

DISCOVERING AN ALBERTA TREASURE

Big Picture: The students will create an explorers notebook that, when someone in the future discovers it, will contain all the information needed to understand the importance of paleontology and the National, Provincial Parks and Protected Areas in Alberta. Students will use numbers and URLs to cite the information and photographs used in this project.

SOCIAL STUDIES - General Outcome: 4.1 Alberta: A Sense of the Land – 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.

Values and Attitudes - Specific Outcomes:

4.1.1 The students will value Alberta's physical geography and natural environment:

4.1.1.1 appreciate the diversity of elements pertaining to geography, climate, geology and paleontology in Alberta

4.1.1.2 appreciate how Alberta's fossil heritage contributes to the province's unique character

4.1.1.4 appreciate the environmental significance of national and provincial parks and protected areas in Alberta

Knowledge and Understanding - Specific Outcomes:

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

4.1.3.1 How did archeologists and paleontologists discover the presence of dinosaurs in Alberta?

4.1.3.2 What geological feature makes Alberta unique e.g. hoodoos

4.1.4 The students will analyze how Albertans interact with their environment by exploring and reflecting upon the following questions and issues.

4.1.4.4 In what ways does the Royal Tyrrell Museum contribute to scientific knowledge regarding Alberta's fossil heritage?

4.1.4.5 How can ownership of a discovered artifact be determined?

4.1.4.6 Whose responsibility should it be to ensure the preservation of national parks, provincial parks and protected areas in Alberta?

ITC Outcomes: These are used in all aspects of the project.

Category: Communicating, Inquiring, Decision Making and Problem Solving

C1.2.1 access and retrieve appropriate information from the Internet by using a specific search path or from given uniform resource locations

C1.2.2 organize information gathered from the Internet, or an electronic source, by selecting and recording the data in logical files or categories; and by communicating effectively, through appropriate forms, such as speeches, reports and multimedia presentations, applying information technologies that serve particular audiences and purposes

C6.2.2 use data gathered from a variety of electronic sources to address identified problems

Category: Foundational Operations, Knowledge and Concepts

F3.2.2 work collaboratively to share limited resources

F3.2.4 document sources obtained electronically, such as web site addresses

Category: Processes for Productivity

P1.2.2 edit and format text to clarify and enhance meaning, using such word processing features as the thesaurus, find/change, text alignment, font size and font style

P3.2.2 access available databases for images to support communication

P4.2.2 vary font size and font style, and placement of text and graphics in order to create a certain visual effect

Preparation of Notebook:

1. Have the students take a piece of 11x17 inch paper and crumple it into a tight ball.
2. Mix Tempera paint that is about 3/4 water and 1/4 paint. A grey or brown colour is best.
3. The students carefully pull their paper flat and using a sponge paint their paper and both sides of 3 sheets of legal sized white paper then let them all dry.
4. Once the paper is completely dry tape any tears together on the back of the 11 x 17” paper.
5. Then take 1/2 of an old legal file folder that has been trimmed to a rectangle, fold the edges of the painted paper over the folder and tape them down.
6. Fold the notebook in half.
7. Open again and on the inside glue a sheet of the legal sized paper over the flaps and tape or glue to make a finished look that you would see inside a book.
8. Put a simple line border using a felt pen on the front and title it something like: The Notebook Of “Student’s” “Name” in their best handwriting.
9. Take two brads and a piece of wool and create a way to keep the notebook closed in the middle of the open edge.

10. Take the two pieces of legal sized white paper and staple into the middle of the notebook or sew them in with a needle and thread. (down middle of inside leaving a tail, up through about $\frac{1}{4}$ of way from bottom, down through $\frac{1}{4}$ of way from top, back up the middle and tie with first tail capturing all threads).

A. Prior Knowledge Discussion: See if you can borrow an old notebook/diary/journal from a local museum, library, or check your school library for an example then discuss with the students:
(Cards are included in the package to use for different strategies in completing Part A)

- When Canada was becoming a country why did they send explorers to the Alberta region?
- How did the explorers travel and whom would they meet during their travels?
- How an explorer of the 1800's might take information back to his employers?
- What technology was available?
- How long would it be before he was to show his information to his employers? So is a memory good enough?
- How available were paper and pencils? Telephones? Computers? Telegraphs?
- Why would his notebook be important to the development of Canada and Alberta in the early years?
- Is there another way to keep a record of what he sees? What would be the expenses for using it?
- What occupation may he have had? (Scientist, Geologist, Surveyor or Fur Traders)
- Was Alberta even a province in the late 1800's?
- Why did the Government of Canada need to know what was in the area now known as Alberta?
- What was the area around the Drumheller valley like back in the late 1800's? (Grassland, Red Deer River, fairly flat, then deep valleys and canyons. This site gives a good description:
http://www.cd.gov.ab.ca/enjoying_alberta/parks/featured/dinosaur/nature.asp

B. Discuss how students are going to make a notebook as if they are a scientist, sent to be an assistant on many explorations to the west over a number of years. He or she is an employee of the Canadian Government of the late 1800's and early 1900's. The student is especially interested in keeping track of all the scientific discoveries and giving suggestions to be used by the government in the future development of the area.

C. First Page: 4.1.1.1, 4.1.1.4 and 4.1.3.2 This page is like a sketch of the area and should include: a crude map, a sketch of a hoodoo and a sketch of the walls of the valley around Drumheller. Students may either sketch their own drawings or cut and paste a picture in a Word document, resize it and then print them out to use. I suggest a little rumpling and a light covering of a coloured pencil that will age the pictures. If you tear instead of cutting the pictures out they will look more authentic. Then the students need to write a description about the pictures and map as if they were seeing it in the late 1880's. (no towns, roads etc.) It is important that they write about the uniqueness of the area, compared to the grasslands around it. They can even write as if it were their idea to name the Red Deer River, Drumheller Valley etc themselves. Students may use the computer to go to this site: <http://www.westerntour.com/Drumheller/> or <http://www.imagescanada.ca/index-e.html> or http://www.cd.gov.ab.ca/enjoying_alberta/parks/featured/dinosaur/nature.asp or <http://www.2learn.ca/Alberta/> (type in Badlands in search images). Remind them to cut and paste the URLs with the pictures they use to cite them on the back inside cover.

D. Second Page: 4.1.1.2 and 4.1.3.1 This page pays homage to the discovery of Dinosaurs in Alberta by Joseph B Tyrrell in 1884. Have the students watch and listen to the following vignettes about the discovery: <http://www.histori.ca/minutes/minute.do?id=10181> <http://www.histori.ca/minutes/minute.do?id=13477> and read the following information: <http://www.thecanadianencyclopedia.com> (then search Joseph B Tyrrell). The students will then write a paragraph in the first person, pretending to be an assistant to Mr. Tyrrell describing the finding of the Albertosaurus head. They should write using Word in an old fashioned fancy script, double-spaced and at a

size that is easy to read. Be sure the final product will fit on the page after it is ripped out. Then they should age the paper, rip the paragraph out and glue it on the second page.

E. Third Page: 4.1.4.5 On this page the students explore who owns the artifacts. Students again pretending to be an assistant to Mr. Tyrrell will participate in a discussion with the other assistants as to who should own the fossils. Students will draw a web with the middle circle question being: How can ownership of a discovered artifact be determined? Students then view the rules and regulations for fossils the Alberta Government has in all Provincial Parks found at: http://www.cd.gov.ab.ca/enjoying_alberta/parks/featured/dinosaur/rules.asp . In groups of 3 or 4 students discuss why the rules are necessary and why the fossils belong to the government. They should also discuss what would happen if anyone could keep fossils they find. What if visitors from other countries find fossils? How would private ownership affect the dinosaur research done by scientists? Once they have explored the issue they then can go back to their books and add to the web the different ideas they discussed.

F. Fourth and Fifth Pages: 4.1.1.1, 4.1.1.2 and 4.1.4.4. On these two pages the students will create a presentation that the assistant will make to Mr. Tyrrell. He/she feels a museum is the only way to study and preserve the unique fossils and landforms of this region. If he/she can convince Mr. Tyrrell, then maybe he will take the ideas to the government in the east and a museum may be built. There are two sites to visit to gather information and in the end the Tyrrell Museum should be presented as we know it today. The sites are: <http://www.innvista.com/science/ecology/parks/dinoppab.htm> and <http://www.tyrrellmuseum.com/> . These two sites give a comprehensive look at the museum and the study of dinosaurs in the Drumheller Valley. The students are to assume they have now been on several digs in the valley and have found many fossils. There should be some notes as to why a museum is the best place to study dinosaurs and why it is important to the study of ancient life in Alberta. There should be notes describing the different rooms found in the museum and why they are important. They might also want to speculate on the impact of tourism in Alberta because of this museum. Discuss with students how to use all parts of the pages, notes do not have to be linear and may have accompanying sketches.

G. Sixth Page: 4.1.1.4 The students as the assistant have now been on many trips to Alberta and have explored it quite thoroughly. They will research on the internet the different National and Provincial Parks and Protected Areas in Alberta. Use these sites:

Provincial Parks and Protected Areas - http://www.cd.gov.ab.ca/enjoying_alberta/parks/featured/index.asp#top

National Parks in Alberta – http://www.pc.gc.ca/pn-np/list_e.asp#alberta

Students will choose two parks from each site and then write a brief description as to why the assistant would think they are unique environments that should be protected.

H. Seventh Page: 4.1.1.4 The students will on this page explore the assistant becoming aware of the fact that Alberta has many unique landforms and areas that will need protection. The assistant will come up with the idea of protected areas and national and provincial parks. Then she/he needs a list of reasons why the environment of the parks should be protected. The students, being assistants, should discuss as a class these ideas. They should discuss what happens to the environment where people have been allowed to live, work and use the land for recreation. What changes are good? Which are not so good? What would be the advantage to the government owning and caring for environmentally unique lands? How can recreation be allowed so that it won't destroy sensitive areas? Why would it be different if one man or corporation owned these lands? Then a list of reasons in favour of a park or protected area should again be typed out double-spaced and in script, aged and glued on the page.

I. Eighth Page: 4.1.4.6 Finally the students as assistants come to realize that the government maybe the best organization to protect National and Provincial Parks and protected areas, but that citizens also have a responsibility. In groups of 3 or 4 assistants students will brainstorm and then write up a Pledge for Citizens. It should contain several points of responsibility for the protection of parks and protected areas. This would be a good time to point out to the students that these parks and areas are fairly close to what they looked like when the explorers first came to Alberta. However people have made some changes though they are to be kept to a minimum by our government. The government is getting pressure to open up these parks to more

development. If the future of Alberta's National and Provincial Parks and protected areas are up to the students what do they need to do. The Pledge for Citizens should encompass all these ideas.

J. Back Cover: A list of numbers and URLs used in the production of this journal typed in script, double spaced and aged.

Question Cards For Prior Knowledge Discussion

<p>When Canada was becoming a country why did they send explorers to the Alberta region?</p>	<p>How did the explorers travel and whom would they meet during their travels?</p>	<p>How an explorer of the 1800's might take information back to his employers?</p>	<p>What technology was available?</p>
<p>How long would it be before he was to show his information to his employers? So is a memory good enough?</p>	<p>How available were paper and pencils? Telephones? Computers? Telegraphs?</p>	<p>Why would his notebook be important to the development of Canada and Alberta in the early years?</p>	<p>Is there another way to keep a record of what he sees? What would be the expenses for using it?</p>
<p>What occupation may he have had?</p>	<p>Was Alberta even a province in the late 1800's?</p>	<p>What was the area around the Drumheller valley like back in the late 1800's?</p>	<p>Why did the Government of Canada need to know what was in the area now known as Alberta?</p>

	Three	Two	One	Insufficient
Construction of the Journal	<ul style="list-style-type: none"> - pages neatly folded in ½ - pages look aged - title neatly handwritten, spelled correctly, with an even line border 	<ul style="list-style-type: none"> - pages folded in ½ - pages coloured not aged - title handwritten, spelled correctly, with a line border 	<ul style="list-style-type: none"> - pages not folded in ½ - pages painted too dark - title printed, spelling errors with uneven line border 	Too little information to evaluate
Page One: Geography of Area	<ul style="list-style-type: none"> - map with waterways of Drumheller Valley - pictures/sketches clearly show hoodoos & valley walls and are aged to fit old journal style - description clearly describes unique landforms 	<ul style="list-style-type: none"> - map with waterways of Drumheller Valley - pictures/sketches show hoodoos, valley walls and an attempt to age them was used - description describes unique landforms 	<ul style="list-style-type: none"> - map of Drumheller Valley - pictures/sketches show either hoodoos or valley walls and do not fit old journal style at all - little/no description written 	Too little information to evaluate
Page Two: Discovery By Tyrrell X2	<ul style="list-style-type: none"> - interesting paragraph clearly written to describe discovery - no spelling or grammatical errors - font looks like old script writing but is easy to read 	<ul style="list-style-type: none"> - paragraph written to describe discovery - few spelling/ grammatical errors - font looks like old script writing but is not too easy to read 	<ul style="list-style-type: none"> - paragraph unclear - many spelling/grammatical errors - font doesn't look like old script writing & is hard to read 	Too little information to evaluate
Page Three: Who Owns Artifacts	<ul style="list-style-type: none"> - web clearly shows student considered several issues - web is neatly drawn and easy to read 	<ul style="list-style-type: none"> - web shows student considered a few issues - web is drawn and easy to read 	<ul style="list-style-type: none"> - web shows student considered a couple of issues - web is drawn but not easy to read 	Too little information to evaluate
Pages Four & Five: Tyrrell Museum X2	<ul style="list-style-type: none"> - each part of the museum is clearly described with no spelling/grammar errors - value of dinosaur research and tourism is noted 	<ul style="list-style-type: none"> - most parts of the museum are described with few spelling/grammar errors - value of dinosaur research and tourism may be implied 	<ul style="list-style-type: none"> - some of the museum is described with many spelling/grammar errors - value of dinosaur research and tourism is not noted 	Too little information to evaluate
Page Six: Various Unique Landforms X2	<ul style="list-style-type: none"> - description clearly states why regions should be protected - no spelling or grammatical errors 	<ul style="list-style-type: none"> - description states why regions should be protected - few spelling or grammatical errors 	<ul style="list-style-type: none"> - description doesn't state why regions should be protected - no spelling or grammatical errors 	Too little information to evaluate
Page Seven: List For Why Parks?	<ul style="list-style-type: none"> - list clearly shows that many aspects of the issue were discussed - no spelling/grammatical errors 	<ul style="list-style-type: none"> - list shows that some aspects of the issue were discussed - few spelling/grammatical errors 	<ul style="list-style-type: none"> - list clearly shows that few aspects were discussed - many spelling/grammatical errors 	Too little information to evaluate
Page Eight: Personal Responsibility X2	<ul style="list-style-type: none"> - a clearly written pledge that names many different responsibilities - no spelling/grammar errors 	<ul style="list-style-type: none"> - a written pledge that names some different responsibilities - few spelling/grammar errors 	<ul style="list-style-type: none"> - a written pledge that names two or fewer responsibilities - many spelling/grammar errors 	Too little information to evaluate

Citations	- every picture or information search is cited - numbers clearly displayed	- most pictures or information searches are cited - numbers are displayed	- few pictures or information searches are cited - numbers clearly displayed	Too little information to evaluate
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You may access all the above links by:

Going to: <http://www.2learn.ca>

Then: Kids Love 2Learn.ca

Then type in: N3894

You will then be taken to a hotlist and descriptions of the sites.