicates an archaeological site may be hidden under the ground. If cultural remains are present, a grid of metre squares is laid out. Each unit is systematically excavated using hand tools such as trowels and paint brushes to remove thin layers of soil. The locations of uncovered artifacts are measured in three dimensions (providing N/S, E/W and vertical coordinates). Drawings and photographs record the relationship of multiple artifacts found in a unit. Soil layers and types are recorded and analyzed along with features such as charcoal from a fire pit or hearth and disturbances made by burrowing animals. It is important that artifacts be found in situ (in the place where past humans left them) as their relationship to one another and to the layers of soil gives the archaeologists the opportunity to place them in the appropriate context.

Some archaeologists focus on the micro-analysis of small remains, such as using microscopes to identify seeds and pollens. DNA analysis of blood found on points can tell archaeologists what type of animals were hunted.

Archaeologists also study written records and talk to local people and Indigenous elders to learn of oral traditions and memories that might enhance their understanding of the archaeological findings. Drawings, paintings and carvings indicate not only the skill level of the artist but their vision of their surroundings. Stories described by the art tell of human activity including animal hunts and important events, as well as a spiritual reverence to the land and animals.

In many cases, areas of sites are left unexcavated so future archaeologist can explore them with new techniques and information. The millions of artifacts recovered from archaeological sites across Alberta are stored in drawers and on shelves in museums and universities. Much can be learned from their continued study by students and professional archaeologists who look at them with fresh eyes and often with different viewpoints.

WHO OWNS THE STUFF?

An archaeological site is any location where cultural remains were left by people from the past—whether uncovered or still hidden. The laws about stewardship and ownership of these sites and objects are described in the Alberta Historical Resources Act of 1978. The Act declares that archaeological artifacts and the knowledge gained from them belong to all Albertans as part of our shared heritage.

If you find artifacts on the surface, it is best that you leave them where they are and report your discovery to the Royal Alberta Museum (RAM). If an artifact is in danger of being permanently lost or broken through such activities as erosion or plowing, you can collect it, record its location (GPS works well for this), and report the find to the RAM.

Only qualified archaeologists with a valid research permit are legally allowed to excavate a site and remove artifacts. Anyone found digging without a permit faces penalties of a year in prison and/or fines up to \$50,000. This law applies to human related archaeological remains and to paleontological plant and animal fossils. The Alberta Historical Resources Act discourages private ownership of archaeological collections; however,

people who collected artifacts prior to the Act (1978) can register their collections with RAM and obtain a certificate stating that the artifacts are not owned by the Alberta government. No matter when the objects are collected, they must not be sold or sent out of the province without a permit. Private collectors and amateur archaeologists have played a vital role in the story of Alberta archaeology. They have donated many important collections to museums, and they have led archaeologists to some significant sites in the province.

SOME ARCHAEOLOGICAL SITES IN SOUTHERN ALBERTA

There are numerous archaeological sites across southern Alberta ranging from tepee rings to rock effigies to old trading posts and industrial sites such as the brewery in Lethbridge. Information on just a few sites are provided below to help show the range of sites.

Years are given as BP, which stands as Before Present. Present is given as 1950, the year this system of dating was adopted by archaeologists. The number following some of the sites is the provincial cataloguing system.

Wally's Beach—13,300 years BP

Near St. Mary's Reservoir

In the fall, the water level of the St. Mary's Reservoir sometimes drops several metres. As the water recedes and the wind dries the exposed shoreline, the bones and tracks of mammoth, camel, early horse, ancient bison, caribou, predatory cats and muskoxen are uncovered. Human-made lithics or stone points and scrapers were found in conjunction with animal bones, suggesting that humans hunted these animals. This site produced the first bones of ancient North American camel and horse associated with human activity, including camel bones with butchering marks. The bones of the first horses that lived in North America were found in large numbers.

Fletcher Bison Kill Site (DjOw-1)—10,000 years BP

South of Taber

In 1963, Armin Dyck of Coaldale discovered stone projectile points of a very old style in dirt piles from the construction of a water dugout. The Fetters owned the land at the time and gave permission for a series of archaeological investigations. Two types of ancient spear points have been recovered at the site: Alberta style, which is about 10,700 years old, and the

Scottsbluff style, approximately 10,200 years old. Whole bison bones and fragments were found. Some bones showed butchering marks.

Fincastle Kill and Processing Site (DIOx-5)—2500 years BP

North of Purple Springs

This site was known for more than a century but remained a local secret until someone started illegally digging the site to retrieve projectile points and bones. To protect the site, an excavation permit was done.

The dig discovered that 2500 years BP a group of hunters killed at least 65 bison at this site. They left behind stone tools and projectile points, thousands of bones, debris from tool making processes, and fire-broken rock. The bones and teeth of the animals found indicated that the hunt took place in the fall. The shapes of the projectiles, identified as Besant points, indicate the hunters were using darts which were a technological improvement over the long shaft spear. The shorter shafts and the aid of a throwing stick called an atlatl made a very efficient tool which increased the accuracy and power of the weapon.

The majority of points were made from Knife River Flint quarried in North Dakota and a few were made of obsidian from the Yellowstone area which reveals trade to and/or trade with the people in those areas.

Fire-broken rock indicates that at least some of the meat was processed at this location. Rocks heated in a fire were dropped into water boiling pits to extract grease from the animal bones. The grease was then added to dried bison meat and possibly dried berries to make pemmican which could be easily stored for later consumption.

Several unusual arrangements of bones were found placed vertically in precise patterns. No known reason is apparent but archaeologists think they may have had a ceremonial function.

Writing-On-Stone | Áísínai'pi National Historic Site—100 to 1000 years BP

Along the Milk River

Áísínai'pi means “it has been written” in Blackfoot and this site is an extensive record of life and events from people who lived and travelled through the region for thousands of years. Predominately Blackfoot peoples created the pictographs and petroglyphs, but there is also indication that

Shoshone, Cree, Gros Ventres, Crow, Assiniboine, Sioux and Kutenai left their mark.

During historic times, the North West Mounted Police, early ranchers and recent tourists added their names and marks. The question of what is considered rock art stimulates an on-going discussion; when are the pictographs historic and important and when are they destructive and graffiti? It is now illegal to add anything more or to damage the existing art.

People, animals and events such as battles, raids or hunts are depicted on the smooth sandstone cliffs and hoodoos. The largest battle scene, called Retreats Up the Hill, outlines the 1866 victory of Piikani over Gros Ventre, Cree and Crow warriors. The passage of time is evident with the change of hunting technology from the spear to the rifle.

Images of the horse appear on the stone around the time that they were obtained by the plains tribes in the mid 1700s, and a car was added when Bird Rattle, an elder recorded his visit to the site in 1924.

Animals including deer, rattlesnakes, weasels, bear, bison, porcupine, wolf, elk and birds are accurately depicted and many show lifelines to indicate living animals.

Rock art is not confined to the Milk River valley as there are many other sites across southern Alberta where pictographs and petroglyphs have been added to glacial erratic and cliff or hoodoo faces.

Writing-on-Stone was created as a Provincial Park in 1968. Large areas of the park are restricted and visitors must be accompanied by a guide—many of whom are Blackfoot—to see the art and to hear of their interpretations. Many of the rock paintings have been damaged over the years by modern visitors scratching their names in the soft sandstone and shooting bullets at the images, and by natural slumping and erosion. The designation as a National Historic Site was celebrated in 2012.

Stone Features

Several types of stone features are found on the southern Alberta plains. Tipi rings are by far the most numerous, followed by Medicine Wheels. Small cairns or piles of rocks delineating drive lanes for buffalo hunts are also evident in many locations. There are smaller numbers of human and animal effigy sites as well. These stones arrangements date from fairly recent to thousands of years in age.

Tipi Rings are circles of prairie stones used to hold down the buffalo skin covers of the tepee. The stones were left when the group moved to their next site.

Medicine Wheels are sacred sites typically built on the highest point in the area. Many have a central rock pile or cairn and a circle of stones surrounding it. Some have rock lines that radiate from the cairn. Rocks and offerings of tobacco and other items have been added to the central cairns over the years. There are different types of medicine wheels and they continue to be built into modern times.

Effigy Sites are configurations of stones carefully placed to create a symbolic human or animal (such as turtle) figures.

Drive Lane Cairns laid out in a funnel pattern were built to direct bison herds towards a cliff or pound (corral). In some cases members of the hunting tribe hid behind branches stuck into the cairns. This was an effective hunting technique which allowed the people to kill enough buffalo to supply meat, clothing, lodge covers and tools for the group to survive the winter months.

Pre- and Post-Activities

These activities can be done prior to your visit to The Galt or after you have returned to your classroom.

EXCAVATING A JELLO MOLD

This activity can be used to give students an idea of how archaeologists survey while conducting an excavation. To do this activity, each group will need three sheets of grid paper as well as a clear bowl of jello with three different colour layers with fruit or other objects embedded in it. Students will work to excavate and map each layer of the jello.

Working down layer by layer (students will need to carefully remove each layer **AFTER** they map it so they can access the next layer), the group will work to map and draw each object/fruit found in the layer of jello. As they remove a layer, students will carefully remove each item and write down their findings. It is useful to have three students per group (1 excavator, a mapper and one recorder). They can change jobs for each layer. [adapted from an exercise by Alice Elia]

A STORIED OBJECT

Not every object survives to become part of the archaeological record. Assemble for your class a group of random objects made from a variety of material such as wood, metal, glass, paper, leather, etc. Ask the students to group the objects into which they think would survive buried for the longest time? The shortest? Which types of materials would archaeologists likely find after thousands of years? Hundreds of years?

While archaeological records are incomplete in that not all objects made by people have survived, objects can tell us a great deal. The types of objects that groups use show us the materials that are available in their environment, the materials and designs that are important to that group, they show up the trends and styles and much more. Archaeologists are trained to look carefully at objects, to draw them and study them.

Assemble a large number of objects. Ask each student to choose an object. Each student will observe the object and make a list of the details of the object. Using that list, ask each student to write a short description of the artifact. Students may not provide the name of the artifact but should select some of the more important or distinctive attributes. The description is then given to another student in the class. The student draws the object based on the written description provided. Using the written description and the drawing based on the written description, the students need to identify their partners object.

Extension: students may then wish to use the objects as story starters for creative writing—create a story about someone using this object.

Extension: rather than providing objects in the classroom, this activity could be done at the museum (each student find an artifact in the collection to describe) or another public space. (adapted from an exercise by KC Smith)

YOUR CHOICE

Students decide what activity they liked the best and what they liked the least. Encourage them to analyze their reactions. This activity offers a chance to discuss fact and opinion. This activity may be done as journal writing to allow reflection and internalization of the experience or as a letter to The Galt.

Your Galt Program

ACTIVITY 1 : WELCOME AND INTRODUCTION

Students will be welcomed to the museum and will review what a museum is and the expectations of visitors to the museum. The group will learn about the activities they will participate in for the rest of the program. Students will be introduced to the work of archaeologists and what they do.

ACTIVITY 2: DIGGING IT

Students will be guided through a mock dig. During the dig (based on grade level) students may learn about: legal issues around archaeology (who owns it, etc), how archaeologists survey the land, creating a grid pattern, systematic surveying, what archaeologists find and more.

ACTIVITY 3: SOUTHERN ALBERTA SITES AND OBJECTS

Students will be able to examine some artifacts dug up from southern Alberta sites and will explore some of the information gathered about the human history of southwestern Alberta from the work of archaeologists at these sites. Each dig container was based on a specific archaeological site found in southern Alberta.

ACTIVITY 4: CONCLUSION

Students will review the activities of the program and will be invited to visit The Galt again.

The above program will be adapted to the age/grade level of the students. Younger students may also participate in the Sandwich Archaeology activity as a way of understanding how layers were put down and how items have been buried over the years for archaeologists to find.

Glossary

Archaeological Jobs

- Field Crew: Excavators: A field crew is the team who excavates or digs up sites. The crew is led by an archaeologist with years of experience at excavating sites. They are often assisted by people new to archaeology such as students and volunteers.
- Collections Specialists: curators, archaeological technicians. After excavation, objects often end up in the collections of museums, universities, parks and other places. Collections specialists are the people who take care of the excavation records and artifacts.
- Historical Archaeologist. If an archaeological site was done recently, during historic times, a historical archaeologist will use written, documentary sources and compare the information there with the information found at the site.
- Oral Historian. Oral historians add to the knowledge by speaking with people. People may have memories or they may share stories and histories that have been passed down and which help explain how things were used or the importance of a site.
- Archaeology: The scientific study of past human activity through the analysis of materials they left behind.
- Artifact: A portable object made and/or used by humans.
- BP or Before Present: A calendar system used by archaeologists. “Before Present” is calculated back from the year 1950.
- Borden Number: A site recording system which designates a specific letter code and number of each archaeological site in Canada
- Excavation: Careful and systematic removal of soil to uncover and record archaeological remains.
- Grid: Organization of predetermined units in an excavation survey
- In Situ: Original location of archaeological remains. For archaeologists to learn the most they can, it is very important that the remains be found in the ground where they were first located.
- Lithic: A stone tool or waste product from stone tool manufacture
- Midden: Collection or dump of household and/or human garbage

- Petroglyph: Two-dimensional image created in stone by carving or chipping shapes and outlines in the stone surface
- Pictograph: Drawing painted on a rock or stone surface that represents people, animals, events or activities
- Projectile Point: Stone fashioned into an arrow, spear or dart point
- Radiocarbon Dating: Chemical analysis of the amount of carbon 14 contained in an organic remain. The carbon 14 radioactive isotope decays at a steady rate and helps date a specimen that is between from 500 and 50,000 years old
- Stratum: One or more layers which form a record of homogeneous geological or cultural process

Evaluation

An evaluation form was sent out with your confirmation. Evaluation results allow us to offer the most effective and highest standard program that we can. Your feedback and suggestions are greatly appreciated. Please fax the form back to us at (403) 329-4958 or mail to Museum Educator at 910 4 Ave S, Lethbridge, AB T1J 0P6.



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