

Implementing the Open Minds Education Concept in Your Community – a guide



Prepared for the Max Bell Foundation
Calgary, Alberta Canada

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Introduction

This handbook has been prepared to assist communities outside of Calgary with learning about the philosophy and structure of the **Campus Calgary/ Open Minds Program**. There are also suggestions to assist with the implementation of this concept in their community. This innovative education initiative gives teachers the opportunity to move their classrooms into the rich world beyond the school so that learning becomes deeper. Extended experiences in such sites as museums, zoos, city halls, and nature centres are ideal catalysts for the "habits of mind" that help students to be the creative, curious, thoughtful citizens that our world needs. These sites are fascinating, educationally rich environments that engage students in exploration and discovery. A critical component of this concept is time: time for students to slow down and see the world, and time for teachers to slow down and see teaching and learning, and their children, in new ways. In fact this program has been shown to be a powerful tool in staff development for teachers. For them it is hands-on learning with one on one support.

It is not intended that communities create extensions of the same program or exact replicas but it is hoped the principal elements are adhered to:

- the classroom teachers have ownership of the entire process. The week is part of a long-term study developed by the teacher and the week itself is jointly developed and facilitated with the education staff at the site.
- the students are at the site for an extended period (preferably every day for a week),
- the students are given time and choice
- the focus is experiential, hands-on learning



A quiet time to write and draw each day is an integral part of the Open Minds program.

Sites Using the Open Minds Concept

Calgary Sites:

Chevron Open Minds

Zoo School
Glenbow Museum School
Science Centre School
Cross Conservation School

Campus Calgary

Petro-Canada Bird School
Canada Olympic Park School
City Hall School
University School Week
Stampede School
Talisman Centre School
Aero Space Museum School

Other Communities:

Edmonton Alberta

Petro-Canada Zoo School
School at the Legislature
Museum School - Royal Alberta
Museum
Edmonton Oilers School
City Hall School

Vancouver B.C.

Chevron AquaSchool

Lansing Michigan

The Big History Lesson
Annie's Big Nature Lesson
The Big Zoo Lesson
The Big Science Lesson

Singapore

Open Minds (5 sites) - Canadian
International School

London Ontario

Museum School - 4 sites

Pender Harbour B.C.

Nature School - Iris Griffith Centre

Gibsons B.C.

Sunshine Coast Museum School



Trish Savill, the Education Coordinator of the Open Minds/Campus Calgary program, talks to students at the Calgary Zoo.

History

The Open Minds concept began as an experiment when a Grade Three class came to the Calgary Zoo every day for a week in 1993. Gillian Kydd, a consultant with the Calgary Board of Education, worked with the classroom teacher, Angela Rokne, to bring together the key elements that have since become the essence of the **Campus Calgary/Open Minds program**:

- the teacher is “in the driver's seat” and the site staff facilitates
- site resource people provide expertise and some experiences for the students
- students use journal writing and drawing to record observations and thoughts
- long periods of time each day to observe - time to focus, reflect and make connections
- parents and other volunteers work with small groups of children
- the week is interdisciplinary, i.e., subjects such as math, science and social studies are interwoven
- much is done at school before the week to help the students gain knowledge and skills that allow them to learn in more depth at the site.

Don Harvie, a Calgary philanthropist and head of the Devonian Foundation, laid the financial groundwork that allowed the Calgary Zoo to begin Zoo School in 1994 with an experienced educator as the Zoo School Coordinator. After a highly successful first year, Kydd approached the Glenbow Museum and Museum School began in 1995. The Calgary Science Centre (1996), University of Calgary (1996), Canada Olympic Park (1997), Inglewood Bird Sanctuary (1998), City Hall (2000), Cross Conservation Area (2000), Stampede (2002), Aero-Space Museum (2005), and Talisman Centre (2007) have been added since then.

Don Harvie began the network of partnerships that grew to support the **Open Minds/Campus Calgary** program. Chevron Canada has been a major supporter since 1995 and fully funds programs at four sites. Petro-Canada, the City of Calgary, the Calgary Stampede Foundation are also major partners. The local school district, the Calgary Board of Education, with some monies from the Calgary Catholic School District, has provided staff since the beginning to direct the administration and education support so necessary to the success of the program. Several community foundations such as the Calgary Foundation and the Max Bell Foundation provide support and funding.

The program in Calgary has sites under two names because of funding: Open Minds (funded by Chevron) and Campus Calgary (other funding partners). The program has joint administration and all sites operate with same philosophy.

Other Communities

The concept has spread to Edmonton, Alberta (5 sites), British Columbia (3 sites), Lansing, Michigan (5+ sites), London Ontario (4 sites) and Singapore (one school going to 5 sites). There are currently 12 000 students participating annually in a program based on the Open Minds concept.

The Philosophy

Museums and schools – a necessary partnership for learning

Those who are reading this are likely from one of two worlds: the world of the museum or the world of the school. (The word “museum” refers here to any community resource such as a zoo, nature area, or arts centre.) These two worlds don’t usually work together in a meaningful way. Each considers the other as peripheral. In the museum world, education programming is often an add-on, not integral to the core of the institution’s existence. In the school world, taking students to museums is called “field trips” and often treated like a frill, a non-essential activity. What is missed is that combining the two worlds as full partners results in learning that goes far beyond what can be achieved alone.

Learning is so much more than simply giving people skills to read a form or check a bank balance. It is the essence of being human. With learning we see the world in new ways, we make better decisions, we can solve problems, we can create and not simply survive. Thus school district documents include goals that cover problem solving, critical thinking, curiosity, as well as literacy and numeracy. And what do museums want? A major goal is often to collect, and preserve objects or places, whether it is documents, paintings, or wetlands. However a second major goal is to help people gain a deeper understanding of areas specific to that museum, so a zoo for example would want visitors to know more about conservation. That second goal is “learning”.

Thus learning is the major goal for schools and one of the major goals for museums. The difficulty is that teaching strategies in schools and education programs in museums are often not based on what is known about how people learn. Many cognitive scientists, educators, writers, and now neuroscientists suggest that people learn in-depth when students have:

- Interesting, concrete primary experiences that involve the senses
- Opportunities to talk and to work with others
- Open-ended activities where there is choice
- Activities that are built on prior learning
- Time to slow down and become immersed in a task or experience

In schools

It’s difficult for classroom teachers, even in the best situations, to bring all those elements into their teaching. Schools are not the real world, with all the richness that entails. A teacher is limited by the four walls of the classroom and by the demands of an ever-widening curriculum. They are also limited by their own range of experiences, knowledge and skills.

In museums

Our communities are full of fascinating collections of everything from classic airplanes to art to exotic animals. We have many natural areas that focus on wetlands, seashores or forest. We have institutions that encompass world-class research, the workings of a city, or Olympic sports.

What we don’t usually have are education programs at those places that take into account what we know about learning. Instead we have programs that put students through activities for one to two hours, where little attention is paid to what students already know or are interested in. The classroom teacher is usually not involved in the process, and therefore little is done at school either before or after the experience at the museum. Both teachers and museum staff accept this process, with neither group realizing that it can be done very differently.

Learning in Museums

We know much about the theory behind learning in museums from the work of researchers such as Falk and



City Hall School takes students to many locations in the city.

Dierking. In their book *Learning From Museums* (2000) they describe their Contextual Model of Learning. They consider three contexts for learning: the personal, sociocultural and the physical. Personal context covers areas such as how motivated the visitor is, whether they can make links to prior knowledge, and how much choice they are given to pursue what interests them. The sociocultural context describes how people learn in groups and through mediation. This is where the opportunity to talk and to share is so important. The third context is physical and includes Falk and Dierking's "novelty effect". That means that when humans are in a new situation they are too anxious to be able to slow down and learn. When information is provided ahead of time there is less anxiety. Included in this context is the idea of providing experiences that connect to the senses, for example smelling a leather tunic in the drawer in the museum collections or touching the beaded headdress while wearing white gloves. The Open Minds concept adds a fourth context - the importance of time. Much more learning occurs when the museum visit is extended over several days. The novelty effect is decreased, there is more time to revisit chosen exhibits, and more time to really "see". As Margaret Holtschlag says about her experiences with her program in Michigan which is based on the Calgary concept, "Students take time at the museum... taking time to process information is a key to remembering and a key to making meaning." (Holtschlag, 2000, p.17)

"The way children best learn the complex skills and dispositions of adulthood is through keeping real company with the kind of experts they hope to become (and... through keeping company with the real things of the world)." Deborah Meier, *In Schools We Trust*

The Open Minds program in Calgary and the other communities that have used a similar concept have moved what we know about learning into practice. The long-term study that includes the week at the site, whether it is a wetlands, a zoo, an art museum or a city hall, provides these common elements:

- teachers and museum educators work together and the museum visit is part of a long-term interdisciplinary study at school designed by the teacher.
- students are given extended periods of time, usually a week, to become immersed in their surroundings, overcoming Falk's "novelty effect".
- the students make sense of objects and exhibits of their choosing, enhancing critical viewing, descriptive writing, and drawing skills acquired at school.
- teachers are given their own learning opportunities at the museum prior to the visit. They are thus equipped to help their students acquire the necessary skills and they also become powerful role models.

It is time to break down the barriers between the world of the museum and the world of the classroom. School as we know it today is a fairly recent phenomenon where children are separated from the community to learn. Teachers cannot be expected to educate our citizens on their own - to paraphrase the well-known saying "it takes a village to educate a child". We have very rich resources and expertise in our communities that could be an integral part of our education system. It means that both sides - the museum world and the school world - need to work together, valuing each other's strengths and basing every decision on what we know about how people learn.

Benefits

The Open Minds concept results in benefits to many groups. Some of these areas have been examined through various research and evaluation projects (For further information, see Kydd 2005).

Students

- learn to slow down and see the world with all its nuances
- gain enhanced writing skills (see p. 20)
- learn in deeper ways in many curriculum areas
- gain increased independence of thought and critical thinking skills
- experience growth in awareness of diversity
- take ownership of museums and form connections that will last for a lifetime

Teachers

- experience new ways of teaching with their own students with help from other professionals
- expand their own learning in such areas as history, art and science
- learn more about their students because of more time to observe and are able to see the responses of their students to these exciting experiences
- enjoy the collegiality of working with other adults

Parents

- gain greater understanding of teaching and learning
- see their children in new ways
- experience personal learning, gaining skills and knowledge
- become more connected to the community and its resources

Museums

- The school visitors, both child and adult, gain better understanding of the museum's collection and mandate. The education goals are met in much deeper ways.
- Gain stronger connections to other partners in the community
- See long-term visitor connections being formed.
- Increase their understanding of how people learn resulting in implementations of high quality educational programs and resources creating more effective programs for the community at large
- Increase their awareness of the provincial curriculum so that their education programs more closely align with specific curricula
- Incorporate current best practice into all of their educational programming to further engage the community at large with the site

Community and Business Partners

- Are able to see tangible benefits from their involvement
- Business leaders see children learning in "real life" situations and they recognize that the community should be part of education.
- Employees are energized about working with students, and take ownership of the program
- Public relations for the funder is enhanced

Where can this concept happen?

This basic idea of moving learning outside of the school into the community means that the concept can happen almost anywhere.

Sites that have traditionally had education programs such as zoos, museums, nature centres or aquaria are the most obvious places to host this concept. However there are many other places within a community that have interesting things happening and experts at hand. These could include a city hall, a sports centre, a hospital, a legislature building, a factory, a store or a wind farm. The range is limitless. The site does not necessarily have to appear exciting on the surface. One of the most successful sites in Calgary is the City Hall, where students are immersed in city planning, architecture and social issues for example.

There are logistical and safety concerns that must be considered, but even those can be overcome to a certain degree.



What has to be in place?

The Site

- A staff person (site coordinator) on site who acts as the education liaison or facilitator with the classroom teacher and her class. Their role is not to take over the class but to work alongside the classroom teacher.
- Experts, those working at the site, should be available for assisting the site education person and the classroom teacher. The site educator should ensure that these resource people are not involved in every week's program but it could be perhaps two hours once a month. The day-to-day business at the site must not be impacted by the program.
- Sufficient funding that supplements the fee paid by the participating class and covers busing, staff salary, honoraria and some resources etc.
- Proximity to the participating schools. A one-hour drive one-way seems to be the maximum distance that will work.
- Space for students, teachers, and parents to be somewhat on their own for certain times in the day. This does not have to be a classroom but it should be reasonably comfortable.

The School District(s)

- Administrators within the school district who understand the intent and philosophy of the program and will support the idea.

- A key curriculum person from the school system who can work with the participating teachers in their planning and who can be a liaison between the site and the schools. This position has proven to be invaluable in the programs in Calgary, Michigan and Singapore. This Education Coordinator will maintain the educational integrity of the program.

Partnerships

Since the concept began in Calgary, it has been shown time and time again that the power and longevity of this innovative idea depends on a broad network of community partnerships.

The Site

The high level management at the site should be brought into the process from the beginning. If they support the idea it makes the process smoother and the inevitable difficulties that arise with something new can be overcome.

School Districts

The school districts should be fully supportive, all the way up to the upper administration and the school board level. It is best if the school district can contribute financially through the support of a curriculum person to be a liaison between the site and the classroom teachers.

Community Partners

Business partners and community foundations are a tremendous asset, not only as funding partners but also with communications, marketing, evaluation and support when difficulties arise.



Starting a New Site

It takes time to bring this concept into a community or to begin at a new location. It's very important that those involved understand the idea and are enthusiastic. This is a new way of working for both teachers and staff at the site.

The process

- bring together key staff members at the site to learn about the basic ideas of the program. They then can discuss how it might work at their particular site. Bringing people in who have experienced the concept, or sending staff to an existing program are good ideas. There will be those who are slower to adapt to this new way of working with schools.
- hold discussions with local elementary and secondary teachers to gain their ideas as to how the resources at the site can enhance student learning. (Be aware that some teachers might wish to have their students do too many activities and some may be uncomfortable with taking the leadership role during the week at the site.)
- seek support of upper management staff and board members if applicable
- prepare a proposal that includes a draft budget (see samples in Appendix 1).
- secure funding for several years if possible. If only short term funding is obtained, all the work and success that happens is lost.
- plan for a place at the site that can be used as a space that teachers and students can use as a "home base" where they are comfortable and somewhat separate.
- an educator (site coordinator) is put in place well before the first pilot classes so they have time to plan with teachers, time to explore the resources at the site and to work with staff.
- it is best to begin with pilot classes with hand-picked teachers from a range of grade levels. These should be teachers who are flexible when things don't go according to plan and who have a solid understanding of the philosophy.
- the site staff and school district staff (if there is one available) meet with the pilot teachers to help them understand the concept. The teachers then develop a plan for their teaching at school which will incorporate the knowledge and skills that the students should have before the week at the site.
- closer to the actual week, the coordinator meets with the pilot teachers individually to plan the schedule for their week at the site.
- the site coordinator should document the pilot weeks closely so that others, including potential funders, parents, other teachers and staff at the site, can see what happened for the teacher and students. Documentation can include digital photographs, video, collection of writing and drawing samples, and collection of student, teacher and parent letters as well as their evaluations of their experience.



Specific Information on Various Components

The Classroom or Meeting Place

It is necessary to have a room or space that will serve as a base for the teacher and their students. They need a place for sharing journals, discussions and snacks/lunch, and where they are away from the other visitors and staff.

Requirements

The following description is the ideal – this isn't always possible.

- a colourful, bright space. Classrooms that have a glass wall have been very successful as the public can see what is happening and the students feel more connected to the site.
- in some programs the students sit at tables in five or six groups. Many sites use trapezoid tables that can be rearranged easily into groups or other formations for other users of the space. If the chairs are medium height they can be used by all ages.
- It's useful to have a carpeted area so the teacher can have discussion time with the students sitting near her. A white board or easel also is helpful. An overhead projector and LCD projector may also be useful.
- counter with sink, coffee maker, cupboards
- coat racks and runner for shoes/boots
- tables/counters for display of books/artifacts etc.
- access to washroom facilities

Equipment

- materials specific to the site such as maps, trundle wheels for math, biological artifacts etc.
- digital camera

Coordinator Requirements (if possible)

- office - doesn't need to be close to the classroom
- phone
- computer with Internet access, copier/printer

Budget

This program is not considered to be a revenue generator for sites but the costs of the program should be covered. (See sample in Appendix 1).

Main items

- Coordinator salary & benefits - this position is key to the success of the program and thus it is best to have an experienced staff person with an education background.
- Resources - special programming materials are not required so resources will be books, maps, artifacts etc. (Science Centre programs need hands-on materials)
- Classroom set-up (one time cost)
- Site overhead costs such as cleaning
- Busing costs
- Professional learning for the site coordinator
- Hosting
- mileage
- Income from fees paid by each class (\$750 per week at many sites - includes busing)

Overall Program Administration

Some communities have several sites using the same concept. With that situation it is best to have an overall administrator (Education Coordinator) who is an educator who works closely with the sites and with the teachers. They also assist with getting information into the schools and can work with the funders.



Lorelei Piotto from Chevron Canada helps a student at Science Centre School in Calgary. Wetlands area in Singapore.

Benefits of having this position

- the educational integrity of the program is maintained
- this educator can help the participating teachers to keep the focus on the entire connected classroom study, not just the week at the site.
- the site coordinators can more easily work together and support each other.
- marketing is done as a whole so teachers will realize that the same philosophy is in place at all the sites
- facilitation of professional learning opportunities for site coordinators to help them strengthen education at their site as well as make strong connections with teachers.
- applications are coordinated. The education coordinator can assist the site coordinators with placing teachers because they see the overall picture. For example if four teachers apply to one site from one school, the administrator can suggest that two could go to one site and two to another.
- there is a central person to help to bring new sites into the program and to assist with finding funding

Site Coordinator

An education staff member organizes and facilitates the program at the site. This person acts as a liaison between the site and the teacher, selecting teachers and assisting them in the planning process. After consulting with teachers, the site coordinator then works with site staff and volunteers to provide experiences that support and enhance the teacher's plans. The following is a position description used in Calgary:

Position Description for Coordinator

The Site Coordinator will develop and facilitate all aspects of the week-long school sessions.

Responsibilities

- Assist each teacher in planning an extended interdisciplinary study.
- Work with teachers in planning and scheduling a unique, tailor-made week-long experience
- Facilitate specific experiences and programs, provide assistance to the teacher during the week, monitor the week's activities
- Coordinate programming and activities with site staff and volunteers
- Evaluate the program, market to teachers, facilitate teacher planning sessions, and select participating teachers
- Provide resource materials to teachers as needed

- If possible provide a summer work shop for teachers who are participating in the coming year

General Responsibilities

- Prepare budgets and keep accounting records
- Prepare annual reports for all stakeholders
- Maintain communication with the personnel at the site, Education Coordinator and funder

Qualifications & Experience

- A valid teaching certificate or experience working within the field of education
- A working knowledge of the provincial curriculum and an understanding of an interdisciplinary approach to teaching and learning
- An understanding of and commitment to the philosophy of the Open Minds concept.

Application Process & Selection of Teachers

Teacher Application and Proposal

In an ideal situation, the teachers apply by early April for the following school year (see sample application guidelines in Appendix 2). The application includes a proposal that describes the teacher's ideas about how the week at the site will fit into their teaching plans for the coming year. If there are too many applications the site coordinator then chooses the teachers who are going to participate. The teachers are notified by early May (see sample letter of acceptance in Appendix 2) and then the site runs an orientation meeting in June for the participating teachers.

The proposal can be a written description or a web that includes a description of a long-term study that uses the week at the site as a catalyst for their entire year. Some teachers are comfortable with a "big idea" that has an overarching theme such as Symbols, Community, Survival or Structures. Some are using an inquiry question to guide their planning. They then bring in specific curriculum

connections within that. Other teachers prefer to focus on subject areas and will describe topics within science, social studies etc. that fit with the site (see sample teacher proposals in Appendix 2). The proposal is only a tentative plan and may change when the teacher actually begins working with their students. Teachers may change grade levels or schools and the week goes with them i.e. it does not stay with the school. The reason for that is that teachers who have not decided to participate in the program from their own volition are less likely to understand the philosophy and to do a good job. However if teachers are in a teaming situation and one leaves the school thought must be given to what will be best for the students.

Choosing teachers

Suggested criteria for choice of applicants:

- Teachers who have not previously participated in the program.
- Demonstration of an interdisciplinary approach



Parents and other volunteers also enjoy writing and are excellent role models.



The Site Coordinators are experts and help the students and adults to learn more.

to curriculum and an understanding of program philosophy.

- Representation from schools/grade levels that have not previously participated.
- Proportionate representation from school boards (public, separate, private, charter, home-schools) based on funding provided to the program.

Recommendations about choosing teachers when there are more applicants than available weeks

- if possible don't allow teachers to come back to the same site two years in a row. New teachers should be given the opportunity and some repeating teachers don't put the same effort into the program as they did the first time. If there is another site encourage them to go there.
- not more than two teachers should attend one site from the same school if there are enough applications from other teachers. If there are four classes for example, two could apply to one site, and two to another. Teachers can apply as a team and are given back-to-back weeks.
- don't keep a waiting list but ask teachers to apply again next year.
- attendance at the summer workshop makes a big difference in the quality of the experience for the students.

Planning with Teachers

Once the site coordinator knows which teachers are participating in the coming year an orientation meeting can be held at the site. This is an opportunity for teachers to become familiar with the site, learn about possible teaching connections, and share their plans with the other teachers. If the coordinator requests a portion of

the fee at this point, it is less likely that the teacher will cancel later.

Summer Courses

It is highly recommended that each site offer a 2 day in-service in the summer where teachers can immerse themselves in the environment in which they will be teaching. (See sample of teacher inservice outline in Appendix 2).

Suggested format

After a general orientation, the site coordinator takes teachers through a typical day at the site and introduces them to some of the resource people that they may be working with. A 'behind-the-scenes' tour is usually provided where teachers might visit museum archives, feed and bathe elephants, look at sunspots through a telescope, meet the mayor, or try bobsleigh training, among many other possibilities, depending on the site. These activities are not typically open to the general public and are offered as possible student activities during the on-site week. Workshops on journal-writing, drawing, and looking deeply help teachers to understand the importance of slowing down and taking the time to teach students the important skills they will need to get the most from their long-term study. The teachers appreciate having time to meet with other teachers and learn with each other as well as sharing curriculum connection ideas.

There has been much positive feedback from teachers who have attended the summer workshops. They have a much better idea of how to include the necessary skills and content into their teaching. They already have long-range plans in place and they have a new network of supportive colleagues. They tend to share their excitement with the students from the beginning of the school year and thus the students are motivated.



Before the Site Visit

First Meeting

Several months before the class comes to the site, the coordinator meets with the teacher at their school to discuss long-range plans, big ideas, and general thoughts around the week at the site. At this time, the focus is on building skills and concepts in preparation for the week and how the study will continue once the students have returned to their classroom. Emphasis is on developing skills in journal writing, drawing, and observing. Teachers are expected to provide to their class small hard-cover journals that students can carry with them at all times. Student journaling should begin as soon as teachers meet with their class in the fall. Teachers and parent volunteers are highly encouraged to write and sketch along with the students, both at the school and on-site. The coordinator then contacts resource people at the site who could help to provide experiences that would fit in with the teacher's plans. For example, the teacher may want a specific session about Mars with the astronomer at the Science Centre, or they may want to meet a luge athlete at Canada Olympic Park School. Tentative bookings are often made at this time with staff members or volunteers at the site. Suggestions are made about forms for the school district, obtaining parent volunteers and making final busing arrangements.

Second Meeting

Three to four weeks before the on-site experience, the coordinator meets again with the teacher to finalize plans and together they prepare a timetable for the week. At this time the teacher and site coordinator will discuss roles and responsibilities during the week on site.

The Week at the Site

The week at the site is a mixture of site-led and teacher-led activities. Each week is unique and depends on the needs of the teacher and the availability of resource people at the site (see samples in Appendix 3). The first

day is typically an orientation day where the students are getting used to the new environment. They need to gain an overall impression of what is there. This may mean a session from the site coordinator about the site and what the behaviour expectations are. Following that would be a "walk about" to get their bearings with the students stopping to do a bit of writing and drawing at various spots.

Each day after that usually consists of a session of one to two hours provided by the site which connects to the teacher's theme, and one hour or so for the students to be in groups to investigate and observe carefully and to write and to draw in their journals. It is valuable if students can return to places of their choosing. In between are times for sharing, discussion, snacks and lunch, and of course bathroom breaks. It is very important that the classroom teacher allows time for some writing and discussion directly following a presentation from resource people. This consolidates the learning and the teacher can connect what was experienced to what has been studied at school.

Programs

Some of the experiences provided by the site may be a modification of a program that is offered to regular school groups. For example the teacher may wish to have a program at the Zoo on Endangered Species or at Bird School there might be one on Adaptations. However there are many experiences that are unique for the program or for that class. Examples are a trip to the collections area at Glenbow Museum, a session with the artist who created the Famous Five statue at City Hall, or a session on Mars exploration at the Science Centre School. The coordinator acts as a facilitator in bringing together the resource people and resources at the site with the students and their teacher. This isn't an easy task because the staff members at the site have their normal responsibilities and cannot spend time every week with the students. Also not

everyone has the skills to communicate with students at the appropriate level, and the site coordinator helps those people to learn those skills. Every session has to have a concrete hands-on element and the facilitator assists the presenter with planning the session with that in mind.

Even the regular programs must be adjusted to the class that comes for a week because the students usually have more advanced skills and a deeper knowledge of the content than regular classes. In all programs the classroom teacher's input is valued.

A teacher and her students are immersed in the West Africa exhibit at the Glenbow Museum.



Object-based Learning

The process of slowing down, of really looking, is the foundation of the learning that takes place through the Open Minds concept. The students are at a site for five full days, so that gives them time to focus on what is around them. The point is not to put as many experiences and activities as possible into the week, but it is to give the students time to fully take in some aspects of their surroundings.

There are two main benefits from this process:

- In-depth learning of the concepts that are integral to the site and the study that is in place. For example by observing gorillas over five days students will make close connections to an endangered species and will better understand conservation issues such as loss of habitat.
- Learning critical viewing skills that will be generalized to other situations throughout their lives. For example by sitting and drawing the heritage buildings in downtown Calgary, or drawing an aspen tree, students will be more aware of their surroundings from that point on.

At all the sites that use the Open Minds concept, there are common processes to reach this type of learning, for example providing time and choice, and using journals to write and draw. The process can be further refined in many cases by using object-based learning and Feldman's critical viewing process. These strategies stop the learner from making quick judgments about what they are experiencing. It is a feature of the human brain that we learn to filter out much of what we are experiencing. We have to learn how to pay attention. Thus we can help children to learn to be more curious, to have a sense of wonder, to ask questions and to be critical.

Ellen Langer in her book *Mindfulness* (1989) argues forcefully for helping people to see the world through fresh

eyes. Life becomes automatic, and we lose curiosity and creativity. John Dewey wrote about this in 1934: "But for lack of continuous interaction between the total organism and the object, they are not perceived, certainly not esthetically. A crowd of visitors steered through a picture gallery with a guide, with attention called here and there to some high point, does not perceive; ... for to perceive, a beholder must create his own experience" (p. 54). The latest research on the brain confirms how the learner constructs meaning from what they experience, and what is already in the brain helps in that construction.

Feldman's Critical Viewing

From the first weeks of Glenbow Museum School, the Coordinator, Michèle Gallant introduced the teachers to Edmund Feldman's process of critical viewing of art (Feldman 1967, p. 468). He was an art critic who devised the following steps:

Description

- A complete inventory of 'what is there' without moving too quickly to making inferences. The aim is to ensure that little is missed.

Formal analysis

- A type of description but beyond the obvious to how the things that are named are constituted. This moves from objective description to the qualities of shape and line to how the forms are perceived.



Interpretation

- When the critic looks at the meaning of the work. This isn't evaluation but an explanation of the piece that also connects its relevance to our lives.

Judgment

- This step of evaluation may be unnecessary if the interpretation has been thorough. The art is placed in relationship to similar works, to its historical antecedents, and to the society that surrounds it.

Object-based learning

At Glenbow there was a natural fit between Feldman's critical viewing and object-based learning, which had been devised by museum professionals to help students to use historical objects as a springboard for inquiry. The "Looking at Objects" or "Looking at Art" Steps in Appendix 3 can be used for many other phenomena such as looking at buildings, the natural world, the world of science - basically any experience at all. Close observation is important but so is the questioning that follows.

- Describe the object....physical features
- How was it made?....construction
- Is it well designed?.... design
- What is its value?....value

Teachers can teach these processes to their students before they come to the site. The strategies vary according to the site they will attend. The students learn to use stronger descriptive words, their senses, and to write more complex sentences.

Some examples of activities that have been devised by Open Minds teachers that can be done in the classroom ahead of time:

- Bring objects in, such as an old ice cream maker, and go through the steps. Draw and describe in their journals.

- Observe animals in the classroom such as a pet dog or a gerbil.
- View videos of animals for 10 minutes with the sound off - everyone writes about what they observe and compare descriptions.
- View art prints.
- The students can sit outside during recess and observe the other students at play
- Some student can visit the kindergarten classroom for 30 mins and each student describes what a child is doing
- Take the class outside and draw the trees and shrubs in the school ground

The "habits of mind" of being able to slow down, observe, write descriptively and draw, don't just happen; they need to be taught and the students need many opportunities to practise those skills before they come for the week at the site. By the time they come for their week at the site they are used to taking their journals with them and are used to stopping to write and sketch. The site coordinator will model journaling throughout the week and also encourage the teachers to use their own journals and to get their parent volunteers to write and draw as well. For many classes the writing continues back at school. For celebrations, projects or culminating activities, and action projects students may use writing and drawing that they have done at the site as a basis for expanded projects.

Writing and Drawing

Writing and drawing are key strategies in the process of slowing down and learning deeply. Open-ended visual and written expression allows students a way to express their own ideas and to consolidate their learning experiences in their minds. This has always been a crucial part of the Open Minds philosophy.

Writing

Jane Healy in her book *Endangered Minds* (1990) suggests that children today have a 'language deficit' which in turn affects their thinking skills. She believes that children live in a more sterile world where they travel from screens at home to screens at school. There is a need for children to have interesting experiences and the language and thinking that develop from that. The Open Minds concept, which uses immersion in an interesting site as a catalyst for learning, seems to be an ideal way to help students improve language and thinking.

Language is central to what happens with the program (see samples in Appendix 3). Right from the beginning, when teachers attending the summer institutes are given their own hard-covered journals by the coordinator, they realize that there is an emphasis on writing and drawing. There are sessions on journal writing, drawing, and how to observe so that they become better in those areas themselves and they also learn how to teach those skills to their students. The teachers are encouraged to provide journals to all their students and to begin using them at the first opportunity.

Teachers who have taken the time to work with their students on reflective journal writing have found that their students write more proficiently and more frequently than those who only journal during their week at the site. In 2000 a research study by Cathy Cochrane focused on the ability of students to communicate ideas through writing.

(Cochrane 2000). The study was designed to investigate the impact that the CC/OM program has on the quality of reflective writing of Calgary students. The results clearly illustrate the significant impact this program has had on student learning. Cochrane found that students who participated in Campus Calgary programs improved by an average of 24% in writing scores compared to a 6% improvement by students who worked within regular classroom settings. When children are able to immerse themselves in learning environments that are rich in resources and which provide authentic, meaningful life experiences, and are given frequent opportunities to write, they are provided with strong scaffolding upon which they can become more expressive and descriptive writers.

Drawing

Drawing is another way for students to communicate, but also the process itself reinforces the act of close observation. Some students are more comfortable with the visual imagery of drawing than with print. However it's useful for everyone to combine both strategies in their initial journal entries. Of course it is best if the students have the opportunity to demonstrate their thinking in many other ways through the visual arts, music, and movement in follow-up activities at school.

Drawing begins with observation, with looking closely. In this case it is drawing what you see, not what you imagine (see Resource List in appendix 5 for ideas). It is a



These Grade Three students followed up their week at Bird School by adopting trees outside of their school.

skill that everyone can learn, including adults, so the emphasis on drawing accurately begins at the summer workshop. At school, teachers can bring in a specialist to help them teach their students if necessary or bring in a local artist.

Cochrane found that students who participated in Campus Calgary programs improved by an average of 24% in writing scores compared to a 6% improvement by students who worked within regular classroom settings.

Annual Report

At the end of every school year, it is recommended that the site coordinator prepare an annual report that is distributed to business partners, school boards, community partners, and program administrators. This gives all stakeholders an opportunity to see the impact that the program has had on students, teachers, parents, and resource people. It is a way to demonstrate accountability, celebrate successes and identify growth areas to ensure ongoing success.

Most annual reports include the following:

- An introductory page outlining the numbers of students, teachers and volunteers who participated that year and a general statement about the program's successes
- A list of program highlights
- An outline of professional learning opportunities offered to teachers
- Identification of goals for the coming year
- Statistics for the year (includes schools attending, grade levels represented, school districts represented, total numbers of students, teachers, schools, volunteers, resource people, etc.)
- A list of expert resource people involved in the program
- A copy of the year's schedule
- Samples of student work (journal entries, sketches, comments)
- Anecdotal comments from parent volunteers, on-site resource people and business partners
- Any photos or publicity items (i.e.: newspaper articles, student photos, etc.)



Something to be proud about!

Assessment and Evaluation

Assessment and evaluation are very important components of the Open Minds concept.

Assessment

It helps:

- The site coordinator to assess what is going well and what could be improved upon
- New teachers to better understand what the program is all about and to see what their colleagues have accomplished
- The various partners to better understand the power of the program and thus to continue or to strengthen their support
- To provide information for grant proposals and requests for funding
- Other communities to learn about this new way of working with students and teachers

Suggested Major Assessment Strategies

Documentation

- use digital photographs and possibly video to capture some of the experiences in each week. Photographs are very powerful and they help to tell the story.
- Collect writing and drawing samples from the students and parent journals each week
- The site coordinator should keep their own journal - this is excellent modelling and is also a way to remember those marvellous events that are so quickly replaced with more wonderful experiences

Letters

Ask students, parents and teachers to send letters to the coordinator and various partners after they have attended the program.

Telling Others

Annual Report

Send to all business and community partners and staff within the site.

Presentations

Give presentations to community and professional groups whenever possible. For example professional learning opportunities for teachers, local and international conferences, local government groups. Prepare a power point or a video.

Media

Send articles to local newspapers; offer to be on TV and radio programs (see sample release forms in Appendix 2).

Evaluation

It isn't easy to capture what really happens to students, teachers, parents and the staff at the sites through this program.

Some partners may ask for evaluation results other than the ongoing assessment results (see samples in Appendix 4).

- Students, teacher and parents complete evaluation forms at the end of each week - the responses can be tabulated.
- Outside evaluators can do surveys, focus groups and other forms of evaluation
- Local universities and colleges could do research projects on various aspects of the program.

Awards received by the Campus Calgary/ Open Minds program

- Woman of Vision Award 2007 (Global - Calgary) - Gillian Kydd
- Alberta Historical Resources Foundation
Heritage Awareness Award 2007 - City Hall School - Calgary
- Woman of Vision Award 2007 (Global - Calgary) - Gillian Kydd
- Mayor's Excellence Award 2005 - Calgary Partnerships in Education Foundation - Chevron Open Minds:
Special Settings
- Canadian Environmental Award (Silver) 2004 - Petro-Canada Bird School
- Canadian Geographic - Community Award - Petro-Canada Bird School - 2004
- Mayor's Excellence Award - Calgary Partnerships in Education Foundation - Stampede School: Curriculum
Enhancement & Development. 2003
- Alberta School Boards Association - Premier's Award for School Board Innovation & Excellence. (Finalist) 2003
- Federation of Canadian Municipalities CH2M Hill Sustainable Community Award - City Hall School 2002
- Mayors Partnerships Excellence Award - City Hall School 2002
- The Emerald Awards 2001: Education - Petro-Canada Bird School- (finalist)
- The Calgary Awards 2001 -Environmental Achievement: Individual (Hon. Mention) - Cathy Cochrane for
Petro-Canada Bird School
- Alberta Association for Supervision & Curriculum Development: Innovative Practice Award 2001
- Gillian Kydd
- Global, Environmental & Outdoor Education Council: Appreciation of Service Award 2001 - Campus Calgary/
Chevron Open Minds
- Museums Alberta 2000: Award of Merit
- Calgary Board of Education Lighthouse Award 2000: Chevron Zoo School
- Pan Canadian Learning Innovation Award 2000: Campus Calgary/Chevron Open Minds (Honorable Mention)

- Conference Board of Canada: Royal Bank Partners in Education Award 1999
- Campus Calgary/Chevron Open Minds
- Prime Minister's Award for Excellence in Teaching 1999: Awarded to Lindsay Johnston
- Site Coordinator at Chevron Science Centre School
- Calgary Awards - Education - Gillian Kydd 1998
- YWCA Women of Distinction - Gillian Kydd - 1998 - Nomination
- Alberta Venture E Award 1998 - Michele Gallant - Chevron Glenbow Museum School
- Canadian Association of Zoos & Aquariums: 1998 Tom Baines Award - Chevron Zoo School
- Mayor's Partnerships Excellence Awards - Open Minds - 1998
- Museums Alberta: 1998 Recognition of Contributing Organization - Chevron Glenbow Museum School
- Financial Post Award for Business and the Arts 1997 - Chevron Canada Resources for Chevron Open Minds Program
- Calgary Downtown Merchants Award 1997 - Chevron Open Minds
- The Calgary Awards: 1997 Citizen of the Year - Donald Harvie of the Devonian Foundation for his work on Campus Calgary/Chevron Open Minds
- American Association of Science & Technology: Honor Role of Teachers - Sue McIntyre, participant in Chevron Science Centre School
- American Zoological Association Award 1997 - Chevron Zoo School

References

- Cochrane, C. (2004). Landscapes for Learning. *Educational Leadership*. 62 (1). 78-81.
- Duckworth, E. (1996). *The Having of Wonderful Ideas*. New York: Teachers College Press.
- Eisner, E. (1998). *The Enlightened Eye*. Upper Saddle River NJ: Prentice-Hall.
- Falk, J. and Dierking, L. (2000). *Learning from Museums*. Walnut Creek CA: Altamira Press.
- Gallant, M., and Kydd, G. (2005) Engaging young minds and spirits: The Glenbow Museum School. *In Looking Reality in the Eye - Museums and Social Responsibility*. Janes, R. and Conaty, G. (Eds.), Calgary Alberta: University of Calgary Press.
- Gardner, H. (1991). *The Unschooled Mind*. New York: Basic Books.
- Healey, J. (1990). *Endangered Minds*. New York: Simon & Schuster.
- Holtschlag, M. (2000). *The big history lesson*. *Visitor Studies*. 3 (3), 15-17.
- Kydd, G. (2005). *Seeing the World in 3D: Learning in the Community*. Victoria B.C.: Trafford Publishing.
- Kydd, G. (2007). Moving beyond the classroom: learning and the world of the art museum. *In From Periphery to Center: Art Education in the 21st Century*. Villeneuve, P. (Ed.), National Art Education Association. In Press.
- Meier, D. (2002). *In Schools We Trust*. Boston: Beacon Press.
- Savill, P. (2007). *Open Minds/Campus Calgary Annual Report*, Calgary Public Board of Education.
- Dewey, J. (1934). *Art as Experience*. New York: Perigree Books.
- Langer, E. (1989). *Mindfulness*. Reading MA: Addison-Wesley Pub.
- Feldman, E. (1967). *Art as Image and Idea*. Englewood Cliffs NJ: Prentice-Hall.

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Appendix 1: Proposals for New Sites

- 1 Sample Proposal for Creating a New Program at a Small Museum
- 2 Sample Proposal for a Large Site

Sample Proposal for creating a new program at a small museum:

Sunshine Coast Museum School Proposal

June 20 2007

Description

It is proposed to conduct a pilot phase of a museum school program at the Sunshine Coast Museum and Archives in Gibsons, British Columbia.

The Sunshine Coast Museum School will be modeled on the innovative and award-winning Open Minds program in Calgary Alberta. Local elementary teachers will have the opportunity to move their classrooms to the Sunshine Coast Museum for an entire week. The goal is that student learning is enhanced by immersion in a rich community location with exposure to the resources and expertise at the site. Unlike regular field trips, this program puts the teacher “in the driver’s seat” and each week is tailor-made to the needs of the teacher. The program is a collaboration of business, community and education partners.

Sunshine Coast Museum

The Sunshine Coast Museum and Archives, in the heart of Gibsons Landing, presents the history of the Sunshine Coast and its inhabitants. Two floors of exhibits include the Natural History Collections (fossils, butterflies, minerals), Pioneer Period Rooms, First Nations, Small Wooden Boats & Models, The Beachcombers, Allen & Sharie Farrell Photographic Collection, and more. There is a resource room, reference library, and extensive archives with over 9,000 photographs & documents.

Pilot Phase:

It is proposed that for the pilot phase in 2007-2008, the role of the coordinator will be covered by the current museum staff.

What will students do at the Museum School?

Before the class comes:

Over several months the classroom teacher will help her students to gain the skills of observation, descriptive writing and drawing that will help them to slow down and really learn during their week at the site. They will also study content areas that are basic to the specific study that is planned by the teacher. For instance if they are learning about the history of logging, the students will have some knowledge of that topic before they come. The site coordinator will support the teacher with finding resources and providing teaching ideas.

At the site:

The class will come on a bus from their school each day for a full week. There will be a room near the Museum that can serve as their base for discussions, sharing and for lunch in rainy weather. On Monday

the students will have the opportunity to explore their surroundings and there will be an introduction by the coordinator. Each day the Museum will provide a program that connects to the classroom teacher's plans. For instance there might be a session with a retired logger who will explain how technology has changed in the forest industry, or there might be a session on how people obtained food during the early days of Gibsons. Another session might be about transportation from Vancouver and how that has changed. The teacher may do sessions involving water colour painting, poetry writing, music or drama. There may be specific activities for learning math skills, or creative writing. Each week will be tailor-made for the needs of each teacher and her class. Parent volunteers will accompany the class every day and will be working with a group of students.

At some point each day, the students will have the opportunity to observe carefully, write and draw. This might be looking carefully at an object that they have noticed in the Museum or it may mean a session on the wharf observing the activity there.

Afterwards at school:

The study will continue with students doing further research on their topic. They may complete a culminating action project, for example creating a mural showing the changes in the appearance of Lower Gibsons, or preparing a computer presentation of their observations.

What is needed:

Coordinator

This person, an experienced educator, will act as a facilitator for the teacher and the students. They will support the teacher by providing appropriate resources and will assist the teacher in planning the week at the site. The coordinator will develop and teach a one-day summer workshop for the participating teachers so that they can acquire observation skills and knowledge about the exhibits at the Museum and the surrounding area. There will also be an art and writing components to the workshop.

Costs

(see attached proposed budget) Expenses will be such items the salary of the coordinator, honoraria for experts, busing costs, hosting, professional development, office materials, mileage and marketing. Income will be a fee charged to each participating teacher.

Timing and numbers

Two pilot classes are planned for November 2007. If sufficient funding can be found, several more classes could be run in the winter and spring of 2008. The formal program would be in place for 2008-2009 with perhaps ten classes participating.

Partnerships

The program will be a collaboration between the site, the community, business and education. It is hoped that business and community partners will provide sufficient funding for the costs incurred, and that the site and education partners will provide in-kind services.

Proposed Budget for Sunshine Coast Museum School

Expenditures	Year 1 2007-2008 Pilot Stage – 4 classes	Year 2 2008-2009 10 classes
Coordinator Salary		12 000
Coordinator Benefits		3000
Classroom resources		500
Mileage		100
Hosting/Open Houses		100
Professional Development		200
Honoraria	200	1000
Busing	3600	9000
Room costs	unknown	unknown
Total Expenditures	3800	25 900
Income from fees	4 classes /\$750 = 3000	10 classes/750 = 7500
Total costs	800	18 400

Sample proposal for a large site:

Campus Calgary Site at Fort Calgary

“Fort Calgary School”

“...remembering our past; creating our future”

Submitted by: Trish Savill – Education Director of Campus Calgary

Description of Campus Calgary

The Campus Calgary program gives Calgary teachers the opportunity to move their classrooms to one of ten sites including the Calgary Zoo, the Glenbow Museum, Canada Olympic Park or City Hall for an entire week. The goal is that student learning is enhanced by immersion in a rich community location with exposure to the resources and expertise at the site. Unlike regular field trips, this program puts the teacher “in the driver’s seat” and each week is tailor-made to the needs of the teacher. The teachers apply to participate the previous year by sending in a proposal that shows how the week at the site is part of a long-term curriculum based study. The program is heavily subsidized by business and community partners. Administration is provided by the Calgary Board of Education, the Calgary Catholic School District and The Calgary Foundation.

Costs

The program is highly subsidized, and classes pay only \$750.00 per week including the bus. Opportunities for primary learning encounters are often limited for children in high-needs locations and this experience can profoundly impact student and parent attitudes and goals. The two school districts provide the salary of Campus Calgary personnel who work with the teachers, and The Calgary Foundation covers administration of the over-all program with a contribution from each site.

Why Fort Calgary?

Fort Calgary, situated at the very location where people of our two founding cultures first came together to create community, represents a fundamental part of both Calgary’s history and its evolution to the dynamic municipality that it is today. The Fort encompasses an incredible range of resources and expertise that can be part of enriched learning for students in Calgary. The commitment of Fort Calgary’s Board of Directors to encourage a community of informed and civically-engaged citizens through a stimulating learning environment is consistent with Campus Calgary’s belief in high quality, authentic learning experiences. There are many areas that students could be exposed to, such as exploring artifacts from the Northwest Mounted Police, experimenting with structural design, or studying First Nations people and cultures. The list is endless. The location of Fort Calgary, at the confluence of the Elbow and Bow Rivers in the heart of downtown Calgary, makes it an ideal site for environmental and urban development studies as well.

At our existing sites, the Coordinator ensures that staff and volunteers are not over-burdened with requests to work with students. Sessions requested of one staff member would be limited so that it would not become onerous.

We have found at many sites that when students are exposed to experiences that may not have been in their sphere, a dream or passion is created that can change the course of their lives. A site at Fort Calgary would open up even more opportunities for students and teachers to come together for conversations of consequence.

A Program at Fort Calgary School

A coordinator hired on a contract basis would organize and facilitate the program. This person would work with the Campus Calgary personnel in selecting teachers to participate and assist them in the planning process. The coordinator would then contact Fort Calgary experts and work with them on planning the activities that will take place while students are at the site. Teachers who participate in the program would bring their class to Fort Calgary for one week. From a classroom based at the Fort they would move to various locations to take part in activities led by Fort Calgary staff and volunteers or by their own teacher. Each week would be made up of a combination of “programs” facilitated by Fort Calgary staff and teacher directed investigations. This could include additional use of facilities that would not involve staff time such as mapping the grounds, exploring structures at the site or investigating the community surrounding the site.

Possible Way to Proceed

First Year

A seconded teacher from one of the Calgary school boards would commence employment as Site Coordinator. Six to eight pilot classes would run in the spring , with an expanded program beginning in the fall. Classroom space would be located in one of the recently built rooms at Fort Calgary. Office space for the Coordinator may be temporary at this time.

Succeeding Years

There would need to be a full-time Coordinator in place to run the program. Ideally the program could operate from mid-September to mid-June depending on the impact of the schedule on both staff and space. Full-time sites in Campus Calgary run 28 weeks and half-time sites run 15 weeks of classes. In-services for educators involved in the program are conducted in the summer months to assist teachers in planning and implementing their programs. These generally take place the first week of July or the last week of August.

Possible activities:

The program will be open to students from Grade One to Grade Twelve but the majority of classes participating will be from Grade Two through Nine. The following suggestions link to curriculum topics in the Alberta Learning Program of Studies:

Historical Displays and Theatre

- Social Studies Program of Studies (all levels) - Canadian Families, People Nearby, Special Communities, Alberta: Its People in History, Exploration & Settlement, Customs and Traditions, Local Government, Lobby Groups, Canadian Cultures, Canadian History, Canada: Responding to Change
- Fine Arts Program of Studies (all levels)
- Language Arts Program of Studies (all levels)
- Science Program of Studies (all levels) - Building Things, Solving Problems Through Technology, Building With a Variety of Materials, Wheels & Levers, Classroom Chemistry, Evidence & Investigation, Structures & Design, Evidence of Erosion, Energy & Machines, Environmental Quality

- Career & Technology Studies (Grades 7-9)
- Math Program of Studies (all levels) – Statistics & Probability, Shape & Space, Patterns & Relations, Number Concepts

Possible activities: Testing materials & design, Building sod houses, Building tepees, Investigating home-remedies, Exploring early technologies, Examining archives, Storytelling, Journalling, Sketching, Print-making, Exploring signs & symbols, Leather-tooling, Drama performances, Creative movement, Investigating career choices, Exploring shape, space & building design

Fort Calgary Grounds and Surrounding Area

- Social Studies Program of Studies (all levels) - Canadian Families (my family, my history, my community), Citizenship – belonging and connecting, Canada’s Dynamic Communities, Connecting with the World, Alberta: Its People in History, Communities Need Each Other, Canada’s Links With Other Countries, Exploration & Settlement, Local Government, Lobby Groups, Canadian Cultures, Canadian History, Canada: Responding to Change
- Science Program of Studies (all levels) - Needs of Animals & Plants, Life-cycles, Plant Growth & Change, Weather Watch, Characteristics of Living Things, Growing Plants, Interactions & Environments, Environmental Quality, Diversity of Living Things
- Health Program of Studies - Personal development, Leadership, Awareness, Citizenship, Sense of Community (all levels)
- Language Arts Program of Studies (all levels)

Possible activities: structural change over time, historical structures, river studies, goods and services (past, present and future), sorting, classifying, experimenting with seed growth, soil studies, comparing plant life-cycles, charting changes in environment and discussing impact on plant growth, sketching, journaling, debating, investigating career choices, investigations of present communities, park planning, inner-city redevelopment, mapping

Appendix

We have included some quotations from business partners, teachers, students, parents, and sites in order for those interested to see the power of the Campus Calgary program.

“Campus Calgary’s real-world classroom generates a first-hand excitement and interest that is difficult to achieve within a regular educational institution. This new dimension to the curriculum teaches students that school can be fun and offers an attractive stay-in school incentive.

The benefits of participating in Campus Calgary are clearly evident to us. This is an innovative teaching method that complements classroom teaching and increases students’ ability to learn by ‘seeing, touching, and feeling their curriculum. Students need to gain experience outside the walls of their schools. This promotes science and environmental literacy in a way that directly connects students to nature, strengthens their appreciation of these areas and raises their awareness of pursuing a career in these areas. We believe that Campus Calgary is an award- winning and innovative program that is pioneering a new way of teaching and learning. Petro-Canada is pleased to be a partner in this very unique initiative.”

Hazel Gillespie – Petro-Canada

“When you’ve got all these people in the community working together for kids, you’ve got a winner!”

Donald Harvie – The Devonian Foundation

“As a teacher, I believe kids learn best when they can interact and directly experience events. To actually see it happen (at Glenbow) made my heart glad. It was an exceptional week.

Julie Barton - Teacher

“(At the University) they learned about maps, they learned about critical viewing skills and they learned about the library. And what they learned they will remember, because this wasn’t only an intense experience due to its length and location, but it was also a new experience; one where the learning occurred in real-life situations.”

Sheena McGoogan - Teacher

“Students shared their experiences with others in the community – family and friends. Enthusiasm and excitement built throughout the week and ensured success of this experiential educational endeavor. One previously reluctant writer expressed these sentiments to me on a walk back to the centre. “This experience has motivated me to write.” His journal shows that these weren’t just words.”

Jim Hogaboam - Teacher

“This program has significantly impacted my teaching practice. After bringing my students to Bird School and working on a long-term study that extended and enhanced curriculum concepts, I realize how powerful learning can be. I will look for more opportunities to take my students out into the ‘real world’ and have learned to integrate subjects that connect naturally to one another.”

Kathleen Charles - Teacher

“When I was at Bird School I felt like I was in a whole new world. It was great being there. I loved the way nature looked and the way the animals we saw coped with nature and fit into their busy winter life. I learned so much at Bird School. I learned what different animal’s prints looked like. I learned what the pheasant hawk looked like and what a downy woodpecker looked like. I also learned what kinds of trees are all over Alberta.”

Faaiza – Grade 5 Student

“On the third day we met Pablo who taught us about the Blood Indians and the buffalo. He told us to be like the buffalo and head straight into the storm when we have a problem.”

Grade 3 Student

“It was fantastic! I saw children who were typically not enthusiastic to learn, come out of their shells and become very excited about observing and writing in their journals.”

Zoo School Parent

“I wish all children could learn in this way at some time in their early years. I as a parent had such a great time and learned many new things. The facility was truly a fine environment for the children to learn in. My only feeling was at the end of the day during sharing, we were all a bit rushed to finish. There just did not seem to be enough time to do it all. Thank you for all your hard work.”

Bird School Parent

“The effects of this program reached far into our home and will likely have vibrant, long-lasting import on our son’s interest and pursuits in learning. Thank you so very much for this wonderful opportunity!”

Zoo School Parent

“We too have learned to better utilize our site to facilitate the learning needs of students and teachers. Members of our design, technical and program staff are actively involved in the program and this offers valuable new perspectives on how we can better serve our community and mission.

Kathie Sammons – Calgary Science Centre

**Proposed Budget for Campus Calgary
Fort Calgary School**

Expenditures	Year 1 (Jan.-Aug.)	Year 2	Year 3
Coordinator Salary	44,175	65,004	67,663
Coordinator Benefits	7000	7000	7500
Office Setup - office space, computer, fax, photocopier (one time)	40,000	0	0
Office/Classroom Supplies	5000	5000	5500
Mileage	700	1000	1200
Hosting/Open Houses	2000	3000	3200
Professional Development	1500	2000	2500
Honoraria	500	1000	1200
Admin. Development & Coordination (paid to Devonian Foundation)	5000	5000	5000
Total Expenditures	105,875	89,004	93,663

Appendix 2: Teachers

- 1 A Sample of a More Extensive Teacher Proposal for Participating in the Program
- 2 Sample of Teacher Proposal for Participation in the Program
- 3 Sample Letter of Acceptance
- 4 Sample Media Release Form
- 5 Sample Teacher Inservice Outline

A sample of a more extensive teacher proposal for participating in the program:

Proposal for Open Minds/Campus Calgary
Created by:
Coreen Blenkhorne, Jamie Johnson, Cindy Fogarty, and Sheila Bean
Monterey Park Elementary School
Grade 3
March 30, 2007

School Context

Monterey Park Elementary School is one of the Calgary Board of Education's highly multicultural schools in northeast Calgary. Since the school's inception in 2000, Monterey Park teachers and support staff have concentrated their skills on the design of optimum learning environments for multilingual children who represent three-quarters of our school population. There are 28 heritage languages (including English) in our school community. The children of Monterey Park learn in rich, rigorous, and connected settings that emphasize arts, technology, and multi-literacies. Our school motto,

“Celebrating the Colours of Our Earth: Honouring Creativity and Diversity,”

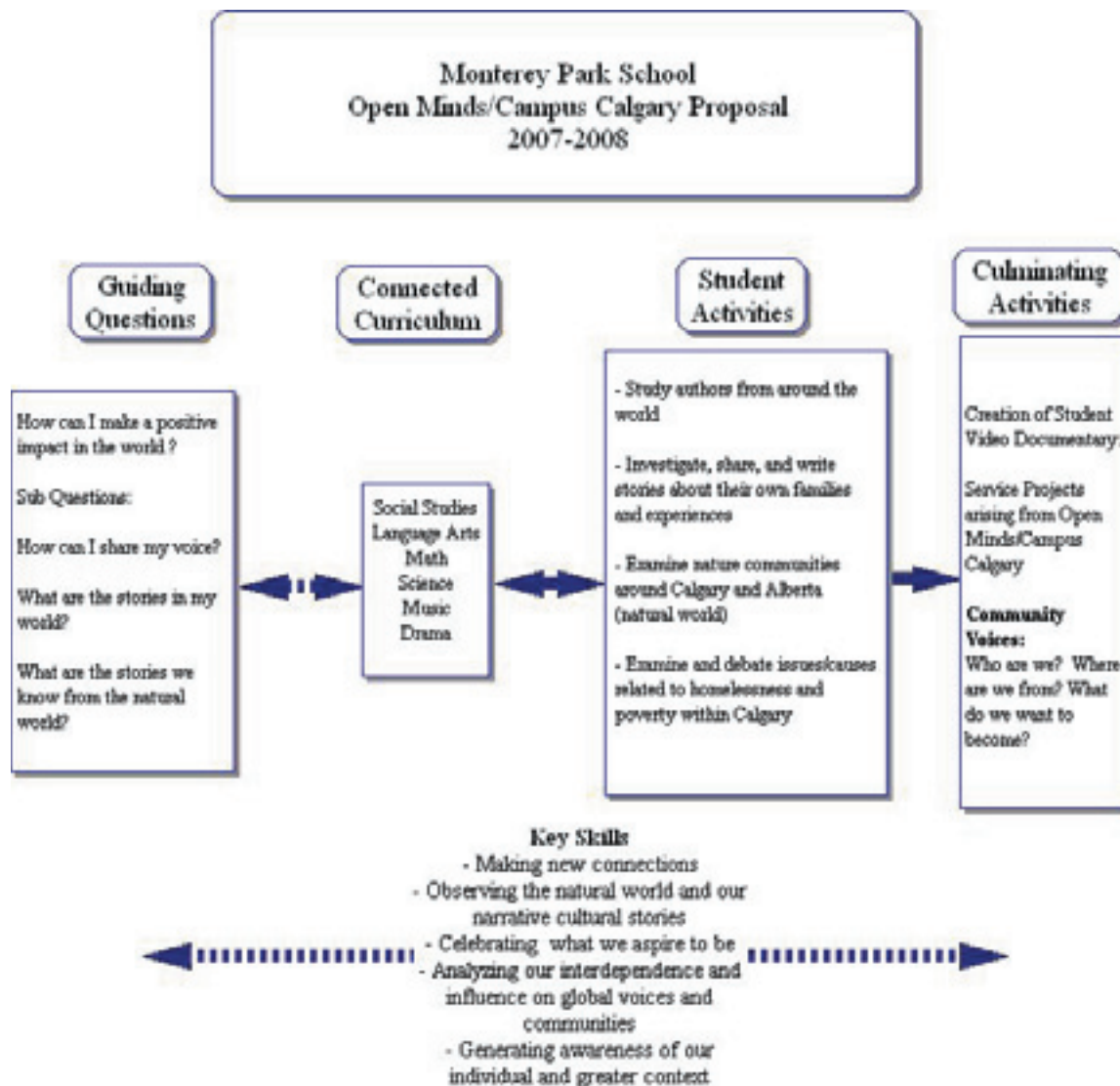
underscores our commitment to having learners explore, understand, communicate, and represent their knowledge in multiple forms. For example, from Kindergarten to Grade 6 the children learn through movement, drama, drumming, various visual art media, and music. On a continuum, the children develop analytical and problem-solving strategies through their experiences with chess and the art of debate. These creative pathways serve as legitimate areas of study, as well as an expansion of the regular program of studies. In addition, the approximately 700 students who attend the school meet several personal challenges as English Language Learners. These include formation of multicultural identities, multi-generational families, and, in some instances, cultural isolation. There are limited opportunities for these students to experience within their community a broad range of recreational and arts-based programs. In response to this, the staff at Monterey Park School is committed to providing arts education as a means of cultivating a fertile environment where children are encouraged to learn, develop, and achieve in distinct and creative ways. Thus, staff and students have embarked on an exploration of multiple forms of representation and communication.

The 2007-2008 school year marks the seventh year in which Monterey Park has operated as an elementary school, and it now offers 24 classes from Grades 1 to 6, and six half-day Kindergarten classes. Close to 50% of the teachers are within their first five years of teaching, and 25% are within their first two years of teaching. Teachers face a full spectrum of challenges and opportunities in their capacity to address diversity and equity at Monterey Park School. **One of our School Development Plan actions is to foster culturally responsive materials, learning experiences, and performances.**

Grade Three Proposal

We represent four classrooms. For two of the classrooms, our first choice is City Hall School, our second choice is Zoo School, and our third choice is Science Centre School. For the other two classrooms, our first choice is Zoo School, our second choice is City Hall School, and our third choice is Science Centre School.

We would prefer to attend sometime in January or February; this would give each classroom climate time to solidify and settle, and it would also give us time to establish sketching and writing routines. We would prefer to participate before May and June because of provincial achievement tests.



We plan to begin in the fall term with a sub-question: How can I share my voice? At this time we hope to build classroom community by hearing each student's voice. Our student population is 74% ESL, and encouraging students to tell and write stories about their own families and experiences would tie in with social studies topics of world communities and global citizenship in general. We would also like to hear the voices of authors from around the world. While we are interested in communities in Peru, Ukraine, India, and Tunisia, we are also interested in the homeless community of Calgary, and we would like to debate issues related to poverty and homelessness in our city.

As a culminating activity for our "voice" question, we intend to create a video documentary that highlights the stories of our children and their families, as well as multicultural stories from Monterey Park School and our surrounding neighbourhood. The documentary would also include opinion pieces in which the children voice their ideas and feelings about how communities (both human and animal communities) interact with and affect each other.

Midway through the school year, we would like to tweak our "voice" question (How can I share my voice?) so that it becomes our main question: How can I make a positive impact on the world? We see these questions as being closely related, with students using their voices to make an impact. Each class will undertake a service project, which will arise from the concerns raised during the documentary. Each class will invite a guest speaker, related to their service project, who will give us insight into the issues.

At this point we would like to explore our human impact on animals in their communities. We would like to think deeply about our impact on the wild animal community on the outskirts of Calgary, and also around the world. We intend to take a field trip to the eastern edge of the Monterey Park community, where city meets open land, and observe/sketch this transition area. If possible, we would continue our observations and sketches by travelling to Fish Creek, where wilderness dwells within the city limits.

At Zoo School, we would look at the life cycles and needs of various animals. We would try to understand how to build and maintain a comfortable habitat at the zoo. We would also examine how humans can co-exist with animals and still protect their habitat, and how we can contribute to that protection from here. How can we care for our world so that animals (and humans) can live in it? For example, what are the implications of global warming? At Zoo School, we would like to observe and sketch animals and their habitats. We plan to observe the social interactions of animal groups (such as gorillas or deer). We would like to talk to zoo experts and learn more about endangered species (both local and exotic).

At City Hall School, we would concentrate on local animal habitats, and how land use, traffic, pesticides, recycling, and structures can affect the lives of bears, coyotes, deer, birds, and river fish. This could involve discussions with experts from city planning, parks and recreation, bylaws, waste management and garbage collection, recycling, water conservation, and city lighting.

Curriculum Connections

Social Studies

- What are humans' responsibilities towards the animals whose habitats we border?

- How do we care for our world, and how does that affect all living creatures?
- How do animals become dependent on humans for food and shelter (e.g., garbage bears)?
- What services do we provide that are geared towards the protection of animals?
- How do animals inspire or affect our celebrations?

Language Arts

- How do various cultures and authors incorporate animals into their stories and celebrations?
- How can we listen to the voices of animals in zoos or in the wild?

Science

- What are the life cycles of some animals?
- What are their needs for habitat?
- How do animals communicate with each other?
- What would animals say to us?
- How do we communicate with animals?
- What is our obligation to protect and care for animals?
- What is the zoo's impact on the community?
- How do animals hear differently from humans (related to hearing and sound)?

Math

- How much space does an animal need for habitat, either in the zoo or in the wild?
- How much has our city grown in the last year, and how has that depleted natural habitat for animals?

Art

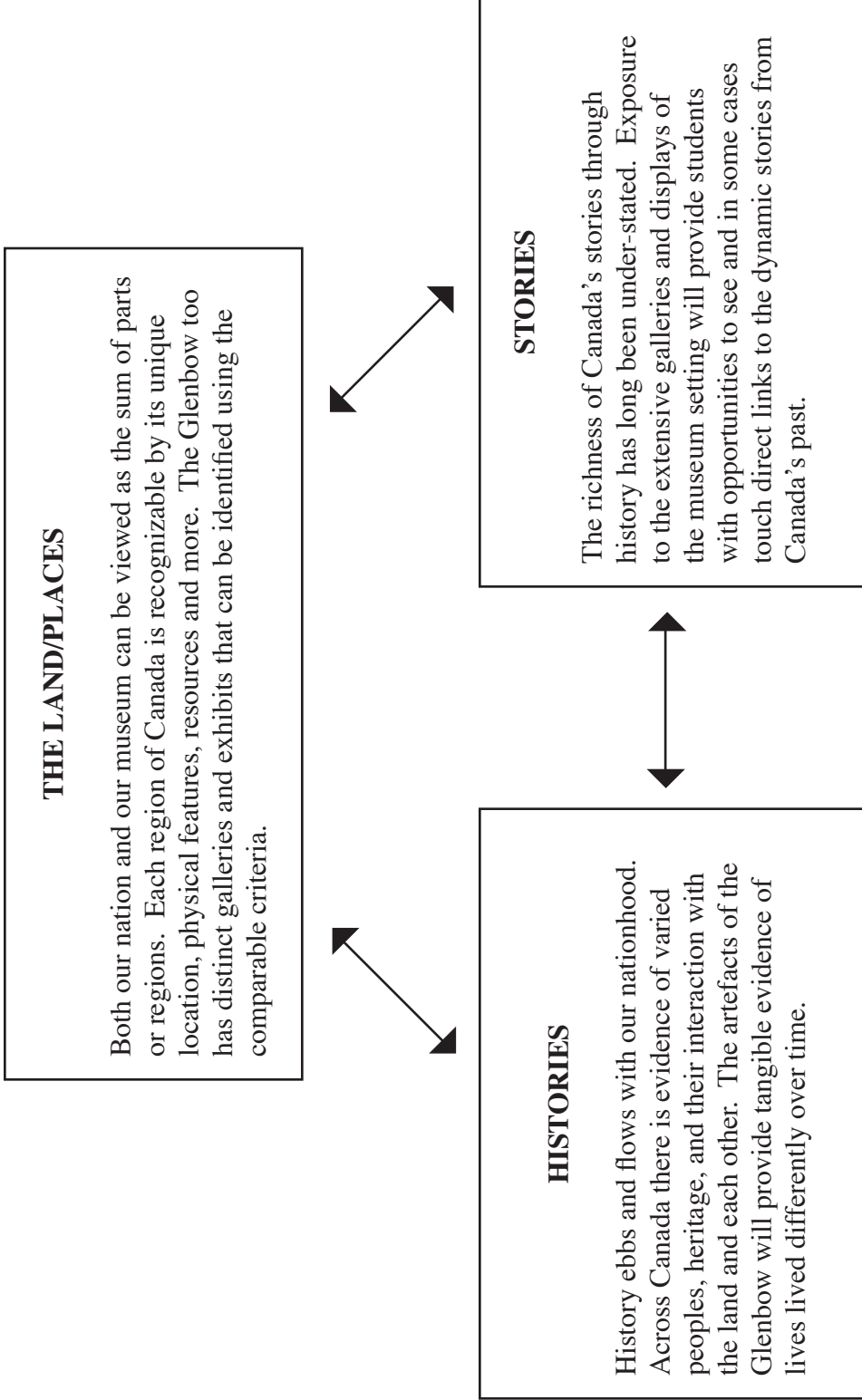
- How can we carefully observe animals and their habitat by drawing sketches and diagrams?

Culminating Activity

Although we are separated into four classrooms, we are actually a team of six teachers. We would like to split the children into six inter-class groups, with each group focussing on an issue of interest. Each group will build awareness around this issue, which deals with animals, either in the zoo or in the wild. This will become a new service project.

Sample of Teacher Proposal for Participation in the Program:

Is Our Nation Like Our Museum? (Grade 5: Canada: The Land, Histories and Stories)



The interconnected nature of the new Grade 5 Social Studies curriculum supports concurrent learning about Canadian geography, history and nationhood. A week of learning at the Glenbow Museum would provide the ideal “hub” around which to revolve our year-long integrated study of Canada. Students will be asked to consider the question, “Is Our Nation Like Our Museum?” to guide their learning through inquiry. Depending on the timing of an Open Minds week, they will have spent time gaining understanding of “What makes a region,” and “Stories” as they relate to the changes for the people of Canada over time. Prior to being at the Glenbow, students would spend time focusing on such areas of study as

- Gaining understanding of the physical regions and diversity of Canada
- Working with our Art Specialist to learn how to “Draw like da Vinci”
- Recognizing artefacts in our own lives, and their importance to our personal stories
- Seeing stories in different genres: historical fiction, folk songs, personal and family biography
- Possible novel study of “From the Mixed-up Files of Mrs. Basil E. Frankweiler

Following our time at the Glenbow, students will use their experiences for further demonstrations of understanding that could include

- Script writing, and dramatic presentations
- Project work, including artwork, dioramas, power point presentations
- Various writing forms such as poetry, stories, and informational text.

Sample Letter of Acceptance:



Date
Name & address

LETTER OF ACCEPTANCE

Please return a signed copy of this letter to Michèle Gallant, Glenbow Museum.

Dear

Congratulations! This letter confirms your acceptance to the Glenbow Museum School for the 2007-08 school year. Every possible week has been filled and we've made our best effort to schedule you as close to your requested time slot as possible. Your week is:

If your week conflicts with events already scheduled at your school please let me know within the next week and I will try to find you a more suitable week. If your week is suitable we request that you and your school principal sign this Letter of Acceptance and return it to me by May 7, 2007. This will secure your acceptance to Museum School.

On July 4 & 5, from 8:30am-4pm we will offer a 2 day Workshop & Planning Session. This workshop will be particularly beneficial to teachers new to Museum School. We know how precious summer holidays are so our goal is to make this workshop personally and professionally rewarding. We'll explore object-based inquiry, learn basic sketching techniques with artist Chester Lees and get to know Glenbow's full range of programs & exhibits. You'll be given a resource binder loaded with practical information, activities & resources. Best of all, by the end of day 2 your week at Glenbow will be planned and you'll have strategies for immediately preparing your students for Museum School. This workshop is highly recommended by teachers. To register please complete the Summer Workshop form (page 2 of this document). If you are not able to attend I will contact you in August or early September to set up a planning meeting.

I look forward to meeting you & working with you. Thank you very much for your interest in the Museum School and welcome aboard!

Warm wishes,
Michèle Gallant, Education Coordinator
Glenbow Museum School

Teacher Signature

Principal Signature

Date

Glenbow Museum 130 – 9th Ave SE, Calgary, AB T2G 0P3



WORKSHOP & PLANNING SESSION

July 4 & 5, 2007 from 8:30am-4pm
Glenbow Museum – 4th Floor Classroom

NAME: _____

SCHOOL: _____

School phone: _____

Home phone: _____

Please complete this form & return by May 7, 2007 to:

Michèle Gallant
Glenbow Museum School
130 – 9th Avenue SE
Calgary, AB T2G 0P3

Fax: 403.262-4045 Phone: 403.268-4112
Email: mgallant@glenbow.org

Sample Media Release Form:



Campus Calgary Stampede School

Consent and Release Form

Your approval is required so that we may take writing samples, drawings, photographs, sound recordings and/or videotapes of students who take part in the Campus Calgary Stampede School program. These activities assist us in evaluating the program and help educators and other interested groups learn more about Campus Calgary. All materials will be used solely for the purposes of education and public information and may be presented through publications, media, conference presentations and web sites.

If you agree, please complete the form below and return it to your child's teacher as soon as possible.

Name of School _____ Week _____

Name of Teacher _____

I/We, the parent(s) / legal guardian (s) of _____
(Full name of student)

hereby give express permission and consent to Campus Calgary and The Calgary Exhibition and Stampede for all writing samples, drawings, photographs and video / audio recordings of him / her taking part in Stampede School activities to be used for education and public information purposes. This data will state the child's first name and grade level only.

Parent or legal guardian signature _____

Date: _____

Sample Teacher Inservice Outline:

Petro-Canda Bird School 2006-2007 Teacher Inservice

July 4th, 2005

8:30 a.m. Morning – Coffee and Mingle

9:00 a.m. – 9:30 a.m. Introduction to the Sanctuary

- Habitat protection
- Rules and guidelines
- Payments
- Planning meetings
- Walk through Sanctuary Visitor Centre

9:30 a.m. – 10:30 a.m. Journalling and Observations with Trish Savill, Campus Calgary/
Open Minds Director

10:30 a.m. – 10:45 a.m. Break/Scheduling Planning Meetings

10:45 a.m. – 12:00 p.m.: Continue with Journalling and Observations with Trish Savill,
Campus Calgary/Open Minds Director

12:00 – 12:30 p.m. LUNCH (provided by the City of Calgary)

12:30 p.m. – 1:45 p.m. Program Review

- Brief overview with examples of programs Nature Educators can do with your classes during Bird School
- Calgary Wildlife Rehabilitation Centre and Oberon

1:45 p.m. – 2:00 p.m. Break/ Scheduling Planning Meetings

2:00 p.m. – 3:00 p.m. Sanctuary Guided Hike

July 5th, 2005

8:30 a.m. Morning – Coffee and Mingling

9:00 am – 10:30 a.m. Sketching and Art with Artist from Wildflower Arts Centre

10:30 a.m. – 10:45 a.m. Break/ Scheduling Planning Meetings

10:45 am – 12:00p.m. Continue Sketching and Art with Artist from Wildflower Arts Centre

12:00 – 12:30 p.m. LUNCH (provided by the City of Calgary)

12:30 – 1:30 p.m. Roles of Bird School Coordinator, Sanctuary staff and Sanctuary volunteers, parent
volunteers and teachers

1:30 p.m. – 1:45 p.m. Break/Scheduling Planning Meetings

1:45 – 2:30 p.m. Pre and post activities for your class

2:30 – 3:00 p.m. Wrap-up and evaluations

NOTE: Please bring your schedules with you for planning meetings. Bring binoculars if you have them.

Appendix 3: Students

1 Samples of Schedules for Classes

- Sample Week Schedules from City Hall School
- Sample Week Schedule from Stampede School
- Sample Week Schedule from Nature School

2 Looking at Objects

3 Looking at Art

4 Writing/Drawing Samples

- Zoo School
- City Hall School
- Glenbow Museum School
- Science Centre School
- Canada Olympic Park School
- Bird School
- Cross Conservation Area School
- Nature School

Sample week schedules from City Hall School:

CAMBRIAN HEIGHTS ELEMENTARY
MS SMITH
GRADE 3
20 STUDENTS

MARCH 19 – 23, 2007

MONDAY, MARCH 19	TUESDAY, MARCH 20	WEDNESDAY, MARCH 21	THURSDAY, MARCH 22	FRIDAY, MARCH 23
<p>Arrive 9:30 - 10:15 Classroom orientation, snack, bathroom break</p> <p>10:15 - 11:30 Tour of Municipal Building -include Council Chambers</p> <p>11:30 - 12:00</p>	<p>9:30 – 10:00 JOURNAL SHARING, DISCUSSION, SNACK</p> <p>10:00 – 12:00 Darrell Burgess Land Use Planning How Do We Plan a Community?</p>	<p>9:30 – 10:00 JOURNAL SHARING, DISCUSSION, SNACK</p> <p>10:00 – 11:15 Tour of Historic City Hall</p> <p>11:00 – 12:00</p> <p>11:15 – 12:00</p>	<p>9:30 – 10:15 JOURNAL SHARING, DISCUSSION, SNACK</p> <p>10:15 – 11:00 Prep. for and visit with Mayor Bronconnier</p> <p>11:00 – 12:00</p> <p>12:00 – 1:00 LUNCH</p> <p>1:00 – 2:15</p> <p>2:15 - 2:40 JOURNAL SHARING. DISCUSSION</p>	<p>9:30 – 10:00 JOURNAL SHARING, DISCUSSION, SNACK</p> <p>10:00 – 2:15 Exploration of Stephen Avenue</p> <p>2:15 - 2:40 Wrap-up and clean-up</p>
<p>12:00 – 1:00 LUNCH</p> <p>1:00 – 2:15 Looking at Art and Objects</p> <p>2:15 -2:40 JOURNAL SHARING. DISCUSSION</p> <p>DEPARTURE 2:45</p>	<p>12:00 – 1:00 LUNCH</p> <p>1:00 – 2:00</p> <p>2:00 – 2:40 Visit from Alderman Bob Hawkesworth</p> <p>DEPARTURE 2:45</p>	<p>12:00 – 1:00 LUNCH</p> <p>1:00 – 2:15</p> <p>2:15 - 2:40 JOURNAL SHARING. DISCUSSION</p> <p>DEPARTURE 2:45</p>	<p>12:00 – 1:00 LUNCH</p> <p>1:00 – 2:15</p> <p>2:15 - 2:40 JOURNAL SHARING. DISCUSSION</p> <p>DEPARTURE 2:45</p>	<p>DEPARTURE 2:45</p>

FISH CREEK ELEMENTARY SCHOOL
MRS. RIGHT
GRADE 5/6
26 STUDENTS

FEBRUARY 26 – MARCH 2, 2007

MONDAY, FEBRUARY 26	TUESDAY, FEBRUARY 27	WEDNESDAY, FEBRUARY 28	THURSDAY, MARCH 1	FRIDAY, MARCH 2
Arrive 9:15 - 10:30 Greetings, Prep. for and attend Council Meeting 10:30 – 11:00 Discussion, classroom orientation, snack, bathroom break 11:00 – 12:00 Tour of Municipal Building	9:15 – 9:45 JOURNAL SHARING, DISCUSSION, SNACK 9:45 – 11:15 Tour of Historic City Hall 11:15 – 12:00	9:15 – 9:45 JOURNAL SHARING, DISCUSSION, SNACK 9:45 – 10:45 Heather Saunders Calgary's Public Art Policy 10:45 – 11:00	9:15 – 9:45 JOURNAL SHARING, DISCUSSION, SNACK 9:45 – 10:15 10:15 – 11:00 Prep. for and Visit with Mayor Bronconnier 11:00 – 12:00	9:15 – 9:45 JOURNAL SHARING, DISCUSSION, SNACK 9:45 – 1:45 Stephen Avenue Exploration
12:00 – 1:00 LUNCH	12:00 – 1:00 LUNCH	12:00 – 1:00 Lunch and Learn: Calgary Fire Service – Garth Rebel 1:00 – 1:45	12:00 – 1:00 LUNCH	
1:00 – 1:45 Looking at Art and Objects	1:00 – 2:00		1:00 – 1:30	
1:45 – 2:15 JOURNAL SHARING, DISCUSSION	1:45 – 2:15 JOURNAL SHARING, DISCUSSION	1:45 – 2:15 JOURNAL SHARING, DISCUSSION	1:30 – 2:15 Visit from Alderman Linda Fox-Mellway	1:45 – 2:00 Wrap-up and clean-up
DEPARTURE 2:20	DEPARTURE 2:20	DEPARTURE 2:20	DEPARTURE 2:20	DEPARTURE 2:00

Sample Week Schedule from Stampede School:

Focus: What is worth saving?

Week 33 Glenbrook School **May 14 - 18**
 Carol Cottrell Grade 4 22 Students

Monday, May 14	Tuesday, May 15	Wednesday, May 16	Thursday, May 17	Friday, May 18
Arrive 9:15 (snack)	Arrive 9:15 (snack)	Arrive 9:15 (snack)	Arrive 9:15 (snack)	Arrive 9:15 (snack)
9:45 – Photo Scavenger hunt. Stampede Discovery Scavenger Hunt: Look for... ask questions about... draw... describe... (Grain academy windows, statues, murals, trace your route on the map)	9:45 – Grain Academy	9:45 – Muffy's horse	9:45 – Chuckwagon / Rodeo Events - understand and try	9:45 – First Nation Tipi and Blackfoot Tribe history. <ul style="list-style-type: none"> • Treaty 7 • Storytelling
LUNCH 12:00 – 12:30 12:45 - Environmental Tour	LUNCH 12:00 – 12:30 12:45 - Reflecting and Journaling on Park	LUNCH 12:00 – 12:30 12:45 - Reflecting and Journaling on Park	LUNCH 12:00 – 12:30 12:45 - Reflecting and Journaling on Park	LUNCH 12:00 – 12:30 12:45 - Reflecting and Journaling on Park
DEPARTURE 2:45	DEPARTURE 2:45	DEPARTURE 2:45	DEPARTURE 2:45	DEPARTURE 2:45

* Have created puppets and would like to bring them to Stampede School (Life size) interested in creating shadow show with puppets at school.

Sample week schedule from Nature School:

Davis Bay School
 Joan Wilson
 May 1 –5 2006
 Grade 6-7

	Monday	Tuesday	Wednesday	Thursday	Friday
Arr: 9:45	Snack	Snack	Snack	Snack	Snack
	Intro to Site Etiquette Hike	Sharing Observation	Sharing Solar Still Challenge	Observation	Sharing Service to Centre
11:30	Lunch	Lunch	Lunch	Lunch	BBQ
	Observation Sharing	Biosphere Building terraria	Observation	Pond Study (Wetlands)	Music Celebration Sharing
2:15	Depart	Depart	Depart	Depart	Depart

Looking at Objects:

LOOKING AT OBJECTS

Describe the object. . . . PHYSICAL FEATURES

What colour is it? What is it made of? Is it a natural or manufactured material? Is the object complete?

Has it been mended or changed? Is it worn?

Might it have a smell? Would it make a sound?

How was it made CONSTRUCTION

Was it hand-made or machine made? Is it made from several pieces? If so, how has it been fixed together?

Is it well designed DESIGN

Does it do the job it was intended to do well? Were the best materials used? Is it decorated? If so, how is it decorated? Do you like the way it looks?

Would other people like it?

What is it worth VALUE

To the people who made it? To the people who used it?

To the people who keep it? To you? To a museum?

Looking at Art:

LOOKING AT ART

1. GET THE FACTS...Describe what you see.

Write *descriptively* about what you see. Describe the: LINES, SHAPES, COLOURS, TEXTURES, OBJECTS, PEOPLE, NATURE, etc. What MATERIALS did the artist use? What is the SIZE of the work?

2. HOW IS EVERYTHING PUT TOGETHER?

What is the first thing that catches your eye?
Is anything repeated? How are things connected?
What is the most important colour, shape, or object?
Do some shapes appear to be close up or far away?

3. WHAT IS IT ABOUT?

IMAGINE you are in the middle of this work of art.
Think about the SOUNDS, SMELLS, TASTES.
How does it make you FEEL in your mind and body?
Does it remind you of anything (a memory)? What is the artist telling you. Is there a story, a feeling, an idea?

4. YOUR LAST WORD. . . .

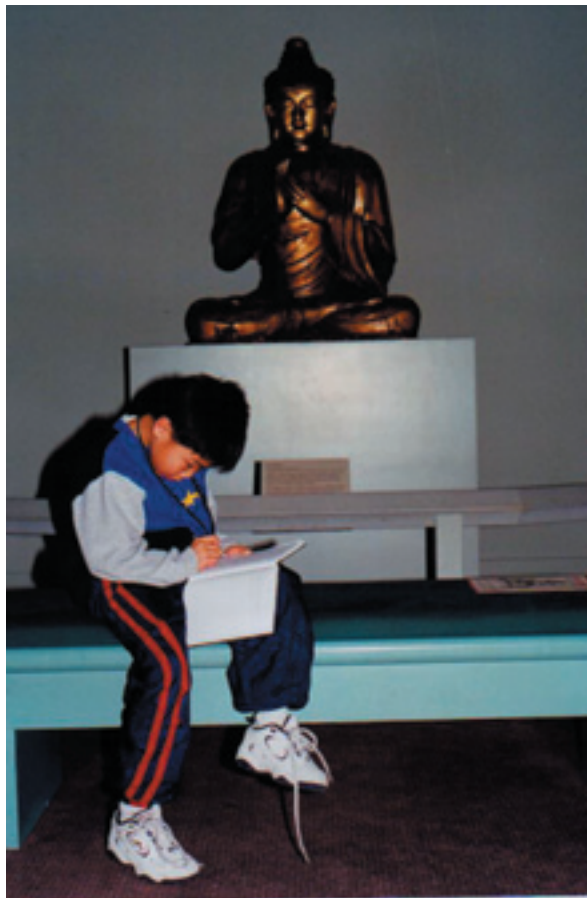
Do you think this is a good work of art? Why?
What do you like most? Would you change anything?
Would you like to see more work by this artist?

Writing and Drawing Samples:

As described earlier writing and drawing are central components in the Open Minds concept. When students are immersed in a site over a long period of time they have the opportunity to slow down and really see. Descriptive writing and detailed drawing are two tools that students can use to communicate their ideas.

These skills have to be developed by the classroom teacher before the students come to the site. Everyone, students and adult alike, are encouraged to use small hard cover journals.

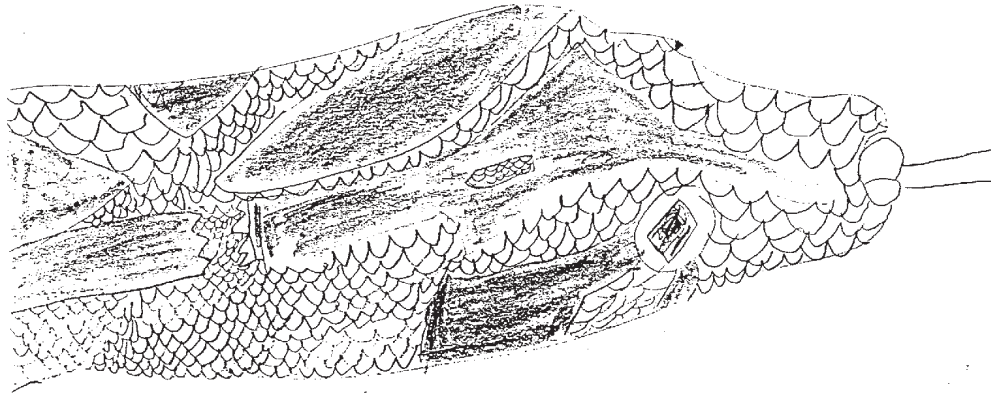
The following samples have been chosen to illustrate a range of grade levels and sites, and some important points are highlighted.



Zoo School:

Derek

Derek



**Gorilla,
Strong, muscular, tough.**

**Gorilla
Soft, gentle, mysterious.**

**Gorilla
Strange being, part man, part beast.**

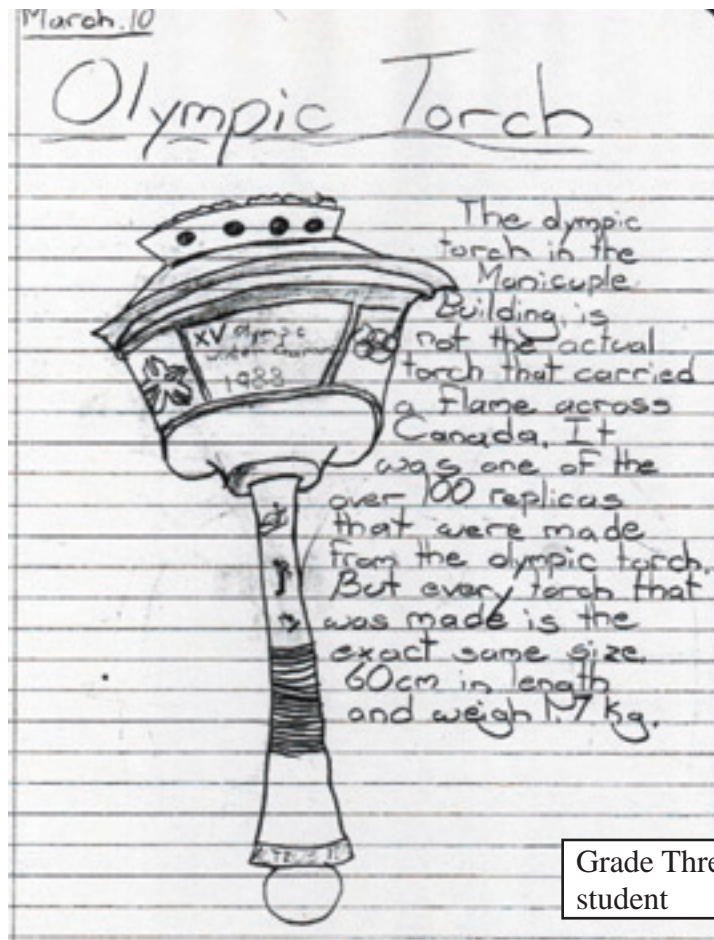
**Gorilla
Quiet, gentle, strong
Love him.**

Krista



In the first Zoo School class in 1993, Angela Rokne's Grade Three students learned to draw and write descriptively. They created their poems after returning to school.

City Hall School:

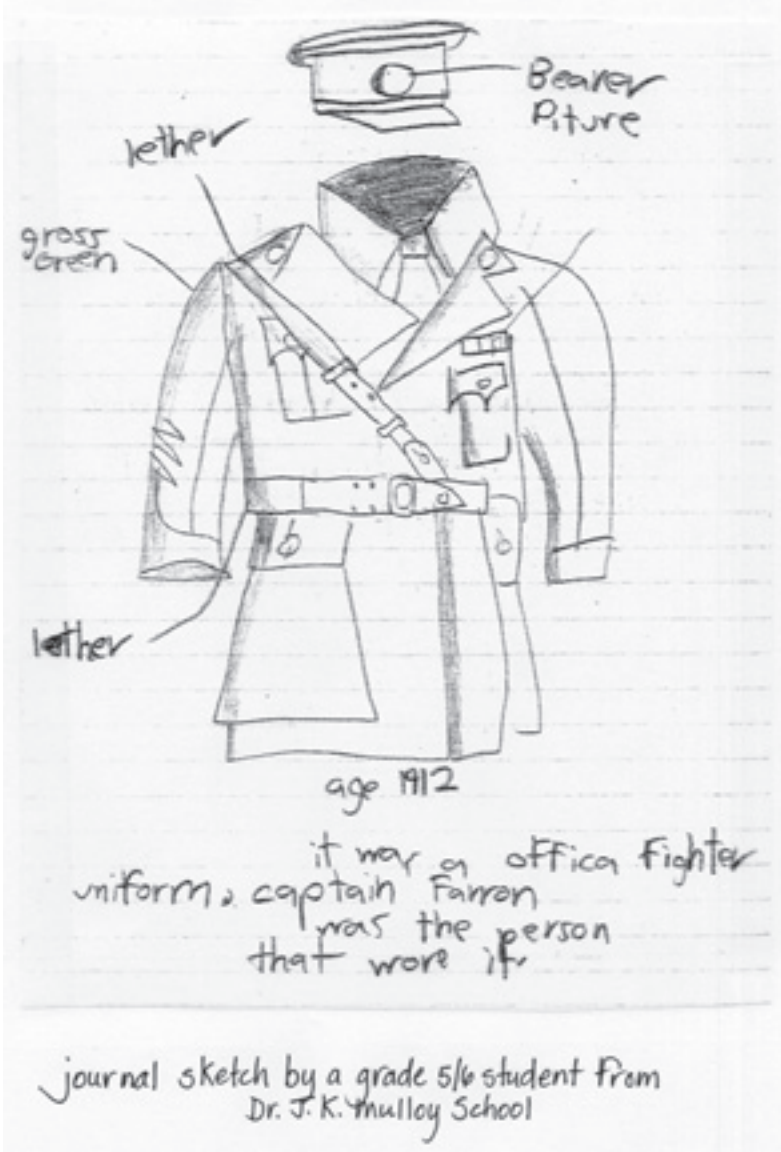


Inukshuk

Though it has no eyes to see,
no ears to hear, and no mouth to speak,
it is the guardian of the People
They build it to mark where they have been and to bring good
fortune or bad. On the spot it stands.
It is the Inukshuk, built by the Inuit people
If you cannot understand its silence,
you will not understand its words.

Grade Six student

Glenbow Museum School:



Drawing is a way to slow down and really look at what is around you. Even young children can draw accurately if they are given drawing experiences at school. The key is to draw something, whether it is an object, a tree or an art print. Too often they are asked to draw from their imaginations. They need to use a combination of their eyes and their brain.

Glenbow Museum School:

Young African Carver

Carving my first mask
music starts outside
I let my imagination
run free in the tall grass
and then it comes to me
my hand moves swiftly
like water in the stream
I gaze at the makings of my very own mask
my simple block of softwood
has completely changed its form
it not only has shape
but it has a story
imagination and tool come together
to make a miracle

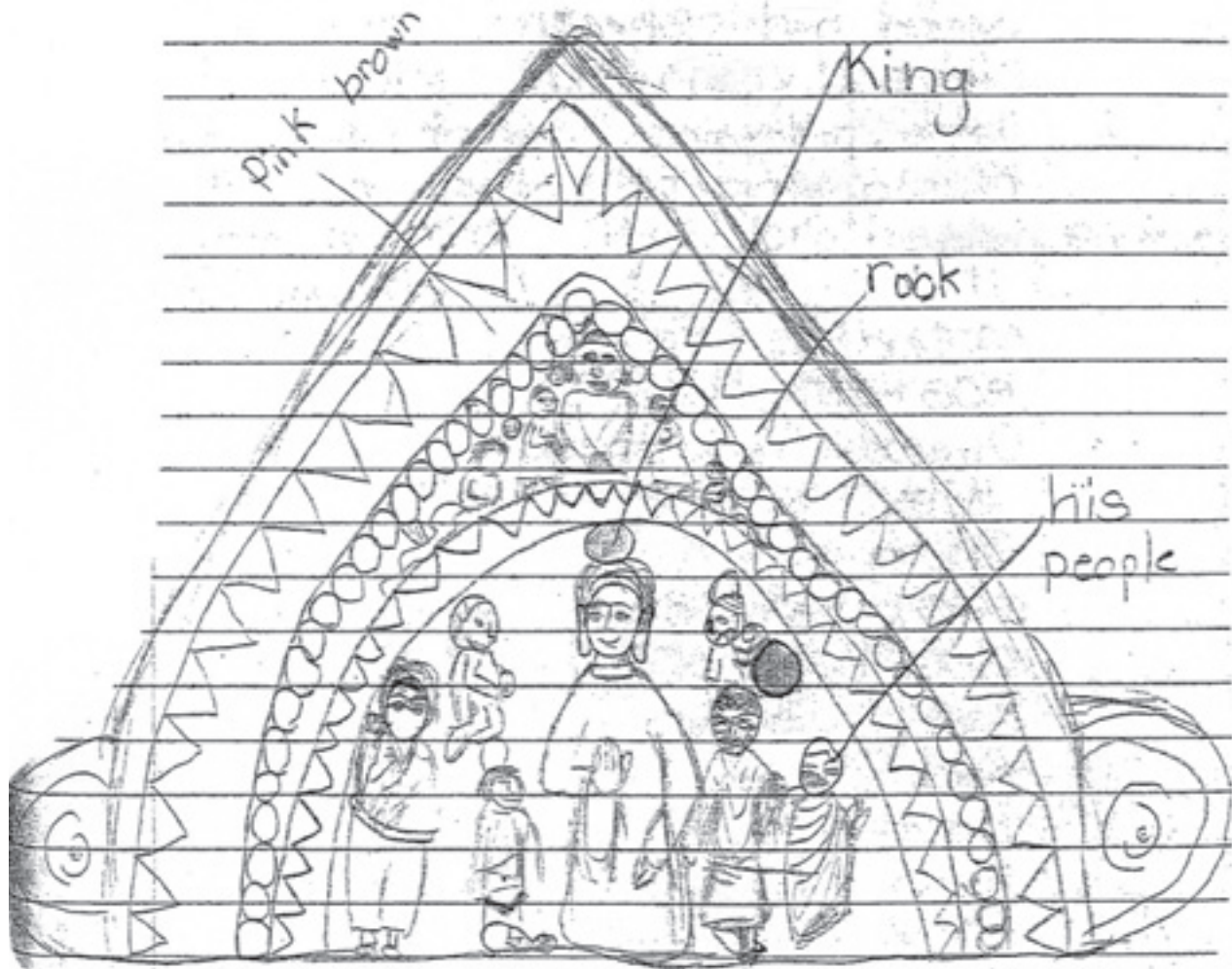
Poem composed by a grade 5 student

Poetry is another way for students to express their ideas. The exhibits and objects in Glenbow Museum are sometimes used by students as a foundation for poetry. This student has been observing in the West Africa Gallery and a mask has caught his interest.

Glenbow Museum School:

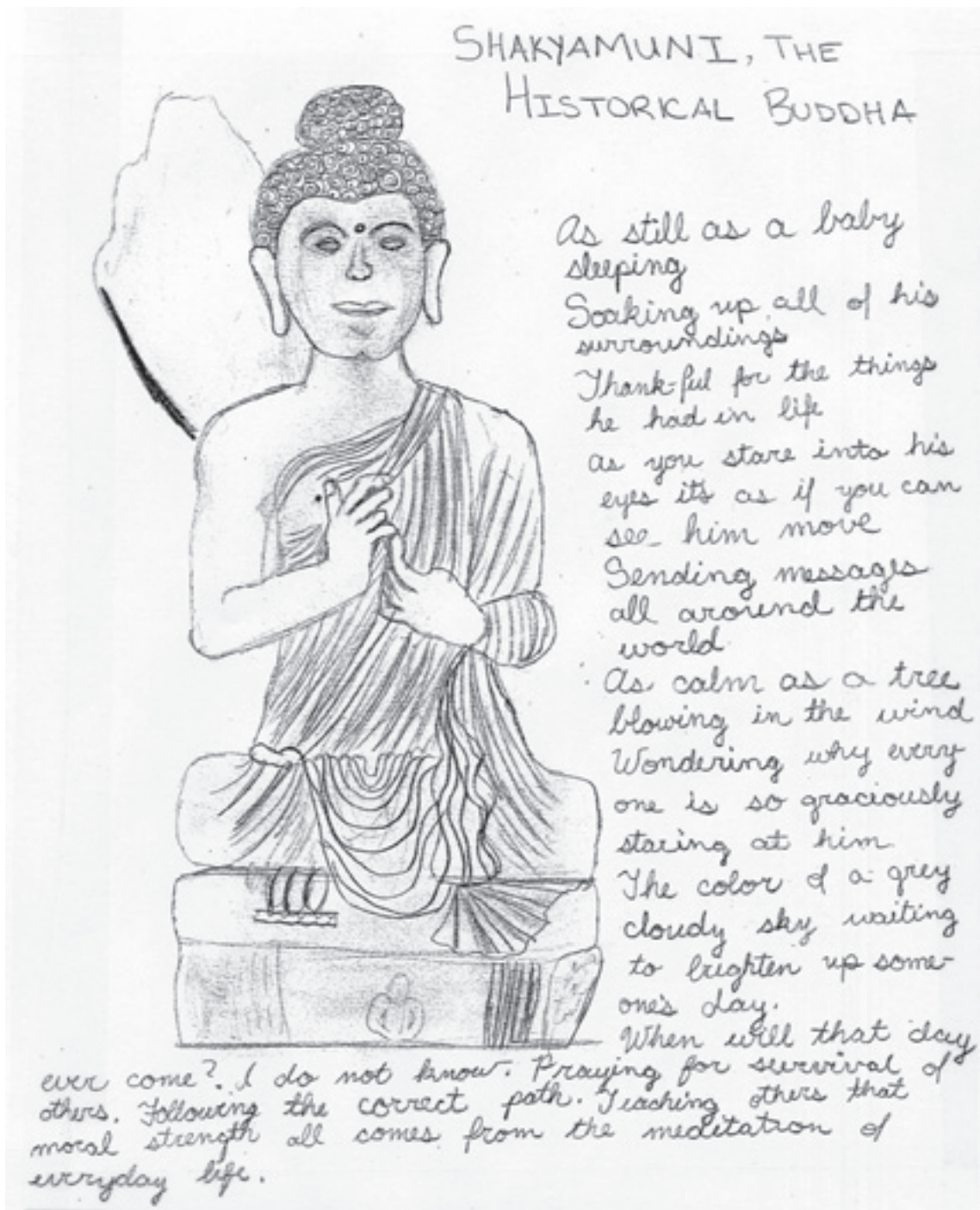
May 9

Dhipankara Jataka





journal sketch by Ligia, grade one, Monterey Park School.

Glenbow Museum School:

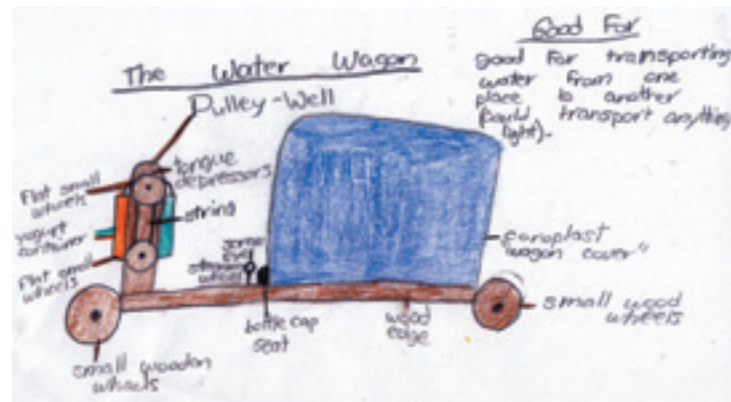


Journal entry by a grade 9 student

Science Centre School:

 The Water Wagon 

My vehicle is the water wagon. It is used to pick up and carry water from one place to another. It uses a pulley to do this. The bucket is attached to one end of the string which goes over the pulley and wraps around it. The other end is glued to the pulley. The pulley is supported by tongue depressors. At one end of the rod there is a pulley. Below it is another pulley. There is a piece of string tightly wrapped around these two pulleys which you pull up or down. This causes the bucket to go up or down. Since the string is tight, the bucket will not constantly fall down. I had quite a lot of problems building my vehicle, but not too many. First, my vehicle wouldn't move. I thought I had been winding the elastic the wrong way. But my vehicle still would not move. Then I noticed the wheels on my



The writing that is done at the Science Centre School is a bit different than that done at the other sites. Part of each day is spent doing hands-on activities in the classroom. This Grade Four student is building a vehicle that involves simple machines. The writing is open-ended and personal. Too often writing in school science is prescriptive.

Science Centre School

Science Centre School:

Colour Shadows



Orange + green = blue
Red + orange = blue
Red + yellow = green
blue + violet = indigo
green + indigo = violet

We thought red and green would make a brown colour but instead it made yellow.

Red and green turned yellow, so the background of the screen turned yellow and then the shadow colour was red & green.

We made a play. We turned on the red light and the green and it made a yellow background. We learned that translucent means can't get through any thing. Transperent means you can see through it. Opaque means light doesn't go through (you can't see it). We used different shapes to make a play. I made a bear, bird, deer, turtle, gopher and a bunny on the shadow screen. The closer something is then the bigger and the blurryer the further it is the smaller and clearer the picture would be.

Writing like this gives the classroom teacher valuable information about student understandings. Light is a very difficult topic for Grade Four and here the students have been able to play with coloured light at the Science Centre. Jordyn has discovered a lot about colours and the behaviour of light.

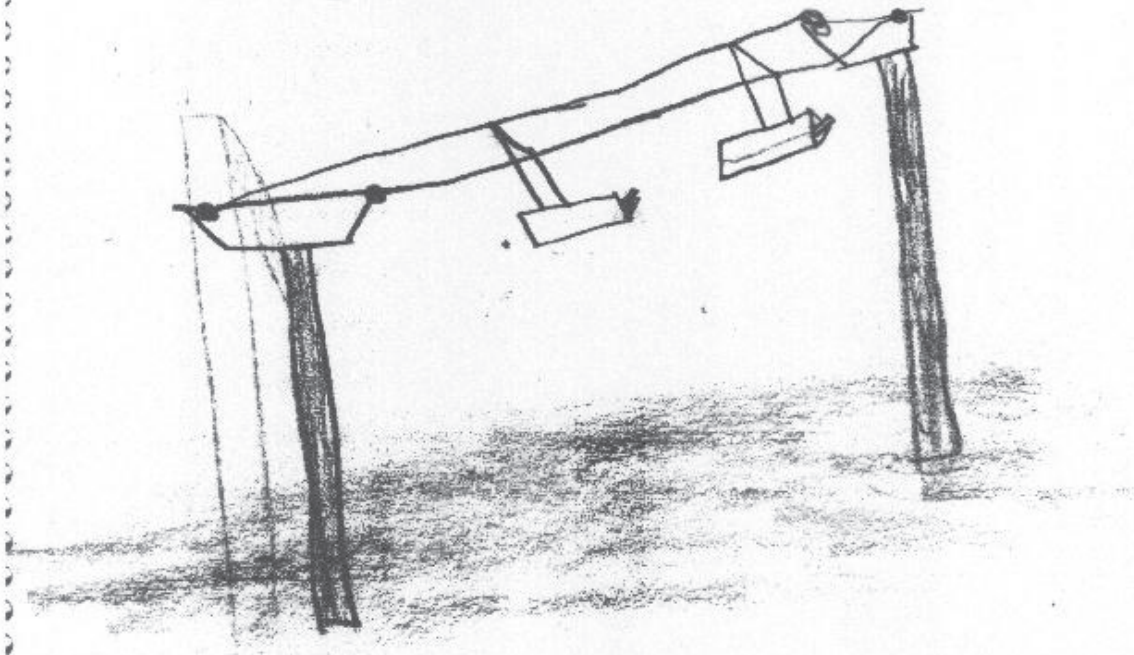
(Jordyn, Grade 4)

Canada Olympic Park School:

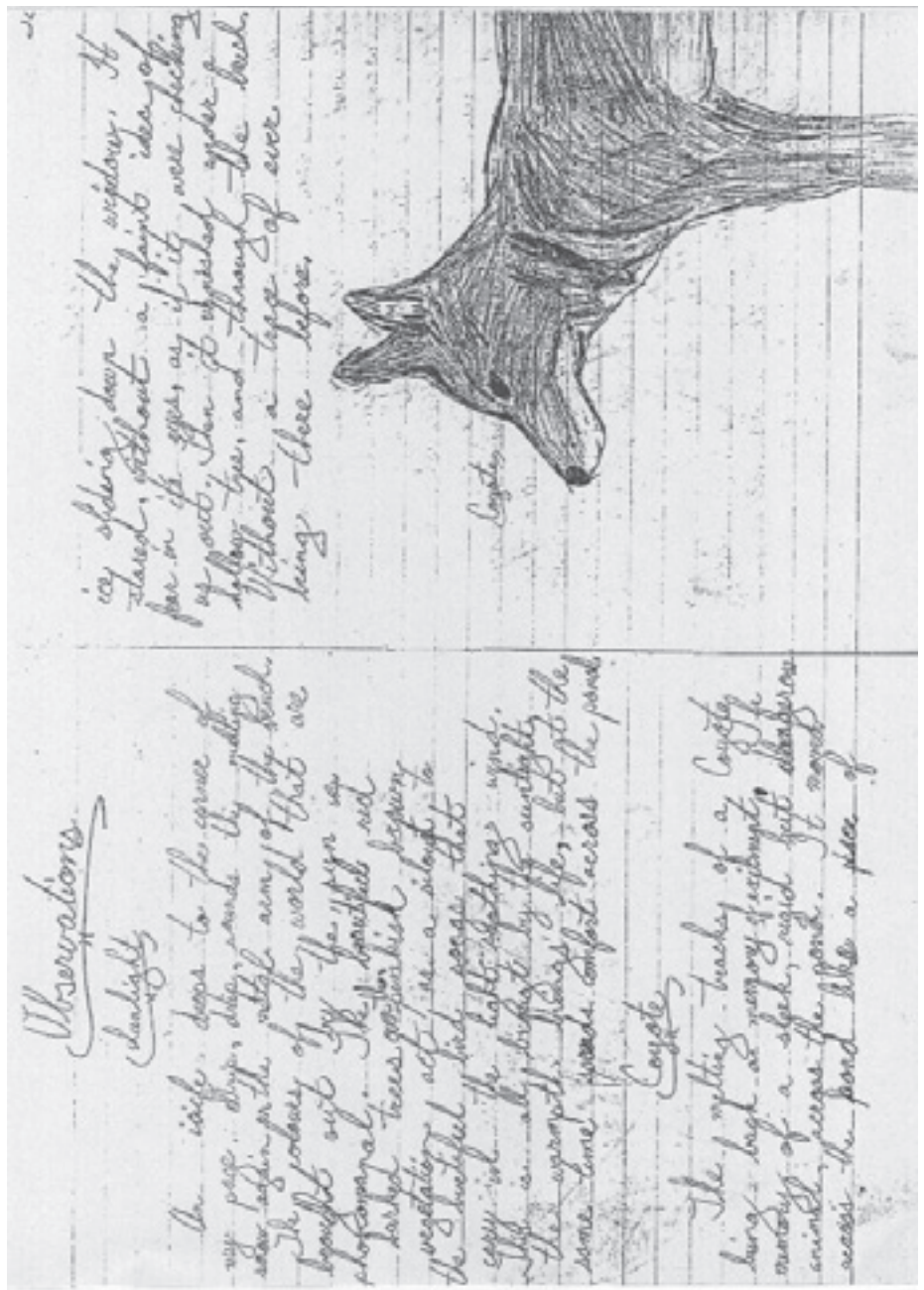
Observation

Thursday Jan. 11 07

We are at Canada Olympic park still! Outside the flags look dead, the poles look empty with colourful pieces of paper barely hanging on. On the hill no one is skiing or snow boarding. It's closed. The hill looks powdery and white. Oh I forgot to mention it's closed because it's really cold like minus twenty six! At least there's no wind. There's only a little bit of blue sky because the snow machines are blowing snow every where. Now I can barely see anything! It looks like a painting because everything is very still. The chair lift is motionless. It almost seems like the chair lift is spying on us.

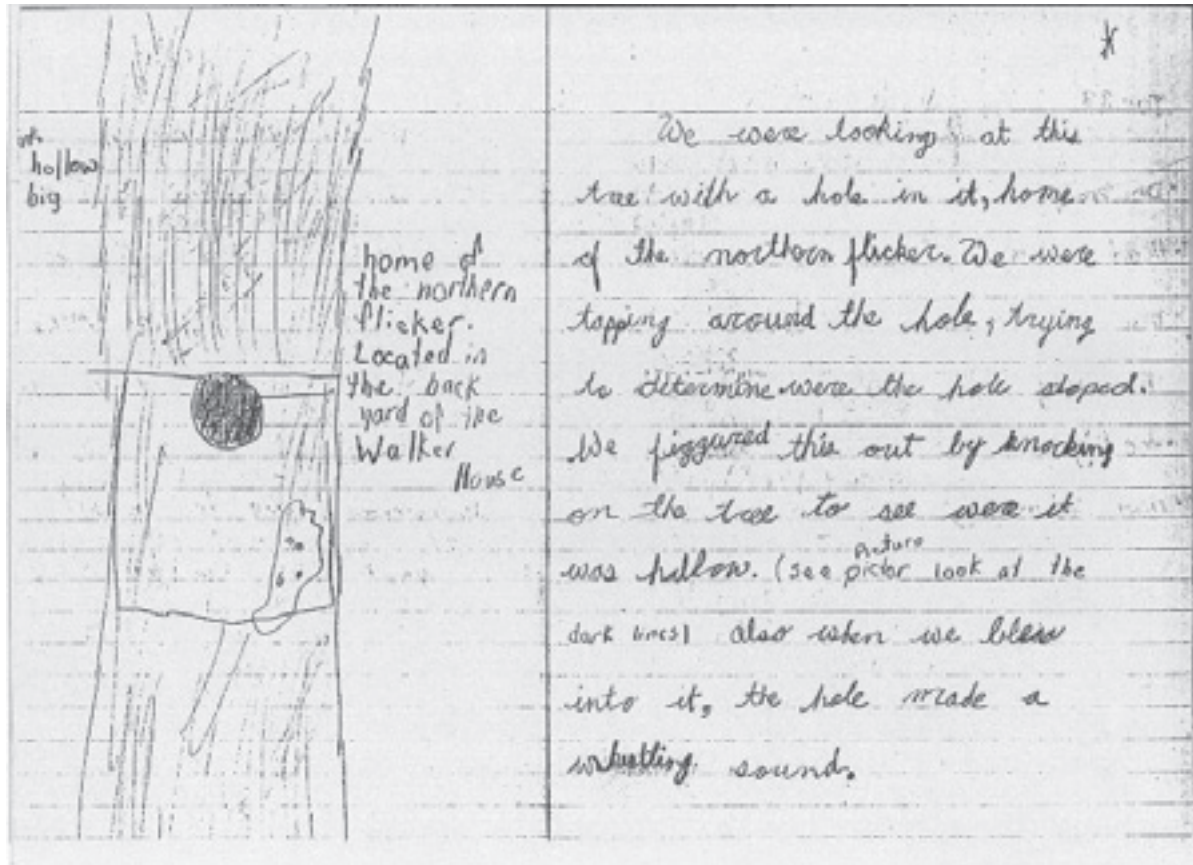


Bird School:



Grade Six
 It is absolutely vital for students to be given time each day they are at a site to be quiet and to observe. Many students in cities seldom have these opportunities to be immersed in the natural world.

Bird School:

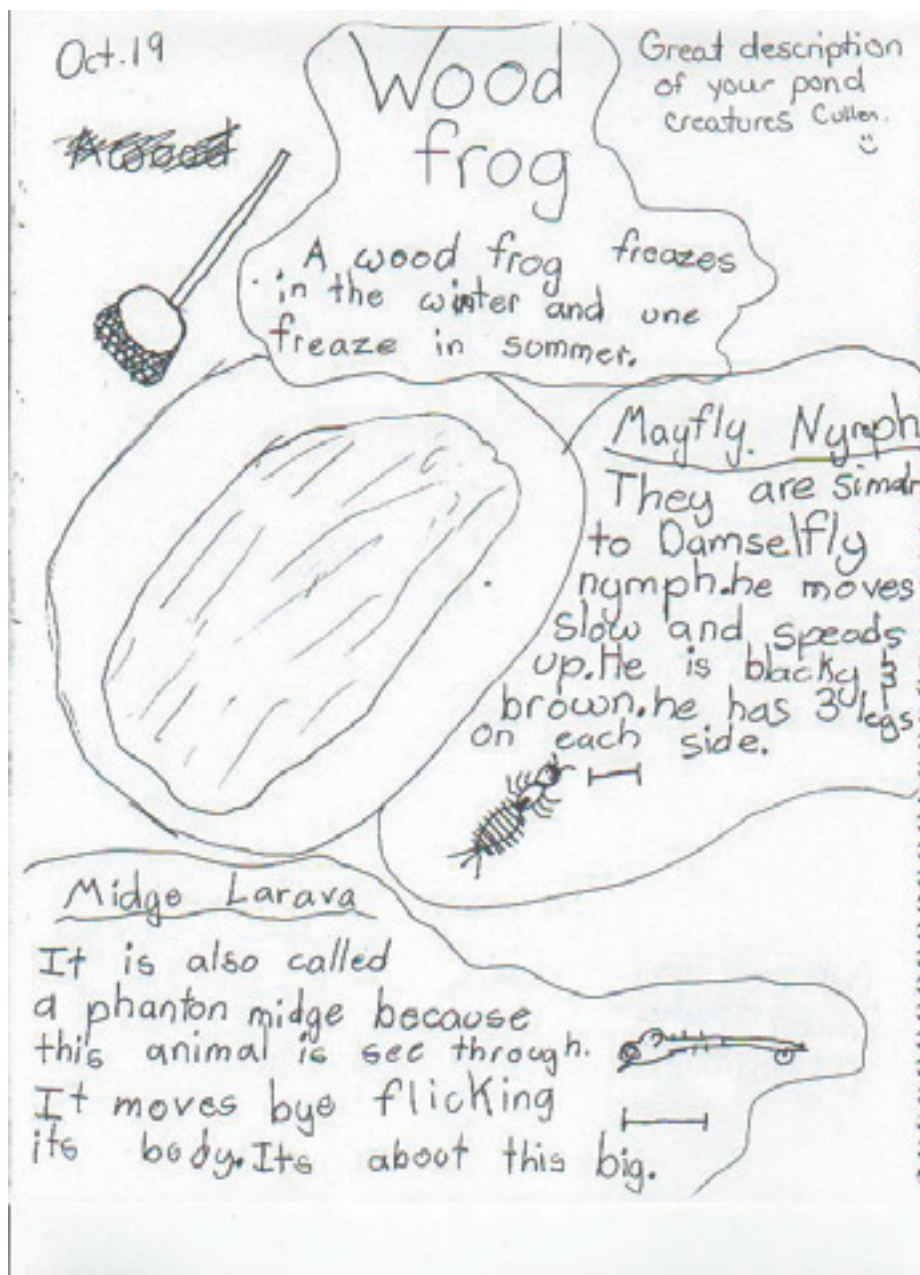


We were looking at this tree with a hole in it, home of the northern flicker. We were tapping around the hole, trying to determine where the hole stopped. We figured this out by knocking on the tree to see ~~was~~ it was hollow. (see ^{picture} picture look at the dark lines) also when we blew into it, the hole made a whistling sound.

Grade Five

This student wrote about an experience that he had with a naturalist from the Inglewood Bird Sanctuary. Having experts to help students gain more understanding is another important part of the program. Allowing time to write and draw helps to consolidate the learning, and it also helps the teacher to know what has been happening for her students each day.

Cross Conservation Area School:



Grade Five

Cullen's recording in his journal during a pond study shows that he has absorbed a lot of information. His teacher can see what his ideas are and how accurate they are. He has been taught to draw carefully and has also learned about drawing to scale.

Note also the teacher's comments at the top. Students love to get written feedback, and teachers are encouraged to write back to about ten of their students each day.

Cross Conservation Area School:

Cross Conservation Area

Fescue grass is a native grass which is very rare. All around me I see a mule deer, elk, and a moose. It is cool that we saw coyote scat. There are deers all around. Hearing the grass rustle is very calming. The clouds make pictures before me. Deer trotted away when we came down the hill. I see something shining in the distance. Elk's around me are feeding. They all hid behind the trees waiting for us to leave. The sun is shining on me reminding me of summer. Bushes around me are dry. The sage is a beautiful color. It takes my breath away to see the pollution from a high hill. The sparkling snow makes footprints. We hear the arroos of the coyote. The grass bent as we walked.

There are slippery slopes as we walk. I smell lots of scat. There are bent trees that we are taking pictures of. The frozen lake is shining. We are sad to see a dead mouse. The dry and prickly plants scratch us. It feels like a desert. We see something man-made that is rusty. We think it is a piece of farming equipment. We are hearing lots about it. Grass is growing around it. All the moths flying around me are colorful. All the different tracks make me ponder.

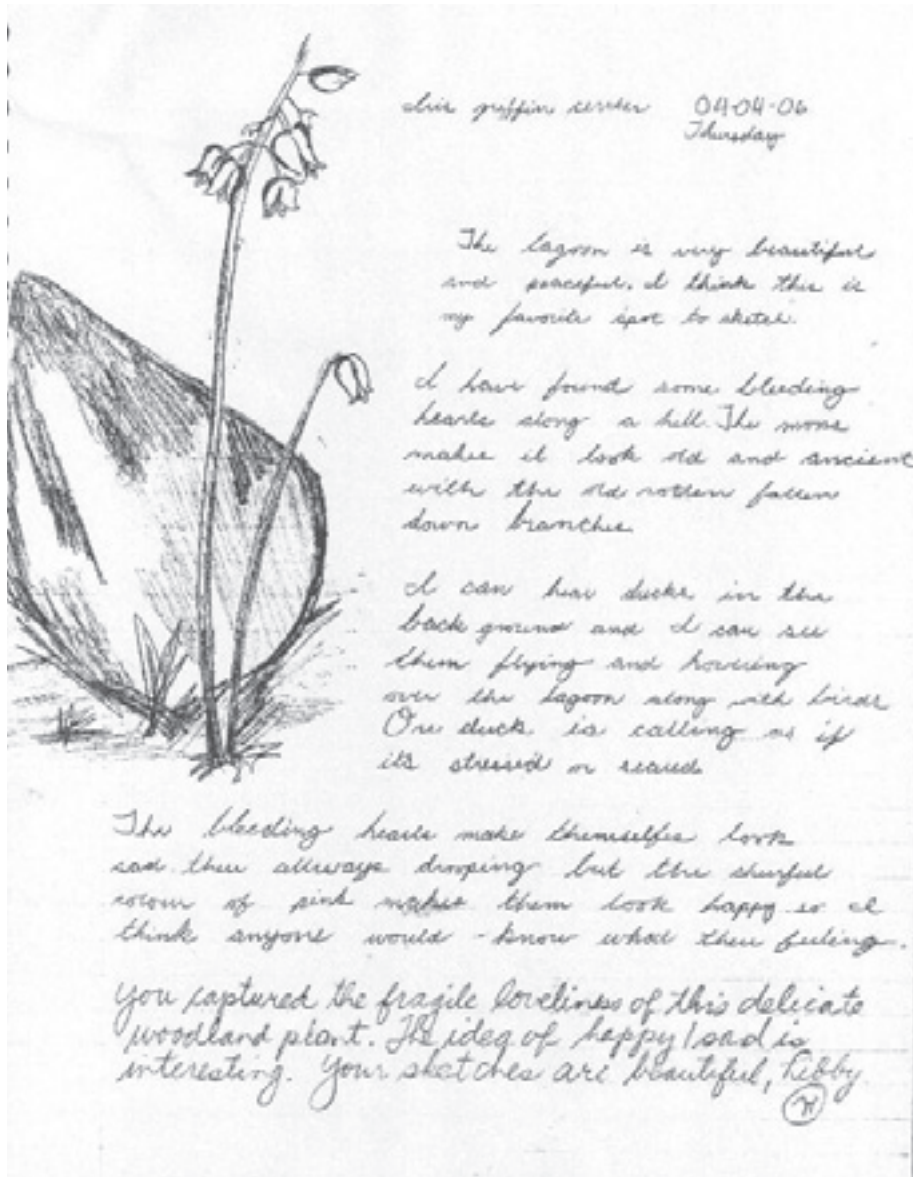
Grade Four – Emily

This writing, transcribed from Emily's journal, contains many levels of thinking. She has learned some of the science terms such as scat and fescue grass. She is thinking about the pollution from the city, and learning the history of the area as they talk about the rusty farming equipment.

However she is also using her senses to observe what is around her, for example she hears the coyote and the rustle of the grass, smells the scat, and feels the prickly plants. She sees tracks, snow, the clouds, the elk and a dead mouse. Her descriptive writing is developing well: the snow sparkles, the frozen lake is shining, slopes are slippery. And what pictures she conjures: the elk hiding behind the trees, the dry desert like hill, the clouds "making pictures before me".

Thus this experience and the writing that accompanied it have helped Emily to gain many new concepts in science and social studies, and have also helped her to extend her thinking and writing skills. As well she has experienced much in the affective area of learning, for example she is obviously enjoying the peace and is connecting to the natural world in new ways. She will never forget this week.

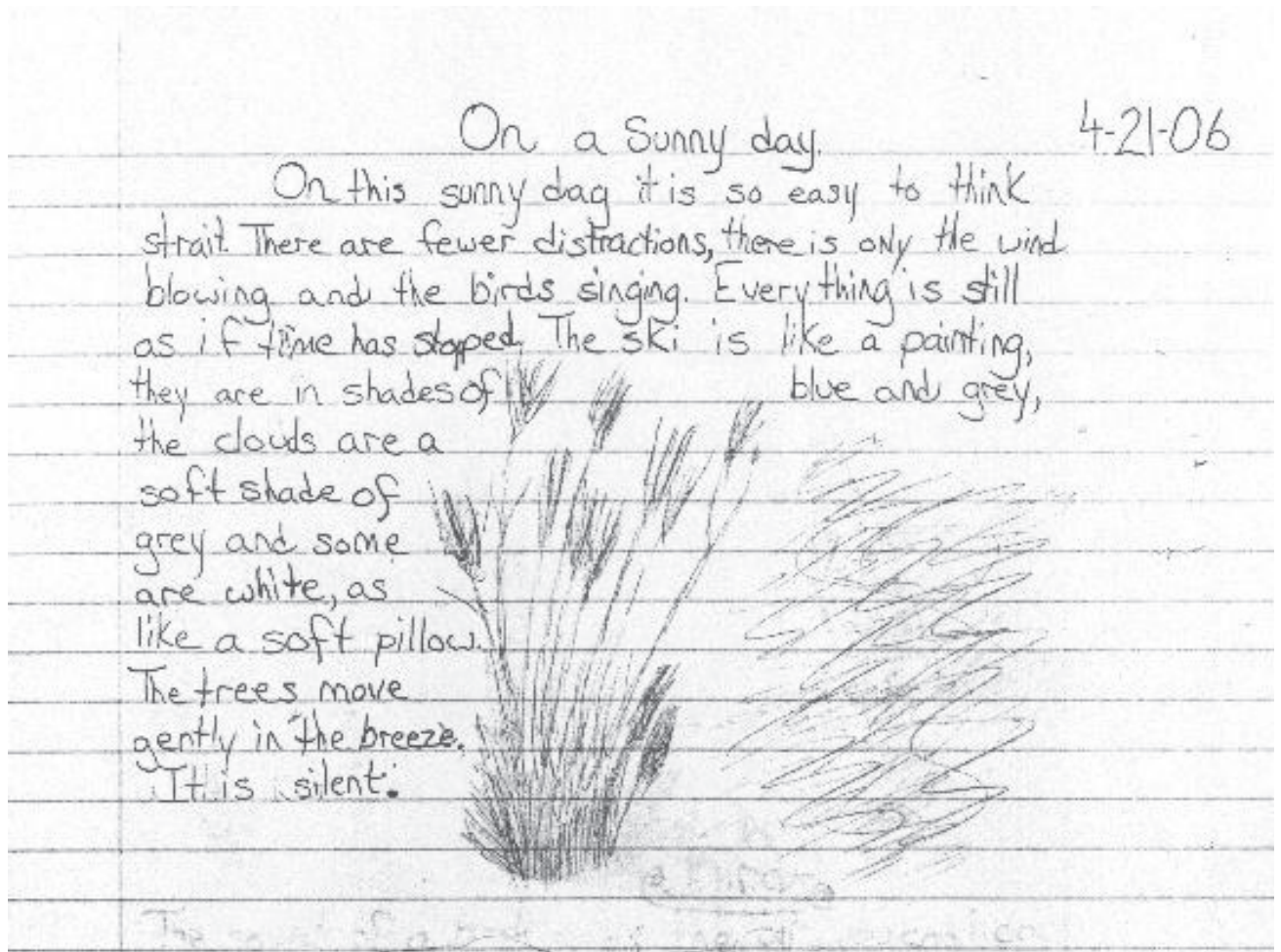
Nature School - at the Iris Griffith Centre, Pender Harbour BC:



Grade Six

Note the teacher's comment to Libby at the bottom. Teachers should not hesitate to write in their students' journals. It is very important to have a conversation like this through writing.

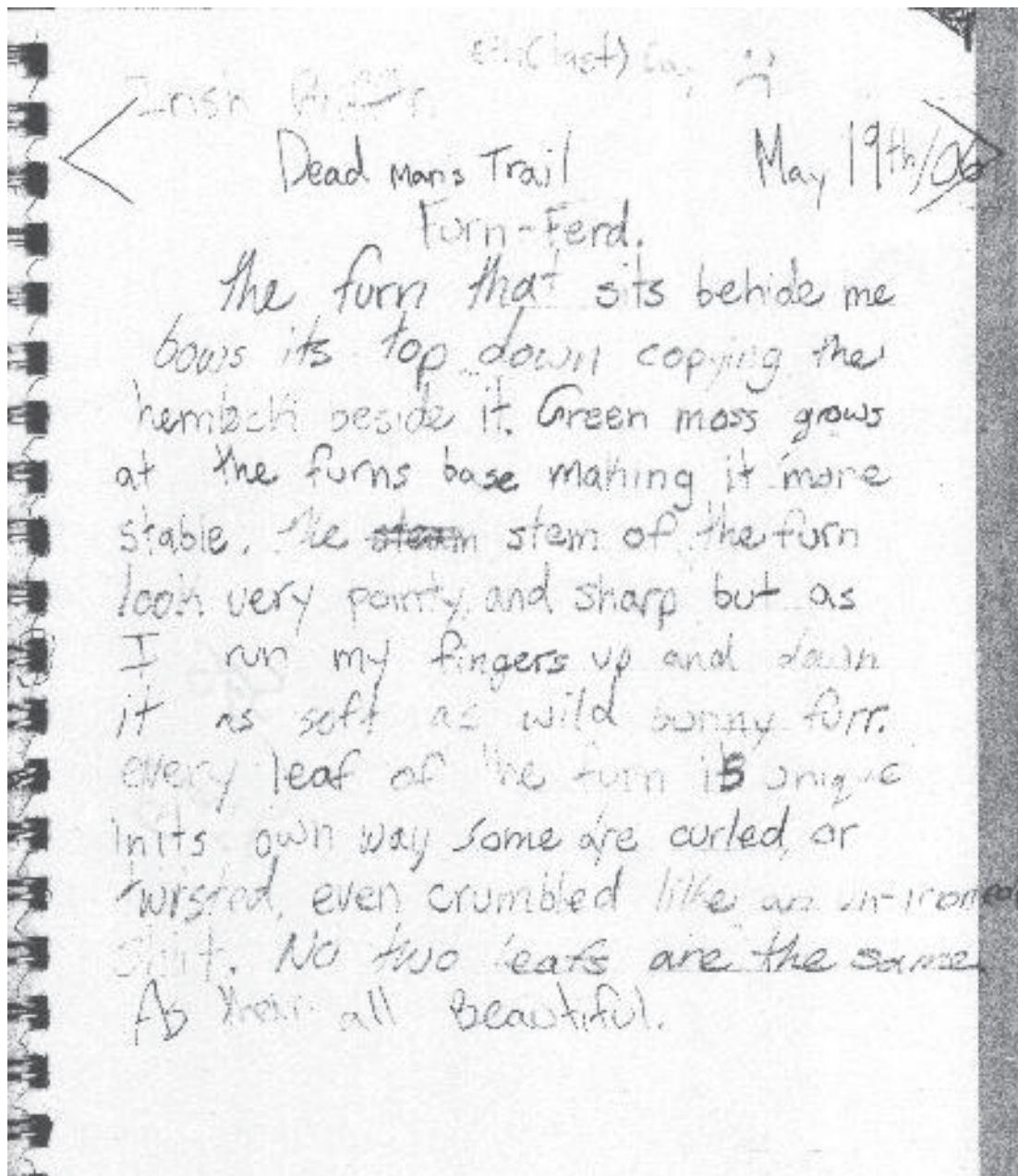
Nature School:



Grade Six – Justin

Programs based on the Open Minds concept show over and over again that boys write as much as girls do when they are in these interesting settings. When students are active and interested they focus on learning. Behaviour problems are rare in these programs.

Nature School:



Grade Four

The journal writing that occurs at the sites is draft writing. Therefore the teachers are more interested in the meaning than on spelling and how tidy the writing is. Many teachers plan activities back at school where the students take some of their draft writing and put it into published pieces.

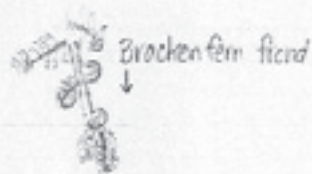
Nature School:

May 4 Libby - bleeding heart Christi - cartoon of job
BH - 2 wood poem SW - 2 wood poem DD - pattern of new leaves

May 5/06 Last day at Nature School

I'm tired, and my "nic" is almost gone. Even my usual tank of energy is running on empty. So it's a time to relax. Enjoy the last times, visit some favourite spots, do the last sketches from Iris Griffith, and soon say goodbye. I'm in the sun, getting warmer by the second, and ready to lie down here in the meadow. I have a tan line on my wrist already, so there's UV in the sun. The shadow of my pencil is sharp and clear. This morning's mist has burned away completely to reveal a nearly summer sky and sun.

Today I heard the dull hollow thud of a male grouse, looking for a lady. Shane heard it a day ago, along the trail to the Big Rock.



Sample from a Teacher's Journal

The top section shows the teacher's notes on what journal entries she wants to comment on at sharing time. When teachers look at the student journals each day and then share some of the good entries the next day with the class, it helps the students to know what the expectations are. We have found that the writing skills improve during the week if the classroom teacher looks at some of the journals each day and then talks about them.

The main section is her own journal writing when she is with a group of students doing their observation time. When teachers write themselves, they are powerful role models.

Appendix 4: Evaluation

- 1 Samples of Teacher Evaluations
- 2 Sample of Parent/Volunteer Comments and Survey



Chevron Zoo School Teacher Reflections, Comments and Stories – Part I

Now that you have finished your week at Zoo School, I would really appreciate you taking the time to share your thoughts about the experience. Your observations and stories are valuable to the growth and development of the program. Thank you. **Your comments can be faxed or emailed to me.**

Planning and preparation

- How did the summer in-service help prepare you for participating in Zoo School?
- Were the planning meetings useful and timely?

The week

- How did the Zoo School Coordinator, other Zoo staff and programs suit your needs?
- What aspects of the week worked well?
- What changes would make us and the week more effective?

At school

- What are your plans for integrating this experience into the rest of the school year? (projects, celebrations, related literature studies, action activities and projects, other?)

Feedback from parents

- What comments have you received from parents or volunteers?

Teacher Professional Development

- Has participation in Zoo School been positive and valuable for you as a professional educator? If yes, please explain why.
- What have you gained personally from this experience?

Thank you!

Barb Borchert, Zoo School Coordinator (fax) 261-9091 or barbb@calgaryzoo.ab.ca



Chevron Zoo School Teacher Reflections, Comments and Stories – Part II

Now that you have had time to reflect on and integrate your Zoo School experience, I would appreciate you sharing your reflections on the experience three months afterwards. The ideas below are areas you may wish to consider. Stories, anecdotes and specific examples are welcome and appreciated. Thank you!

Student learning

- How has the experience effected student learning? (basic skills, motivation, observation skills, communication skills, slowing down and looking deeply, making connections, critical thinking, problem solving)

Special Needs Students

- Do you have any examples of special needs students who have benefited from Zoo School (motivation, reluctant writers, behavioural concerns, ESL, gifted?)

Effects on Student attitudes and behaviours towards nature and the environment

- Have you seen examples of increased interest in nature, the environment, environmental issues and/or animals and plants? (Taking out interest books from the library? Watching related TV shows or Discovery Channel? Interest in current environmental events or issues (eg climate change, grizzly bear hunt)? Noticing animals and natural history around them? Increased environmental or ecological awareness and knowledge? Environmental Stewardship? Topic selections for class activities?)

Parent Comments

- Have parents related to you changes and learning which they attribute to participation in Zoo School (Chevron Open Minds Program)?

Teacher Experience

- Has participation in the Chevron Open Minds School Program through Zoo School affected your approach to teaching and learning?
- Has participation benefited you personally?

Please fax or e-mail me your comments.

Barb Borchert, Chevron Zoo School Coordinator (fax) 261-9091 or barbb@calgaryzoo.ab.ca

Thank you!



Parent/Volunteer Comments and Survey Chevron Open Minds School Program

This year your child has had the opportunity to participate in Zoo School. We would appreciate your feedback and comments about the impact this experience has had on your child. Please feel free to write your own comments or complete the attached questionnaire. Stories and specific examples are great. Comments can be faxed or sent by email. Or, if you prefer, you can return the attached questionnaire. Thank you!

Zoo School is heavily subsidized by Chevron, the school board, and the Zoo. As a family who has had direct experience with Zoo School, your letters and comments are very influential and important to the program.

Thank you again for your assistance as a volunteer. We can't do it without you!

Comments can be sent by mail, fax, email, or returned to your child's classroom teacher.

Barb Borchert,
Zoo School Coordinator
Calgary Zoo
1300 Zoo Road, NE
Calgary, T2E 7V6

Fax 261-9091
Email barbb@calgaryzoo.ab.ca

Sample of Parent/Volunteer Comments and Survey:



Zoo School - Chevron Open Minds School Program Parent/Volunteer Comments and Survey (please complete both sides)

Name _____ School _____ Date _____

Are you a Zoo member? Yes/No

1. How do you think participation in Zoo School has affected your child and their learning? (basic skills, motivation, observation skills, communication skills, personal development, social skills, ability to make connections, critical thinking skills, problem solving)

2. What do you think were the best parts of Zoo School for your child?

3. Do you have suggestions to improve Zoo School and make it more effective?

4. Have you gained anything personally through this experience?

**5. Has this experience changed your ideas about the Zoo? Yes/No
In what ways?**

6. How do you think participation in Zoo School and related classroom activities has impacted your child's attitudes and behaviours towards animals, plants the environment and environmental issues?

For example, have you noticed: Taking out related books from the library? Watching related TV shows or Discovery Channel? Interest in current environmental events or issues (eg. Climate change, grizzly hunt)? Noticing animals and natural history around them? Increased environmental or ecological awareness and knowledge? Environmental Stewardship (actions that benefit the environment)?

7. Do you think your family might be more likely to participate in other Zoo activities or related experiences?

8. Any other comments?

We are very interested in the long term impacts of Zoo School. If you notice any effects or impacts over time, please feel free to contact me at barbb@calgaryzoo.ab.ca

Thank you for your time and comments!



Chevron Zoo School

Below is a list of people and organizations who would love to hear from you!

Chevron

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Calgary, T2G 2L9

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Cathy Faber
Director – ILS/Curriculum Support
Calgary Board of Education
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Calgary, AB

CRCSSD

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Cathie Williams
Chair, Board of Trustees
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Calgary Zoo
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Ron Scheurkogel
Charter Manager
65 Highfield Place, SE
Calgary, AB T2G 4Z7

Letters to Docents, Keepers, and other
Zoo staff can be forwarded to me and
I will distribute them.

Barb Borchert
barbb@calgaryzoo.ab.ca

Appendix 5: Resources

Resource List for Campus Calgary/ Open Minds:

Resource List for Campus Calgary/Open Minds

Alvarado, A. E., & Patricia R. Herr. (2003). **Inquiry-based Learning Using Everyday Objects**. Corwin Press Inc. Thousand Oaks, California

Audet, Richard H. & Linda K. Jordan. (2005). **Integrating Inquiry Across the Curriculum**. Corwin Press, California.

Banyai, Istvan. (1995). **Zoom**. Puffin Books

Barell, John. (2003). **Developing More Curious Minds**. ASCD. Alexandria, VA

Bays, Jill. (1998). **Drawing Workbook: A Complete Course in Ten Lessons**. David & Charles.

Bays, Jill. (2001). **The Watercolorist's Nature Journal**. David & Charles.

Browne, Anthony. (2003). **The Shape Game**. Random House Children's Books. London, UK.

Browne, Anthony. (1998). **Voices in the Park**. Picture Corgi Books. London, UK (CC/OM – 15)

Bryant, Jen, Illustrator Bethanne Anderson. (2005) **Georgia's Bones**. Eerdmans Books for Young Readers.

Buzan, Tony. (2004) **Mind Maps for Kids: Rev up for Revision**. Thorsons, London.

Byrd, Robert. (2003) **Leonardo Beautiful Dreamer**. Dutton, New York.

Capacchione, Lucia Ph.D. (2002). **The Creative Journal: The Art of Finding Yourself Second Edition.** New Page Books, Franklin Lakes, New Jersey.

Carter, Anne Laurel & Alan and Lea Daniel. (2000) **Under a Prairie Sky.** Orca Book Publishers.

Chancer, Joni & Gina Rester-Zodrow. (1997). **Moon Journals.** Heinemann, New Hampshire.

Dewey, Jennifer Owings. (2001). **Antarctic Journal: Four Months at the Bottom of the World.** Harper Collins Publishers.

Duckworth, Eleanor. (1996). **The Having of Wonderful Ideas.** Teachers College Press.

Edelman, Marian Wright, Illustrator Barry Moser. (2005) **I Can Make a Difference.** Harper Collins Publishers.

Edwards, Betty. (1999). **Drawing on the Right Side of the Brain.** Penguin/Putnam Inc. New York

Ellabbad, Mohieddin. (1999). **The Illustrator's Notebook.** Groundwood Books / House of Anansi Press, Toronto.

Fletcher, Ralph. (2000). **How Writers Work: Finding a Process That Works for You.** Harper Collins Publishers. New York

Gelb, Michael J. (1998). **How to Think Like Leonardo Da Vinci: Seven Steps to Everyday Genius.** Dell Publishing. New York

Gregory, Danny. (2006). **The Creative License.** Hyperion Books, New York.

Gutiérrez, Elisa. (2005) **Picturescape.** Simply Read Books.

Hannaford, Carla Ph.D. (1995). **Smart Moves: Why Learning is Not All In Your Head.** Great Ocean Publishers.

Harvey, Stephanie. (1998). **Nonfiction Matters: Reading, Writing & Research in Grades 3 – 8**. Stenhouse Publishers, Portland, Maine

Henderson, James G. (2001). **Reflective Teaching: Professional Artistry Through Inquiry**. Merrill Prentice Hall. Columbus, Ohio

Herbert, Janis. (1998). **Leonardo da Vinci for Kids**. Chicago Review Press.

Jackson, Ellen, Illustrator Leo & Diane Dillon. (2005) **Earth Mother**. Walker & Company, New York.

Johnson, Cathy. (1992) **Creating Textures in Watercolor: How to Paint 83 Textures from Glass to Fur**. North Light Books, Ohio

Kanter, Dory. (2003) **Art Escapes**. North Light Books.

Knight, Margy Burns, Illustrator Anne Sibley O'Brien. (1992) **Talking Walls**. Tilbury House, Publishers, Maine.

Knight, Margy Burns, Illustrator Anne Sibley O'Brien. (1996) **Talking Walls: The Stories Continue**. Tilbury House, Publishers, Maine.

Kydd, G. (2005). **Seeing the World in 3D: Learning in the Community**. Victoria B.C.: Trafford Publishing.

Lamar, Gail Renfroe, Illustrator Cynthia Mask. (2004) **Moon of the Wishing Night**. River City Publishing, Montgomery, Alabama.

LaMarche, Jim. (2000). **The Raft**. Harper Collins Publishers.

LeBox Annette & Harvey Chan. (2001) **Wild Bog Tea**. Groundwood Books.

Lendroth, Susan, Illustrator Enrigue S. Moreiro. (2005). **Why Explore?** Tricycle Press, Toronto.

Leslie, Clare Walker & Charles E. Roth. (2000). **Keeping a Nature Journal**. Storey Publishing.

Lewis, Cynthia C. (1998) **Dilly's Big Sister Diary**. The Millbrook Press, Connecticut.

Llewellyn, Douglas. (2002). **Inquire Within: Implementing Inquiry-based Science Standards**. Corwin Press, Thousand Oaks, CA

Locker, Thomas. (1995). **Sky Tree**. Harper Collins Publishers.

Locker, Thomas. (1997). **Water Dance**. Harcourt Brace & Company, New York

Mayhew, James. (1997) **Katie Meets the Impressionists**. Orchard Books, New York.

McNaughton, Colin & Satoshi Kitamura. (2004) **Once Upon an Ordinary School Day**. Farrar Straus Giroux, New York.

Memory Makers. (2002). **Scrapbook Journaling Made Simple**. Memory Makers Books, Colorado.

Memory Makers Books. (2006) **What about the Words?** Memory Makers Books, Colorado.

Messenger, Norman. (2005) **Imagine**. Candlewick Press, Massachusetts.

Morck, Irene, Illustrator Georgia Graham. (1996) **Tiger's New Cowboy Boots**. Red Deer College Press, Red Deer, Alberta.

Morgan, Norah & Juliana Saxton. (1994). **Asking Better Questions**. Pembroke Publishers, Ontario.

Moss, Marissa. (1995). **Amelia's Notebook**. Pleasant Company Publications. Middleton, Wisconsin

Muth, Jon J. (2002). **The Three Questions**. Scholastic Press, New York
New, Jennifer (2005). **Drawing From Life: The Journal as Art**. Princeton Architectural Press, New York. .

Neubauer, Bonnie. (2006). **The Write-Brain Workbook**. Writer's Digest Books, Ohio.

Nice, Claudia. (2001). **How to Keep a Sketchbook Journal**. North Light Books.

Pipher, Mary. (2006). **Writing to Change the World**. Riverhead Books.

Reynolds, Peter H. (2003) **The Dot**. Candlewick Press, Massachusetts.

Reynolds, Peter H. (2004) **Ish**. Candlewick Press, Massachusetts.

Spandel, Vicki. (2005). **Creative Writers: Through 6-Trait Writing Assessment and Instruction. Fourth Edition**. Pearson.

Stewart, David (2005). **What's the Big Idea?** Barron's, New York

Tate, Marcia L. (2003) **Worksheets Don't Grow Dendrites**. Corwin Press, California.

Thomson, Sarah L., Painter, Rob Gonsalves. (2005) **Imagine a Day**. Atheneum.

Torreano, John. (2007). **Drawing by Seeing**. Abrams N.Y.

Walker-Leslie, Clare & Charles E. Roth. (2000). **Keeping a Nature Journal**. Storey Books.
North Adams, Massachusetts
**Second edition is also available*

Watson, Lucy. (2001) **The Artist's Sketchbook**. North Light Books, Cincinnati.

Wheatley, Margaret J. (2005) **Finding Our Way: Leadership For an Uncertain Time**. Berrett-Koehler Publishers.

Wood, Douglas, Illustrator Dan Andreasen. (2002). **A Quiet Place**. Simon & Schuster Books for Young Readers, New York.