

**ADOPT, ADAPT AND DEVELOP**  
**The Work of the Science Implementation**  
**Committee of Chinook's Edge Regional Division #5.**

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**Introduction:**

In June 1995, there was a strong indication by members of school staffs in our division, of a need for some sort of inservice to prepare teachers for the incoming Program of Studies for Elementary Science. School staffs indicated this need through professional development committees at the school level, as well as word of mouth, phone calls and e-mail to the assistant superintendent at central office assigned to curriculum in the field of science. Optional implementation was scheduled for September 1995 with mandatory implementation scheduled for September 1996. Some schools were already working on the integration of new topics into existing science programs, while some schools were waiting to proceed at a later date. It was understood at the beginning of this process, that we had an extremely wide range of needs to be addressed division wide. Through our weekly e-mail from central office, teachers and administrators throughout our division were solicited to work on a science implementation committee that would facilitate the incoming program. Members needed only to be interested in being involved in the implementation of the program, and have experience teaching in the field of science.

Underlying the science related motive, lay a question that our central office and our school board, are still struggling to answer. How can we, the Science Implementation Committee, assist teachers in our new division overcome separate identities to become a unified single entity? This undercurrent of unrest stemmed from the forced amalgamation of our two school divisions in January 1995. The County of Red Deer and Mountainview school divisions were united to form Chinook's Edge Regional Division #5. Over night our student, teacher and central office populations doubled in size, as did the total area covered by our

division. Our central offices had to move out of their existing sites in their respective county offices, and relocate in a more central location. Central office staff had to be pared down to meet the requirements of our existing government. This move did not affect the structure of the old County of Red Deer very much. Most of central office staff remained the same and the County of Red Deer school board members formed the majority on the new school board. The County of Mountainview, on the other hand, lost a well loved superintendent and control over the daily workings of the school division. The student population of Mountainview was less than that of the County of Red Deer so five out of the nine seats on the school board went to Red Deer people.

The move to new offices was uncomfortable for both Red Deer and Mountainview. People in the northern part of the division had to increase their driving time to central office by about fifteen minutes. However, having the office in Innisfail actually made the drive for some in the south part of the old County of Red Deer shorter, as Innisfail is a more central location within the old division. The reverse was true for all of the people in the south.

Mountainview's central office used to be located in Olds, which is fairly centrally located in the old Mountainview school division. Moving the office to Innisfail increased their drive by a minimum of fifteen minutes, causing much more of a hardship to all staff in general. Very few people in the south benefited from the move.

The uneasy political atmosphere in the division was the underlying catalyst for developing inservices that included teachers from across the division and included locations from across our division. I believe that this committee was formed with the idea in mind, to bring teachers

from across our division together with something in common, a dedication to the teaching of science.

In January 1996, a committee was struck. The committee consisted of eight members, including the two assistant superintendents who spearheaded the committee through central office. The membership was split equally between the north ward and the south ward of our division. Our mission was to look at the perceived problems of implementation and possible solutions to those problems. We were to determine needs of teachers on a division wide scale, develop inservices from the needs voiced, supply a vehicle for inservice training to occur, and provide follow-up support for all teachers of elementary science in our division.

Identification of main issues involved with the implementation of the new program of studies, was an integral part of this process. Committee members and teachers needed to feel that they had a safe arena to voice their issues. We believed that issues may not have related directly to the implementation of the program of studies, but to some other part of their daily teaching lives. Once voiced, we could look at ways to answer questions and waylay fears.

Use of the old program of studies as a building block for change seemed a logical place to begin. Moving from where we were, to where we needed to be in regards to the teaching of science, could only begin by looking at the old program of studies and how we used it in our classrooms.

From my experience with the teaching of science, I had already seen a myriad of different resources out there, all designed to help the classroom teacher deliver the program of studies. Each of them different, some more suitable for certain topics than others.

Evaluation of resources could only happen if they are available for viewing. Classroom teachers individually may not have had exposure to much of what is available, thus making sound decisions about which resources to purchase difficult. This seemed another logical purpose for our committee to fulfil.

All of these issues had to be kept in mind while designing inservice for teachers in our division. Teachers needed to feel that they had control over the final outcomes of training. The uneasy political atmosphere made top down decisions impractical and futile. Providing teachers with what they thought they needed, flavoured with a team building concept, was the ultimate goal of our committee.

From this committee and my involvement in the committee, I submitted a proposal for my culminating project, Education 6000. (See attachment #1.)

### **Elementary Science Implementation Committee Meeting #1, January 23, 1996**

The meeting of January 23, was held at division office beginning at 1:00 p.m. Our assistant superintendents planned the meeting agenda. (See attachment #2.) The meeting was held during the day to allow time for a planning meeting to take place, where the people involved are not worn out after a day of instruction in schools. The cost for this meeting was centrally allocated, therefore at no direct cost to the schools involved. In the times of sight based management, this is often a deciding factor for administrators when considering the release of teachers to provide inservice training sessions for other staff members. Many small schools do not have the resources available for paid professional development to occur. Others may not allocate professional development money except in previously arranged

circumstances. A free afternoon made it fairly attractive to be involved in a committee such as this one.

**Introduction:**

The purpose for our committee and the reason for this meeting, was stated at the beginning by our central office liaisons. We were to assist classroom teachers with the implementation of the Elementary Science Program of Studies for the 1996-1997 school year. Most of the people present knew each other, but introductions were handled in a fairly formal way. Each person in turn, related their teaching background and their interest in science. Three members present were classroom teachers, with a variety of experience. Each of the teachers were presently teaching in either grades 1 and/or 2, grades 3 and/or 4, and grades 5 and/or 6. This provided for a variety of grade levels represented. The other three present were in administration. Two were principals and one, myself, a vice-principal. Again, we all represented a variety of teaching levels and experience, with a real diversity of teaching loads.

**Main Issues:**

Next on the agenda was discussion about the perceived main issues surrounding the implementation of the Elementary Science Program of Studies. We discussed the program from both a school and division perspective. Talk was encouraged using a statement that you had to finish. "When I think about the implementation of Elementary Science in our school and /or district I think the main issues are:"

Discussion began around ways to turn teachers on and get them excited about teaching science. Many teachers already had heavy time commitments, without trying to add the planning of a whole new science program to an already full plate. Teachers are tired and need to be energized. We needed to give them a reason to get excited and involved.

Along with the issue of motivating teachers to do a new science program, students need to be turned on to science. We need to make science active, challenging and relevant to our kids. Many of our students hate doing science from a text book. Text book science tended to be very theoretical, not applicable and mostly outdated. We discussed the need to also avoid repetition of units and themes throughout our program. Often students were exposed to the same material many times over several years.

We also discussed that knowledge of the Program of Studies and the background behind the development, is necessary for teachers to get the whole picture. Many of us operate in isolation, without knowing what the teacher next door is doing, therefore a broader vision is necessary when programming. We also stated a need to emphasize the process of acquiring knowledge in science. Students also need the opportunity to make it real for themselves by constructing meaning through hand on experiments and activities.

The final issue stated was best ways to share our science expertise within our division. One person thought that secondments may be a way to spread the knowledge around. Having an expert in your school to help your staff plan, would be a great

benefit to all teachers implementing the new Program of Studies. However, this is not usually possible because of our present budget structure.

**Program of Studies:**

Looking at the program of Studies from a holistic viewpoint allowed us to see that much of the content of the old program, has been repackaged into themes and units. The inclusion of process skills has not changed, but each of the units is individual and would not pose a problem if taught in isolation of other subjects. The technology section was considered something that had not been addressed in any previous program of studies, and some teachers felt threatened by the mere name of this section.

**Resources:**

We decided as a group that we couldn't address resource needs until we knew the results of the initial survey to be sent to schools. We felt that each school would have different needs, depending on the previous push within their individual schools to implement the Program of Studies. We reiterated that some schools had not begun and other schools were in full implementation at the time of these meetings.

**Inservice for Teachers:**

Our committee decided that our inservices had to be a balance between background, including a bit from the historical perspective, and resource information. We also thought that teachers would want to be presented with specific examples of lesson

ideas and how they work. We felt that many teachers would want exposure to print resources as well as other resources currently available.

One of the major roadblocks to this kind of inservice, is the distance that some people had to travel in order to get to the workshop. This seemed to be a common concern, so I decided to follow these concerns by putting a question on the final survey asking teachers about the distance that they had drove to the workshops. Our planning committee under the recommendations of our assistant superintendents, stated that it was time to get over the fact that our district covers a large geographic area.

Complaints about distance travelled would not prevent us from presenting our workshops. We stated that amalgamation was already decided, and dwelling on this issue was counterproductive to the work of our committee. Instead we needed to look at ways to overcome obstacles that in the past, prevented us from providing quality inservice time for teachers.

### **Survey:**

Teacher input at each school was necessary for us to proceed with our planning. The survey blueprint focused on four main areas.

#### 1. The Program of Studies.

We wondered how many teachers were aware of, and had read the Program of Studies. We decided that just by asking if schools had a copy of the program and were familiar with it, would raise the level of concern in a non threatening way.

## 2. Resources presently in the school.

We knew that some schools had already purchased many print resources and other hands on tools, and some had not. We wanted to know what was available at the school level, so we could pool resources at the time of the workshops. Also people who had experience using one of the print resources, may have valuable information to share with teachers who have not yet made any major purchases. This would also give us an idea of other tools that schools were using to supplement the print resources. There may also be some that we as a committee had not yet heard about.

## 3. Inservice activities and needs.

We wanted to acknowledge all science related inservice activities that had been previously attended by teachers, yet look for areas that we could provide support and offer assistance during the implementation process. We also realized that we were not the experts who were providing a plan for everyone to take back to their schools and use verbatim. We believed that we should make use of those individuals who had valuable contributions to make, and they should be recognized and heard.

## 4. Help.

The final part of the survey asked for teachers who would be willing to share ideas with others. These people could be utilized while planning inservices, and afterwards for the formation of a network of support that could perhaps look at future needs for the division. We also asked the school for the name of a teacher who would be willing to act as a contact person in their own school. The dissemination of information within

a jurisdiction the size of ours, is sometimes a formidable chore. A school representative could distribute information more quickly and efficiently than we could.

With the recommendations of the committee in mind, our assistant superintendents put together the survey document. Each school was e-mailed a copy of the survey. The school principals were asked to supply a copy to each teacher teaching elementary science in their school. They were asked to compile their school results on one survey, and return them to central office by Feb. 10, 1996. (See attachment #3.)

Our central office committee members thought that it would be best if this part of the survey was handled by themselves. They felt that schools would be more open to central office, than they would be to a teacher at a particular school, either in the south ward or the north ward. They also thought that results of individual schools needed to be confidential, as there may be political reasons for particular responses to certain sections of the survey. This whole part of the process was handled by our central office people and individual school responses were not cited in the summary, again in the interest of security and trust. The summary of all schools responses was available for our next committee meeting scheduled for February 20, 1996 at 4:00 p.m.

### **Elementary Science Implementation Committee Meeting #2, February 20, 1996**

The second meeting for our committee was held at division office at 4:00 p.m. It was held after school and it was the responsibility of the members to get themselves there. In other words, no funds available to cover expenses of those who attended. There were six members present.

Our first item for discussion was the survey results from a jurisdiction viewpoint. All twenty-two schools who provide instruction in elementary science had returned a compilation of survey results. Those results were then combined and summarized.

### **Survey Summary:**

#### 1. Program of Studies:

All schools said that they had a copy of the program of studies and were familiar with it. We felt that this indicated that if teachers had not yet read the document and made themselves familiar with it, they would promptly.

#### 2. Resources:

It seemed that most schools had purchased some resources by this time. Many of them had only purchased the Teacher's Edition of the major print resources and some had purchased classroom sets of the text books. Below is a summary of the print resources that schools reported.

-15 Innovations

-13 Explorations

-15 Red Deer Public School Division Science Units

-8 Science Alberta Foundation, "Let's Do Science"

Many of the schools also reported that they had a variety of other print materials from a large array of sources. Most reported using parts of old texts, photocopy books

purchased from the local teacher's store, kits and units purchased on an individual basis from a variety of places and just about everything from soup to nuts.

Out of the twenty-two schools in our jurisdiction, eleven were still reviewing the major print resources and had not yet made a decision to purchase, and eleven schools had purchased some. Those who reported purchasing resources already, reported that they would be interested in seeing other resources available. Most reported that they were not totally familiar with what was available.

### 3. Inservice Needs:

Schools reported involvement in a large number of inservice activities to date. Some schools reported attending sales presentations by a representative of one of the major publishers. Schools reported that some had attended Red Deer Public School Division inservices available to those who were within driving distance of Red Deer, some had teachers who had attended Science Alberta Foundation institutes, while some had attended the Science Council Conference held in Jasper during the fall of 1995. Some schools had professional development sessions themselves on the topic of science.

None of the schools reported having no need for inservice training. Fourteen schools said that they would like to have inservice about the background and intent of the Program (i.e., What is new in this Program of Studies and how it will impact the way I now teach science?) Nineteen schools said that they would like to have materials lists available for the units. They wanted to know where to get consumable material and other tools necessary to teach the program. Twenty-two schools reported that they

would like to be involved in a sharing session with other teachers. This would include a sharing of units, ideas and materials. Eleven said that they would like to have a publisher's presentation to assist with purchase decisions.

#### 4. Help:

A very small number of teachers said that they would be willing to share ideas with others. Only seven people replied positively to that question. Out of the twenty-two schools reporting, only fifteen schools had a person who was willing to act as a contact person for their school. Seven schools did not have any one who was interested.

We summarized the results in the following statements:

1. Schools are familiar with the program.
2. Most schools have some approved resources.
3. Some form of sharing ideas, units and material is necessary.
4. Teachers want materials lists.
5. Unit planning is also desired outcome.

The results of the survey were not surprising. We looked at the results and stated our aims for the workshops. We wanted to improve the teaching and learning in science, move the existing philosophy more in line with the incoming philosophy and look at resources from a variety of views. We also concluded that teacher planning sessions sometimes focuses on

the content that has to be covered, rather than the process or philosophical basis for the program. We all agreed that process and methodologies must be included somewhere in our workshops.

It was also not surprising that few teachers were willing to share ideas and resources with others. Most teachers do not feel that they have the time or expertise to provide peers with meaningful information about the teaching of science or any other subject. I feel that teachers in general underestimate the contributions that they already make to their profession through their everyday teaching of their students. Teachers need to be encouraged to do more sharing, as their approach may be different and more successful than what other experts could provide.

Discussion concerning the time frame for the workshops continued. We decided that if we were to truly do a good job, we would need a whole day. We also acknowledged that even though the workshops were to be held in central places, some teachers may still have to drive upward of an hour to attend the workshop scheduled for their grade level. A half day workshop would not allow teachers the driving time needed to get there and back during lunch hour.

We also had some discussion about whether or not we should invite the publishers to do a presentation to teachers each day. It was decided that if one publisher was invited, the other one should also be invited. We decided to attempt to involve both.

Other discussion included whether or not to have a Lego demonstration, and who would bring materials. Lego presentations could be done with relative ease by one of our committee members, or another knowledgeable teacher within our district.

We put together a tentative agenda providing for all of the needs gathered from the survey. (See attachment #4.) Each of us volunteered to facilitate one of the sessions. We all chose the levels that we were most familiar with in terms of content. Our assistant superintendents would attend all of the sessions while the rest of us would only attend the workshop that we were facilitating. My schedule was the most flexible concerning workshop attendance, so I volunteered to present the conceptual framework, changes in philosophy and a bit of history of the new program of studies, at all of the workshops.

The planning of your session with your partner facilitator, was left up to the individual people. Workshop dates were set for March 19 for grades 1 and 2, March 20 for grades 3 and 4, and March 21 for grades 5 and 6. The format would allow for an open-ended session where planning and networking could take place. Teachers would have resources available to help them plan each unit. Our timeline for the day was set. Our central office liaison was not able to arrange presentations by both of the publishers. They felt that a three day commitment for a small group of teachers was not financially feasible. (See attachment #5)

We had several phone conversations between individuals involved in the planning process. My partner and I arranged to meet a few days before our session to plan how we would present the units to be constructed. We were prepared to present two topics for planned for each grade level. We chose topic B, Building With a Variety of Materials and Topic C, Testing Materials and Designs for grade 3. For grade 4 we chose, topic B, Wheels and

Levers and topic C, Building Devices and Vehicles that Move. The format for planning units for our sessions was a large sheet of paper, with nine divisions on the paper. Each rectangle had one of the specific learner expectations in the corner, the rest of the space was blank, to be used as the teacher saw fit. Each sheet was also labelled with the topic and the general learner expectations. We thought that this would give teachers the most flexibility and choice. We also provided blank planning sheets, if the teachers did not want to plan the units that were presented by the facilitators.

Registration for the sessions was done by first announcing the workshops in our weekly e-mail communication from central office. (See attachment #6.) A form was also sent by e-mail and registration was done over the phone. Confirmation of registration was also sent via e-mail but a hard copy was also sent via fax. (See attachment #7.) Registration was done with fairly short notice, but we still had enough interest to make it worth while.

### **The Workshops:**

#### **Workshop #1**

The first workshop was held on Tuesday, March 19, 1996, at Ross Ford School in Didsbury. This workshop was designed for grade 1 and 2 teachers. There were thirteen teachers in attendance, five who taught only grade 1, four who taught only grade 2, and four who taught both grades 1 and 2.

Our day began with the introduction of presenters present and an informal introduction of the teachers present. I did a short presentation on the beginning of change, the rationale,

philosophy, and the program emphasis. I left some time to answer questions about the program if answers were needed. (See attachment # 8.)

The next part of the workshop was a Lego demonstration. This demonstration was done by one of the facilitators. I did not stay for the remainder of the workshop, although my fellow presenters for this workshop were good enough to share the format of their planning session with me. I have two examples of how they presented the units to be planned. (See attachment #9.)

I developed the evaluation that was handed out at the end of the workshop. It was based on a modified Likert scale for the first four questions. The evaluators had to choose between disagree strongly, disagree moderately, disagree, agree, agree moderately, and agree strongly. The next three questions asked for a written response from the participant and the final asked if we should have another workshop in the fall. (See attachment #10.) Each teacher filled one out as they left. For the most part, they were very positive. A summary of the evaluations is provided. (See attachment #11.)

## Workshop #2

The second workshop was held on March 20 at a school just out of Red Deer called Poplar Ridge. We had twelve people in attendance. Of the twelve teachers present, seven teachers taught only grade 3, two teachers taught only grade 4 and three teachers taught a combined grade 3 and 4. The day was set up exactly the same as the first day with introductions, my presentation on change, philosophy and program emphasis, with a Lego demonstration followed by the actual planning of units. The Lego demonstration was done by my partner.

I have attached an example of the planning grid that we used for our units. (See attachment #12.)

The day was very productive. I felt that teachers really appreciated the time together. I got several comments throughout the day about how there is a lack of this type of opportunity for teachers within our jurisdiction. Teachers seemed genuinely grateful for the time that they were able to spend together. I observed that this workshop was the least well attended of all of the workshops. Is it because it was held in fairly northern school? It will be interesting to see the results of the final survey.

The same evaluation was used at the end of the workshop. I have attached a summary of the results as well. (See attachment #13.) Again they seem fairly consistent with the results of the first workshop.

### Workshop #3

The third workshop was held for grade 5 and 6 teachers in Deer Meadow School in Olds. This workshop was attended by the largest number of teachers, nineteen in all. Those nineteen represented four teaching only grade 5, five teaching only grade 6, eight teaching a combined grade 5 and 6, one teaching a combined 4 and 5, and one teaching a combined class of grade 1 through 8. Again, the format for the day remained the same. The Lego demonstration was done by a guest teacher who has had lots of experience using Lego in grade 5 and 6 classes.

The two assistant superintendents were at all of the workshops for the three days, thus allowing for continuity of format. I found this to be comforting, knowing that our presentations

were pretty much on track throughout the series of workshops. The evaluations were fairly similar to the other two workshops. A summary of the results is available. (See attachment # 14.) Most were very positive and again, I think that teachers were thankful for the time afforded the planning.

### **Workshop Observations and Conclusions:**

I found that the teachers were really positive about the process that we went through. This was the first time that many of them planned units with other teachers who teach the same grade level as they do. Some found it hard to get going, as they were unprepared for the day. Some teachers came without doing any ground work or gathering resources for their grade level. For some, it was the first time that they had looked at the Program of Studies in depth and they came away with a better picture of the whole program. This was a learning experience for them as well as for us.

We asked teachers to bring resources that they had gathered to teach the science units. Most of the grade 1 and 2 teachers brought lots of things to share. Teachers in grades 3 and 4 brought some things, while teachers in the upper grades brought less. This was an interesting observation that was voiced not only by the assistant superintendents present, but participants as well. Some of the teachers who had colleagues that attended earlier workshops, were disappointed that teachers in the upper grades did not bring as much material to share.

**Follow Up Meeting, April 25, 1997**

After the workshop experience, we felt a need for a meeting to decide the future direction for our committee. We met on April 25, 1996, at 4:00 p.m., at division office. Only five of our committee members were present, but we decided to proceed anyway. After some discussion, we laid out a basic plan for the 1996 - 1997 school year.

Our division has a Professional Development Committee who were planning the October 25 division wide professional development day. We discussed that in conjunction with the Professional Development Committee, we could find out if there were any topics that teachers still wanted to address. The Professional Development Committee sent out a needs survey in the early fall. By including some ideas for science oriented workshops, we would find out if it was necessary to plan more workshops.

We proposed some questions that could be answered through this form of survey. Firstly, we wanted to know if teachers wanted a sharing session where teachers bring a unit on the topic with twenty copies to share, or another building workshop, similar to the ones that were recently completed. Secondly, we had such a great response to the Lego demonstrations that we thought that we may be able to get the representative to do a demonstration at Professional Development Day. Thirdly, we wanted to know what topics teachers still wanted more information on, and how best to facilitate the knowledge exchange. We discussed a session on how to hook up through the Internet, to the Hubbell telescope, and what kind of implications the use of the Internet has in the science classroom. We concluded it would be best to wait for the PD Committee to do their survey and make plans for our presentation in the early fall.

Future direction for our committee was the next item on the agenda. We thought we might have interest in developing workshops on assessment in science. How can we measure what our students are learning without using pencil and paper tests? We knew that the Curriculum Assessment Materials Package was due to come out in the near future and thought that we may want to have a specific presentation of these materials.

Future meetings could be shorter than a full day or a half day. We could go to a supper meeting format, where a specific topic was discussed and teachers who were interested would attend. This could also be a sharing session where teachers brought their favourite activities for a specific unit and brought copies for everyone.

We had a number of schools ask about the purchase of Lego. We have a central purchasing agent who does bulk purchasing for our division. We asked if he might find out if we could get Lego at a discount if we ordered in bulk. We also explored other venues for attaining the building materials that were needed for the construction units.

We finished our meeting with the intent that we would be prepared to do something at our division wide professional development day, but we would let the PD committee tell us what was wanted. Our next meeting was set for September 18, at 4:00 p.m. Instead of a face to face meeting, we decided to try out telephone technology and attempt a conference call. I have never been involved with a conference call before, so I was quite excited.

### **The Non-Conference Call**

One thing that I have learned in my year of teaching, is if you remain flexible, you don't get bent out of shape. This was one of those times. We are not really sure why, but our

conference call did not happen. We did have a short interaction via e-mail the day after, but we never did talk to each other over the telephone.

The PD committee had finished their informal survey, and found that teachers did not indicate a strong need for a half day or a full day workshop on science topics. We concluded that most teachers have access to the resources that they need to do the job. They also have knowledge of expectations and how they fit into the curricular framework. Teachers have the background to proceed on their own, with a network of knowledgeable teachers who are willing and able to help if needed. We thought that offering another workshop where teachers were involved with planning, would be redundant.

The Pan Canadian Science Project was just beginning to be revealed to the public. A draft document had been released with the invitation for feedback. Mr. Raja Panwar, the science consultant for Alberta Education, may be willing to come and discuss the proposed framework for the common science curriculum. We thought that this topic may be of some interest to teachers, as other common curricula had recently been released. We also discussed that a resources session may be in order, one that included other things that are out there, not just the major print resources. As it turned out, we were allotted a one hour time slot, from 2:30 - 3:30 p.m., the last slot of the day. I offered to do the session, with the help of the other science committee members, who of course, all agreed.

Communication was initiated with the Department of Education regarding the visit of Mr. Panwar. We thought that a short presentation first would open up discussion and feedback. Mr. Panwar agreed to attend the PD day, but in the end, was not able to attend.

**Division Wide Professional Development Day, October 25, 1996**

I did a very informal presentation to about eight teachers in attendance. I brought any and all books and resources that I could round up. I borrowed from my fellow staff members, past staffs, and anyone else who would lend me materials. I brought four paper boxes full of material. Together we went through the units. Teachers really got time to see materials other than the major print resources. Many times they were looking for something a little different from what they already had. It turned out to be a learning experience for me as well, as the attendants shared information that they were familiar with. I also had one teacher from a Hutterite colony, who could not afford to buy even one set of Innovations and Explorations. She was looking for a book, or books that would help her with a few of the concepts that she needed to teach. It was fun and educational for me and I got my exercise unloading the boxes, then loading them back up.

**Final Program Evaluation:**

My intent from the inception of the science workshops, was to do a final evaluation in the spring of 1997. This would be near the end of the school year, and teachers who attended the workshops in the spring of 1996, would have had a whole year to use the units that they developed. I sent out a letter via interschool mail, in April 1997, indicating that our Science Implementation Committee would like their assistance in a final evaluation of the program. I also sent along a questionnaire about the usefulness of the materials that they developed on that day. I invited teachers to respond if they were interested in being interviewed about their workshop experience. (See attachment #15.) The letter and survey, along with a pen and self addressed, stamped envelope, went out on April 13, 1997. (See attachment #16.)

Response to the survey was good. Out of the forty four teachers who attended forty were still teaching with the division. Out of the forty surveys that were sent out, I received thirty one back for a total of 78%. A complete summary of the survey is available. (See attachment #17.)

The most surprising thing that came out of the return of the surveys, was the number of teachers who were willing to be interviewed about their workshop experience. Nine teachers were willing to take time out of their very busy May and June schedule to be interviewed. I thought that I would have a hard time finding a few teachers to interview, instead, I had to make a selection. I chose teachers that I didn't have any past dealings with, except in the workshop situation. I also looked at the grade levels that they were teaching and chose one teacher who attended each workshop. I felt that I would get a good over all picture of the post workshop experience if I chose interviewees from each workshop.

### **Interviews:**

Interview #1, May 22, 1997

The first interview was done on May 22, 1997. It was arranged that I would go to the teachers school to complete the interview. It was arranged for 8:00 a.m., before many students and teachers arrived at school. I taped the interview to help me write an accurate summary.

His reaction to me and the interview itself, was extremely positive. He ranked the overall science workshop experience as one of his most successful professional development experiences. He rated the viewing of resources and the talking with other teachers as the

most important aspects of the workshop. He was very pleased that his ideas were being listened to concerning wants and need of district teachers, for professional development. A complete summary is attached. (See attachment #18)

Interview #2, May 22, 1997

The second interview was held on May 27, 1997, again in the morning at the teacher's school. I also taped this interview to help with the accuracy of the summary.

She had four workshop experiences that were successful. One was a summer course where she got some good ideas that could be used in her Language Arts program, one was the Science Alberta Foundation Elementary Science Summer Institute, one was the science workshop held within our division and the other one was the division wide professional development day held in October.

She stated that the most important part of all of these workshops was the networking with other teachers and the bringing back of useful ideas to integrate into her classroom activities. The Olds science workshop was a bit of a disappointment for her when it came to the sharing of ideas. Her school had gone ahead with the adoption of the science curriculum in 1995 - 1996 school year. She felt that other teachers did not come prepared to share. She felt that the best part of this workshop was where teachers planned a unit to take home. She would have liked more time for this, but the time was not there. A summary of the interview is attached. (See attachment #19.)

### Interview #3, June 2, 1997

The third interview was held on June 2, 1997. The teacher lived in Red Deer so thought that it would be convenient for her to meet at my school. I found this to be a bit uncomfortable because after school, there tends to be a lot of interruptions. My office is not a really quiet place, but neither is my classroom, so I decided to hold the interview in my office. The tape of the interview is available. I used it to help summarize her ideas.

The interview was fairly positive. The teacher cited three workshop experiences that were successful. Red Deer Public School Division holds regular meetings for specific teachers on a specific topic. She found these most useful because teachers would bring their best activities and share them. She also liked one on portfolios that she attended recently, and she also liked the science workshop at Didsbury. Teachers brought lots of activities to share. She felt that workshops need to be of a practical nature, and sharing of ideas and activities should also be a part of the workshop. She really liked the kind of workshop that she used to attend through Red Deer Public. These she found really useful. She wished that there could be more opportunity for teachers to share ideas like this. A complete summary of the interview is attached. (See attachment #20.)

### **Follow-up:**

The interviewees were sent a letter thanking them for their involvement. I included a stress apple, as a thank you gift. (See attachment #21) Another letter was sent to all of the teachers who volunteered to be interviewed, but were not chosen. (See attachment #22.) In each of the original letters, I mentioned that the results of the survey and the evaluation of

the overall program, would be available near the end of June through myself, or one of the assistant superintendents at division office. Any interested teachers could access this information if they chose to do so.

### **Program Conclusions:**

#### **Aims and Objectives:**

I believe we accomplished all of the aims and objectives that we set out to achieve. We were able to help classroom teachers implement the Program of Studies for the current school year. We looked at needs of teachers, concerning the implementation process and were able to fulfil our goals. We provided inservice training for teachers on the new curriculum and supplied a vehicle for this to happen.

We also made it possible for north to meet south, and helped provide a common ground for amalgamation to happen at a grassroots level. Teachers from all across our division took part in the workshops making it clear that most people do not consider travel a barrier to professional development. This was a very positive outcome for us. We felt that these workshops laid the groundwork for more open sessions of this sort to happen on a division level.

#### **Personal Feelings:**

From my own perspective, I felt that this was a really worth while undertaking. I really enjoyed working with the people who helped to make this happen. There have only been a

couple of other events in my life that have been on this large a scale, and I feel privileged that I was able to be part of it.

I was truly amazed at the attitudes of teachers involved. There were very few negative comments, instead I got a sense that people truly were appreciative of the time and effort that went into planning and running these workshops. It was a very low keyed, down home type of feeling that prevailed throughout the whole project. There was also a feeling that no matter the obstacles, we can find a solution so that the workshops will happen. For our division, this was the first undertaking of this kind that involved all schools. It was a very positive experience for everyone involved.

Three teachers from my staff took part in the workshops. They were all very supportive and accepting of the process, and really worked to make science a great subject in our school. I am going to do all that I can as an administrator, to help my staff make professional development activities of this sort, happen.

Throughout this whole project, I kept waiting for someone to complain or resist this professional development adventure. I was indeed surprised to find out that most teachers do professional and personal development because it helps them do a better job. I thought that I was one of the few who regularly did professional development, usually at my own expense. I was flabbergasted to find out that there were more teachers who felt that professional development is done because one feels it is necessary and right to do. Most teachers do not want to be recognised for their accomplishments, instead if it helps them to do a better job in the classroom, then it was worthwhile. I wonder what our government would do with a piece of information like that?

In our times of fiscal restraint and high demand on teacher time, I feel that most teachers are doing a great job. The students in our division are getting a top notch education and I am proud to be part of it. This was a very affirming process for me and I am thankful that I was granted the opportunity to be involved.

## Bibliography

Alberta Education. (11/96) Program of Studies. Edmonton: Alberta Education

Gay, R.L., (1996). Educational Research, Competencies for Analysis and Application, Prentice Hall, Inc., Englewood Cliffs, New Jersey, United States of America.

## Proposal for Final Project

Submitted to : Dr. Rick Mrazek  
 Dr. Frank Sovka  
 Date: Feb. 10, 1996  
 By: Sharon J. Sims  
 ID#: 001012190

### Scope and Sequence of Events:

#### February, 1996

1. Develop an Elementary Science Inservice Survey.
  - a) As a member of the Science Implementation Committee for Chinook's Edge Regional Division #5, develop a science needs survey.
  - b) Serve all of the teaching staff in the division who teach science in levels 1 - 6.
  - c) Surveys to be gathered at the school and returned to division office.
2. Gather data from surveys to assess areas of need.
  - a) Completed surveys will be gathered.
  - b) Areas of need will be identified.

#### March - September 1996

3. Inservice training sessions will be developed as per the identified needs.
  - a) Each member of the team will be responsible for the development and presentation of the inservice sessions.
  - b) Sessions will take place either at the school or at the division office as needs are identified.

#### September - December 1996

4. Inservice training sessions will be presented.
  - a) Sessions will be presented by all 6 members of the team.

#### May 1997

5. Follow up survey.
  - a) Another survey of progress in the implementation process will follow the training sessions.

#### July 1997

6. Presentation of final project.

### Intent:

I will keep a diary of each of the meetings of the Science Implementation Committee. This diary will be the introduction of the project. I will then describe in depth, the findings of the needs survey and describe the areas of need as identified. I will also outline the inservice training sessions and describe my part in the presentations. The follow up survey will be compiled and presented at the end of my project. The final document will be ready for presentation in summer, 1997.

**Elementary Science Implementation Committee  
Meeting #1  
January 23, 1996**

**“Adopt, Adapt and Develop”**

**Purpose:** the purpose of this committee is assist with the implementation of the Elementary Science Program of Studies for the 96-97 School Year.

**Agenda**

**1. Introductions of Committee Members**

Ruth Roedler (Midway: 337-2888)

Gib Andruski (Elnora 773-3744)

Sharon Sim (River Glen: 346-4755)

Jeff Goodyear (Deer Meadow 556-1003)

Bill Chalmers (River Valley: 638-3939)

David Hope (Poplar Ridge: 343-8821),

Tell us about your teaching background and/or your interest in Science.

**2. Main Issues:**

When I think about the Implementation of Elementary Science in our school and/or District I think the main issues are: \_\_\_\_\_.

**3. Program of Studies**

What are the similarities and differences between what we are teaching now and what the new Program is asking us to teach? How much change are we dealing with?

**4. Resources**

What are our resource needs?

What resources are available and what is yet to come?

Which, if any, are good resources?

**5. Inservice for Teachers**

What format of inservice do we use to inservice teachers?  
What is happening in your school? Other schools?

**6. Other**

**7. Next Meeting:**

**8. Things to do:**

**Chinook's Edge Regional Division No. 5**

4904 - 50 Street

Innisfail, Alberta

T4G 1W4

Telephone: (403) 227-4272

Fax: (403) 227-3652

MEMORANDUM

To: Principals

From: Elementary Science Implementation Committee

DATE: January 29, 1996

RE: **Needs Survey**

An Elementary Science Implementation Committee has been formed in Chinook's Edge to assist teachers with the Implementation of the Elementary Science Program. We would appreciate your cooperation surveying your science teachers using this form. It is left to your discretion as to how you gather this information from your teachers. You may have each teacher complete it and compile the results or you may choose to have a meeting and have the teachers discuss the questions. However you choose to do it, we would like **one form from each school** that represents the input from your school.

If possible, we would like the surveys **returned by Feb. 10, 1996**. Please return them to Bill Hoppins at the **Division Office**.

If you have any questions or concerns, please do not hesitate to call any of the following committee members:

Ruth Roedler (Midway: 337-2888)

Gib Andruski (Elnora: 773-3744)

Sharon Sim (River Glen: 346-4755)

Jeff Goodyear (Deer Meadow: 556-1003)

Bill Chalmers (River Valley: 638-3939)

David Hope (Poplar Ridge: 343-8821)

Bill Hoppins (Central Office: 227-4272)

Warren Phillips (Central Office: 227-4272)

## Elementary Science Inservice Survey

Name: \_\_\_\_\_

Grade Level: \_\_\_\_\_

School: \_\_\_\_\_

### A. Program Of Studies

1. Do you have a copy of the Program of Studies? yes \_\_\_\_\_ no \_\_\_\_\_
2. Have you read and become familiar with the Program of Studies? yes \_\_\_\_\_ no \_\_\_\_\_

### B. Resources

1. What resources do you have to assist with the New Program of Studies?  
 Approved Resources  
     \_\_\_\_\_ Innovations  
     \_\_\_\_\_ Explorations  
     \_\_\_\_\_ Red Deer Public Materials  
     \_\_\_\_\_ "Let's Do Science" (Science Alberta Foundation Materials)  
 Other Resources: (This need not be an exhaustive list but an indication of supplementary resources, kits and materials that you have.)
2. Present Status of Implementation of Resources (Check the appropriate one(s))  
     \_\_\_\_\_ reviewing resources and have not yet made a decision to purchase  
     \_\_\_\_\_ have purchased some materials. If so, please list.

### C. Inservice Activities

1. To date, what inservice activities, if any, have you been involved in. Please list.
2. Please check what you consider your inservice needs to be:  
     \_\_\_\_\_ no inservice needs  
     \_\_\_\_\_ inservice on the background and intent of the Program (i.e. What is new in this Program of Studies and how will it impact the way I now teach science?)  
     \_\_\_\_\_ need materials list and where to get the materials (consumable and otherwise) necessary to teach the Program.  
     \_\_\_\_\_ sharing of materials, units and ideas on teaching the Program.  
     \_\_\_\_\_ publisher presentations to assist with purchasing decisions.

## D. Help

1. Do you have any teachers on your staff who have an interest in the teaching of Science who would be willing to share their ideas with other teachers? If so, please list their names.

2. Is there a teacher on your staff who would be the contact person for the Science Committee? Their role would be to facilitate communication between the Committee and your science teachers? Please List.

## ELEMENTARY SCIENCE WORKSHOP

1. Length - Each Workshop will be a full day.
  - 1 for Grades 1-2
  - 1 for Grades 3-4
  - 1 for Grades 5-6
  
2. Agenda
  - Large group session
    - introduction
    - changes - Sharon
    - resources
      - demo - Lego
  - Sharing
    - related to specific units
      - technology
      - one other
    - general discussion and demo's of possibilities
    - planning the unit (structured)
      - overview
      - objectives
      - content
      - text/resources
      - methodologies
      - evaluation
    - resource persons or contact persons will be identified following the development of the units
  
3. Responsibilities
  - Chairperson - Introduction - Bill
  - Changes in Program - Sharon
    - history
    - changes in Philosophy
      - conceptual framework
  - Resources - Lego - David & Gibb
  - Publisher's Reps - Warren
  - Facilitators for Planning Sessions
    - Grades 1 & 2 - Ruth & Gibb
    - Grades 3 & 4 - Sharon & David
    - Grades 5 & 6 - Jeff & Bill

### Planning Calendar

Specific Outcomes Content/Skill Methodology Resources Assessment		

- Facilitators would develop a sheet which contains specific outcomes and KSA's. The group would fill in the topics.
- Teachers would be involved in developing two units.
- Size of "Sharing Groups"
  - facilitators will decide if groups need to be further sub divided

#### TENTATIVE SCHEDULE

9:00 - 10:30 a.m. Introduction - 15 minutes  
 Changes - 20 minutes  
 Lego - 55 minutes

10:30 - 10:45 a.m. Coffee

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10:45 - 12:00 noon Develop Unit Plan A

---

1:15 - 2:00 p.m.      Develop Unit Plan A (continued)

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2:15 - 4:00 p.m.      Develop Unit Plan B

**February 27 1996**

**TO: PRINCIPALS and ALL STAFF**

**FROM: ALTHA**

**“I am a great believer in luck, and I have found the harder I work the more I have of it.”**  
*Stephen Leacock*

### **1. ELEMENTARY SCIENCE IMPLEMENTATION COMMITTEE**

The Elementary Science Committee is planning workshops for teachers based on the results of the Science Survey sent to all schools. The workshops will be full day events held on the following dates:

March 19 Grade 1 and 2  
March 20 Grade 3 and 4  
March 21 Grade 5 and 6

The location has not yet been determined. Hopefully we will have the opportunity to have the workshops held in centrally located schools. The format will be primarily a planning and sharing time for teachers. There will be demonstration of activities as well as a focus on the implementation of the technology strand in the curriculum. A detailed registration will be coming to all schools ASAP. If you have any questions contact Warren Phillips or Bill Hoppins.

### **2. JR. HIGH MATH**

Barb Morrison, Nelson Publishers, is presenting at the Teachers' Convention. She has an excellent computer guided program for Jr. High Math. Nelson Publishers are hopeful this program will be authorized for use. This would be a good session for Jr. High Math Teachers to attend.

### **3. ABC FOCUS SESSION**

By now all schools should have received a fax with an outline of the ABC Focus Session, a map to Nakoda, and a rooming list. If you did not receive this, please contact Darlene Hayes.

### **4. ABC FOCUS SESSION HOMEWORK**

One of the activities we will be working on at the Focus Session is important educational milestones in the history of the County of Mountain View and the County of Red Deer. Therefore, we would like each participant to come prepared to work on the history for their

**FAX COVER SHEET**

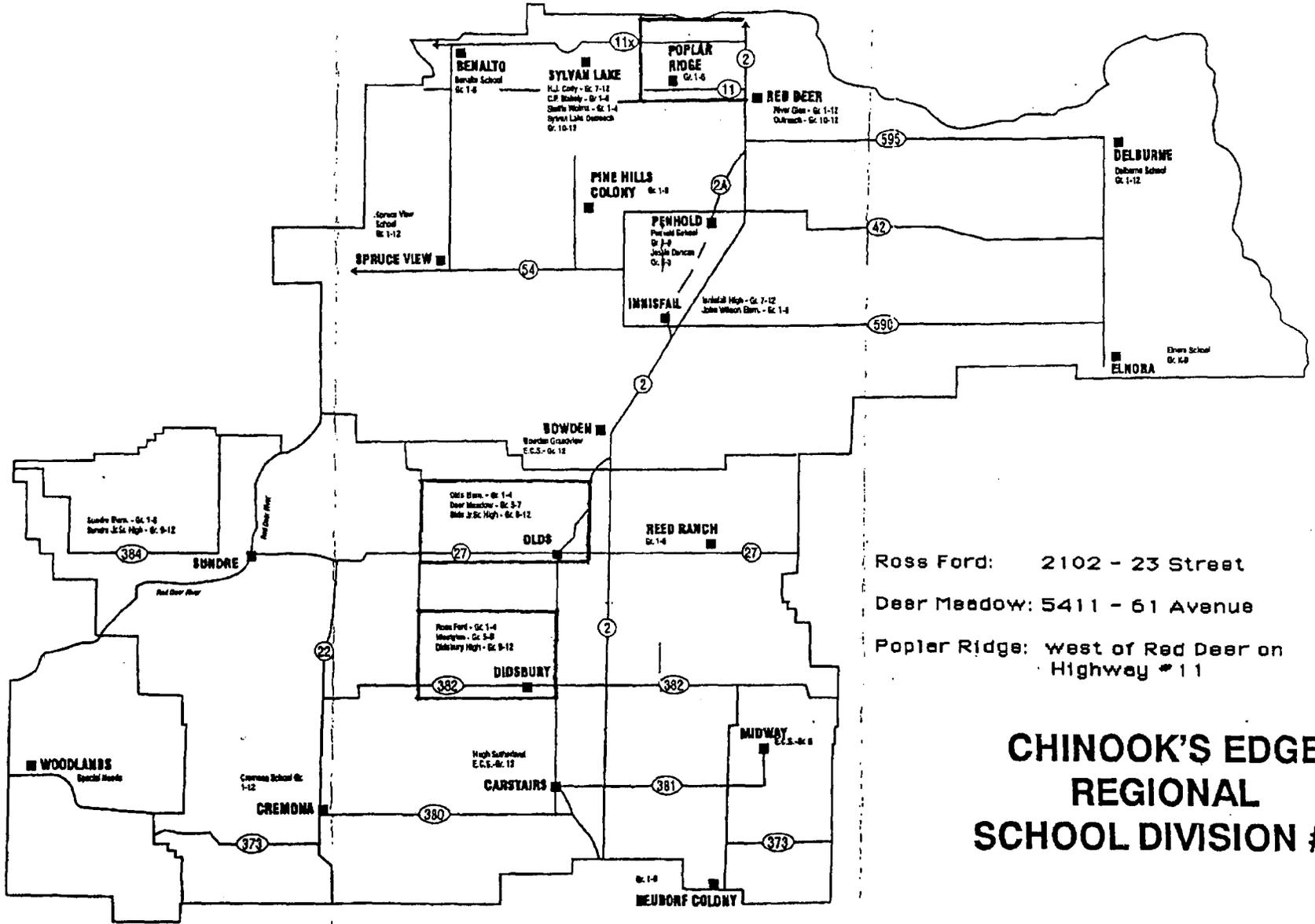
TO:

Name Colleen Musselman, Patti Cummins Lorna Hannah, Bill Goldade	Office
Location River Glen School	Fax Number 343-8433

FROM:

<b>CHINOOK'S EDGE REGIONAL DIVISION No. 5</b>	Telephone: 227-4272 FAX : 227-3652	Operator J
Sender Bill Hoppins	Date March 14/96	No. of Pages 2
Subject Elementary Science Workshops - Time, Lunch and Directions		
Special Instructions		
<u>Date</u>	<u>Grade</u>	<u>Location</u>
Tuesday, March 19/96	1 & 2	Ross Ford Elementary School, Didsbury
Wednesday, March 20/96	3 & 4	Poplar Ridge School
Thursday, March 21/96	5 & 6	Deer Meadow School, Olds
Time:	9:00 a.m. - 3:30 p.m.	
Lunch:	Will not be provided but	
Teachers attending workshops in Didsbury and Olds may either "brown bag" it or make their own arrangements - there are quite a few restaurants in both towns.		
Teachers attending the Poplar Ridge workshop may want to "brown bag" it as there are no restaurants in the area.		
A map is enclosed showing the location and addresses of the schools.		
Looking forward to seeing you at the workshops!		

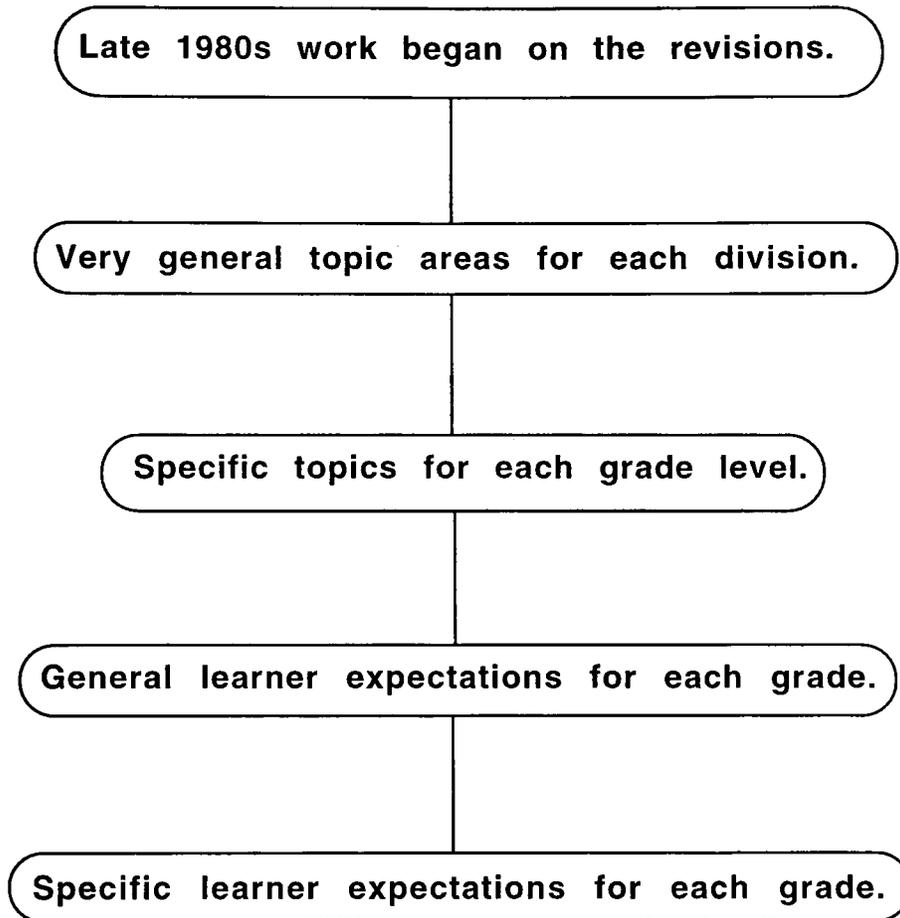
If you do not receive all pages, please call as soon as possible.



Ross Ford: 2102 - 23 Street  
 Deer Meadow: 5411 - 61 Avenue  
 Poplar Ridge: west of Red Deer on Highway #11

# CHINOOK'S EDGE REGIONAL SCHOOL DIVISION # 5

## **Change (the beginning)**



## Rationale

Children have a natural curiosity about their surroundings - a desire to explore and investigate, see inside things, find out how things work and find the answers to their questions. Learning about science provides a framework for students to understand and interpret the world around them.

An elementary science program engages students in a process of inquiry and problem solving in which they develop both knowledge and skills. The purpose of the program is to encourage and stimulate children's learning by nurturing their sense of wonderment, by developing skill and confidence in investigating their surroundings, and by building a foundation upon which later learning can be based.

Elementary and secondary science programs help prepare students for life in a rapidly changing world - a world of expanding knowledge and technology in which new challenges and opportunities continually rise. Tomorrow's citizens will live in a changing environment in which increasingly complex questions and issues will need to be addresses. The decisions and actions of the future citizens needs to be based on an awareness and understanding of their world, and on the ability to ask questions, seek answers, define problems and find solutions.

# Philosophy

**Children's curiosity provides a natural starting point for learning.**

**Children's learning builds on what they currently know and can do.**

**Communication is essential for science learning.**

**Students learn best when they are challenged and actively involved.**

**Confidence and self-reliance are important outcomes for learning.**

# Program Emphasis

## Science Inquiry

- asking questions
- proposing ideas
- observing
- experimenting
- interpreting evidence

## PROBLEM SOLVING THROUGH TECHNOLOGY

- identifying what is needed
- proposing ways of solving the problem
- trying out ideas
- evaluating how things work

GRADE 2

TOPIC B: BUOYANCY AND BOATS

General Learner Expectations (2-7):

Construct objects that will float on and move through water, and evaluate various designs for watercraft.

Specific Learner Expectations (1,2)

1. Describe, classify and order materials on the basis of their buoyancy.
2. Alter or add to a floating object so that it will sink; and alter or add to a nonfloating object so that it will float.

Cross Curricular Links:

Mathematics

Literature

Social Studies

Materials:

Procedure:

Assessment:

Additional Resources:

Extensions:

1. Students will be able to select appropriate materials, such as papers, plastics, woods, and design and build objects based on the following kinds of construction tasks:

- construct model buildings
- construct model objects
- construct toys
- create wind- and water-related artifacts.

METHODOLOGY

RESOURCES

ASSESSMENT

3. Students will be able to compare two objects that have been constructed for the same purpose, identify parts in one object that correspond to parts in another, and identify similarities and differences between them.

METHODOLOGY

RESOURCES

ASSESSMENT

2. Students will be able to identify component parts of personally constructed objects, and describe the purpose of each part.

METHODOLOGY

RESOURCES

ASSESSMENT

4. Students will be able to recognize that products are often developed for specific purposes, and identify the overall purpose for each model and artifact constructed.

METHODOLOGY

RESOURCES

ASSESSMENT

## Science Workshop Evaluation

Please take this time to evaluate the workshop experience you had today. Circle the words that describe the way you feel about the workshop.

Date attended: \_\_\_\_\_ Grade taught: \_\_\_\_\_

1. Did this workshop meet your expectations?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
----------------------	------------------------	----------	-------	---------------------	-------------------

2. Was the process valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
----------------------	------------------------	----------	-------	---------------------	-------------------

3. Do you think you will use the units developed here today?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
----------------------	------------------------	----------	-------	---------------------	-------------------

4. Do you think that the networking with other teachers was valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
----------------------	------------------------	----------	-------	---------------------	-------------------

5. What part of the workshop was the most valuable?

---



---

6. What part of the workshop was the least valuable?

---



---

7. What could we change to make the workshop better?

---



---

8. Should we have another workshop in the fall to co-ordinate two other units?

yes \_\_\_\_\_ no \_\_\_\_\_

If yes, which two would you like to do? \_\_\_\_\_

## Science Workshop Summary Grade 1 and 2

**Date attended** March 19, 1996

**Grade taught:** 13 in all,  
5 grade 1  
4 grade 2  
4 combined grades 1 and 2

### 1. Did the workshop meet your expectations?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>1=8%</b>	<b>1=8%</b>	<b>6=46%</b>	<b>5=38%</b>

### 2. Was the process valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>3=23%</b>	<b>3=23%</b>	<b>7=54%</b>

### 3. Do you think you will use the units developed here today?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>1=8%</b>	<b>4=31%</b>	<b>8=62%</b>

### 4. Do you think that the networking with other teachers was valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>1=8%</b>	<b>3=23%</b>	<b>9=69%</b>

### 5. What part of the workshop was most valuable?

- sharing resources and ideas
- sharing ideas and actual activities and group effort on unit plan
- learning to share and build units becomes easier each time it's done - nice to have the time to do this
- throwing around ideas
- getting actual units completed by other schools
- trying out and using Lego Dacta 1000
- talking with more experienced teachers
- developing the technology unit with others
- looking at available resources
- talking/sharing with other teachers
- hearing other teacher's ideas, seeing the resources that are out and seeing Olds and Red Deer Public's unit plans
- chance to work with new people and new ideas
- going out for lunch

**6. What part of the workshop was the least valuable?**

- I did not come well prepared to share ideas
- looking at the history of science
- theory
- took groups awhile to get working - unsure of expectations

**7. What could we change to make the workshop better?**

- specific directions on what to bring
- better communication re: knowing that boats and buoyancy was the topic
- it was great
- list of addresses of resource materials to order
- begin unit planning earlier and in smaller groups
- nothing - it was and excellent workshop
- let us know which area you are covering so we can bring materials (bring our own)
- bring more sample units that schools have developed. Why reinvent the wheel?
- variety of materials/lesson plans (hands-on)

**8. Should we have another workshop in the fall to co-ordinate two other units?**

yes 13=100%      no 0=0%

**If yes, which two would you like to do?**

- Exploration of Liquids
- Creating colour and Needs of Plants and Animals
- no real preference
- Seasonal Changes
- Either one
- Likely
- Exploring Liquids and Hot and Cold Temperatures
- any topic
- any topic
- Plants and Animals and Colour
  - have teachers bring their 3 favourite lessons or activities from each unit.
  - Have them bring 20 copies and we'll all trade!
- Colour
- Crawling and Flying Animals

# Attachment #12

Topic B: Building with a Variety of Materials

General Learner Expectations

Students will be able to:

- 3-6 Use, safely, a variety of tools, techniques and materials in construction activities.
- 3-7 Construct structures, using a variety of materials and designs, and compare the effectiveness of the various materials and designs for their intended purposes.

Using a variety of materials and techniques, design, construct and test structures that are intended to:

- support objects
- span gaps
- serve as containers
- serve as models of particular living things, objects or buildings.

<p>1. Understand and use a variety of methods to join or fasten materials.</p>	<p>2. Select appropriate materials for use in construction tasks, and explain the choice of materials. Students should demonstrate familiarity with a variety of materials such as papers, woods, plastics, clay and metals.</p>	<p>3. Select tools that are suitable to particular tasks and materials, and use them safely and effectively.</p>
<p>4. Recognize the importance of good workmanship, and demonstrate growth toward good workmanship.</p>	<p>5. Identify the intended purpose and use of structures to be built, and explain how knowing the intended purpose and use helps guide decisions regarding materials and design.</p>	<p>6. Understand that simple designs are often as effective as more complex ones, as well as being easier and cheaper to build, and illustrate this understanding with a practical example.</p>
<p>7. Recognize the importance of good workmanship, and demonstrate growth toward good workmanship.</p>	<p>8. Maintain and store materials and tools safely and properly.</p>	<p>9. Apply skills of listening, speaking and cooperative decision making in working with other students on a construction project.</p>

General Learner Expectation

Students will be able to:

- 3-8 Evaluate the suitability of different materials and designs for their use in a building task.

1. 1. Recognize that effective structures must be sufficiently strong and stable, and that unstable or weak structures are often unsafe to use.

2. 2. Compare and evaluate the stability of different models or objects constructed.

3. 3. Describe the distinctive properties of some common solids, such as wood, paper or plastic, that make them suitable for use as building materials.

4. 4. Apply procedures to test the strength of construction materials, in particular, different stocks of papers, plastics or wood.

5. 5. Apply procedures to test different designs.

6. 6. Apply procedures to test the strength of different methods of joining.

7. 7. Identify and apply methods for making a structure stronger and more stable, for example, by adding or joining parts to form triangles.

1.

1. Explain how rollers can be used to move an object. Demonstrate the use of rollers in a practical situation.

2.

2. Compare the wheel and the roller, and identify examples where each are used.



3.

3. Construct devices that use wheels and axles, and demonstrate and describe their use in:  
• model vehicles  
• pulley systems  
• gear systems.

4.

4. Construct and explain the operation of a drive system that uses one or more of the following:  
• wheel-to-wheel contact  
• a belt or elastic  
• a chain  
• cogs or gears.

5.

5. Construct and explain the operation of a drive system that transfers motion from one shaft to a second shaft, where the second shaft is:  
• parallel to the first  
• at a 90° angle to the first.

6.

6. Describe and construct devices that demonstrate how levers accomplish the following:  
• use a force to cause movement  
• use a smaller force to create a larger force  
• use a small/large movement to create a large/small movement.

7.

7. Construct models and explain how levers are involved in such devices as: teeter-totters, scissors, pliers, pry bars, tongs, nut crackers, fishing rods, wheel barrows.

General Learner Expectation  
Students will be able to:  
4-6 Demonstrate a practical understanding of wheels, gears and levers by constructing devices in which energy and motion are transferred.

4-7 Construct a mechanical device for a  
designated purpose, using materials and  
design suggestions provided.

Note: One or more components of the task  
will be open-ended and require  
students to determine the specific  
procedure to be followed.

4-8 Explore and evaluate variations to the  
design of a mechanical device,  
demonstrating that control is an  
important element in the design and  
construction of that device.

3. Design and construct devices and vehicles  
that employ energy-storing or energy-  
consuming components that will cause  
motion; e.g. elastic bands, springs, gravity,  
wind, moving water, batteries.

6. Compare two designs, identifying the relative  
strengths and weaknesses of each.

2. Use simple forces to power or propel a  
device; e.g., direct pushes, pulls, use of  
cranking mechanisms, moving air, moving  
water and downhill motion.

5. Recognize the need for control in mechanical  
devices, and apply control devices where  
necessary.

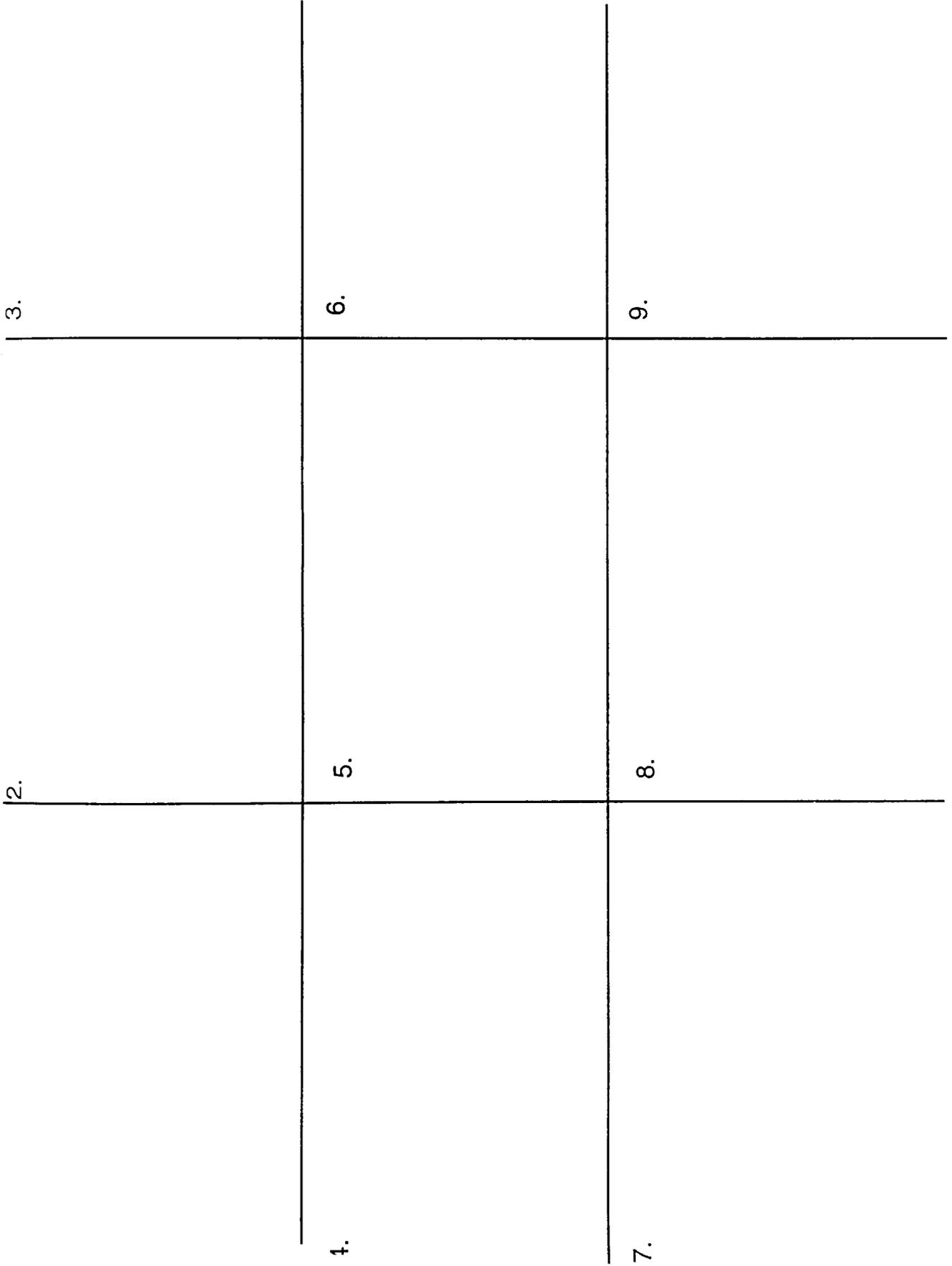
8. Evaluate a design based on a given set of  
questions or criteria. The criteria/questions  
may be provided by the teacher or developed  
by the students. Example criteria include:

- effectiveness—Does it work?
- reliability—Does it work every time?
- durability—Does it stand up to repeated  
use?
- effort—Is it easy to construct? Is it easy  
to use?
- safety—Are there any risks of hurting  
oneself in making it or using it?
- use of materials—Can it be made cheaply  
with available materials? Does it use  
recycled materials, and can the materials  
be used again?

1. Design and construct devices and vehicles  
that move or have moving parts—linkages,  
wheels and axles.

4. Understand that moving from place to place  
requires time, and that the shorter the time  
the faster the movement.

7. In cooperation with other students, design,  
construct and operate a production line in  
which multiple sets of the same product are  
made.



## Science Workshop Summary Grade 3 and 4

**Date attended** March 20, 1996

**Grade taught:** 12 in all,

7 grade 3

2 grade 4

3 combined grades 3 and 4

### 1. Did the workshop meet your expectations?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>5=42%</b>	<b>6=50%</b>	<b>1=8%</b>

### 2. Was the process valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>4=33%</b>	<b>5=42%</b>	<b>3=25%</b>

### 3. Do you think you will use the units developed here today?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>3=25%</b>	<b>2=17%</b>	<b>6=50%</b>

**\*One person did not answer this question, instead put a comment. \***

### 4. Do you think that the networking with other teachers was valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>2=17%</b>	<b>0=0%</b>	<b>10=83%</b>

### 5. What part of the workshop was most valuable?

- planning and talking with other teachers
- meeting colleagues, touching base with others
- networking with other teachers
- nice to share and discuss with peers similar concerns
- developing familiarity with available materials, organizational ideas
- sharing of materials, resources and exchange of ideas
- finding out what other resources are available
- interchange of materials/ideas

### 6. What part of the workshop was the least valuable?

- history
- I had tried Lego before
- I've used Lego quite extensively so it was redundant for me
- actual planning in depth
- none
- history of science development

- making a unit I have already have used
- was hoping for more detailed lesson plans
- It was all very valuable

**7. What could we change to make the workshop better?**

- provide lunch
- people who have already taught the unit should maybe meet separately. It was difficult to fill in information when some hadn't taught it.
- narrow the focus to plan one unit in more detail
- make sure teachers look for resources ahead of time and bring them
- group review curriculum requirements
- pinpoint the better resources
- to know what the units(s) will be worked on to pool all resources
- It was well done

**8. Should we have another workshop in the fall to co-ordinate two other units?**

yes 9=75% no 2=17%

**\*\*One person did not check either answer but commented instead.\*\***

**If yes, which two would you like to do?**

- Microworlds, Waste Not Want Not
- Plants and any other
- Light and Plants
- Sound, Rocks and Minerals
- Animal Life Cycles, Hearing and Sound
- Rocks, Lifecycles
- Rocks and Minerals, Animal Life Cycles
- Rocks and Minerals, Life Cycles
- Could we chose before attending?

\*shared resources and ideas more than developed a unit\*

**\*\*Am not sure at this point in time.\*\***

## Science Workshop Summary Grade 5 and 6

**Date attended** March 21, 1996

**Grade taught:** 19 in all,  
4 grade 5  
5 grade 6  
1 combined grades 4 and 5  
8 combined grades 5 and 6  
1 combined grades 1 to 8

### 1. Did the workshop meet your expectations?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>5=26%</b>	<b>8=42%</b>	<b>6=32%</b>

### 2. Was the process valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>6=32%</b>	<b>6=32%</b>	<b>7=37%</b>

### 3. Do you think you will use the units developed here today?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>6=32%</b>	<b>6=32%</b>	<b>6=32%</b>

**\*One person did not answer this question.**

### 4. Do you think that the networking with other teachers was valuable?

disagree strongly	disagree moderately	disagree	agree	agree moderately	agree strongly
<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>0=0%</b>	<b>3=16%</b>	<b>15=79%</b>

**\*One person did not answer this question.**

### 5. What part of the workshop was most valuable?

- discussion about new science materials (Explorations, Science Alberta)
- networking with other teachers, exchanging ideas and materials
- discussion and sharing of material, looking through materials available
- I enjoyed talking with other teachers and having a unit to take home.
- Lego workshop was excellent
- sharing ideas and resources with other teachers
- interaction with other educators and learning about different resources e.g. Lego
- meeting and working with other year 6 teachers
- discussion of units and the activities. Also, the resources we received were excellent
- developing units, discussing concerns with other teachers.
- doughnuts were valuable since I missed breakfast and the coffee was great

- networking good ideas
  - interaction with other science teachers
  - discussion of the unit development was very valuable
  - exchange of ideas and methods
  - Lego presentation
- 6. What part of the workshop was the least valuable?**
- each group could do one different unit at the grade 5 level (all units would be done)
  - two groups doing the same unit??
  - actually putting the unit together. I felt we were just copying down things we could photocopy
  - waiting for others to finish when we had our unit ready - but this was a great time to hear what is happening in other schools.
  - the creating of a unit when units and plans are readily available
  - trying to build a unit, too much information, little experience with units
  - trying to project anticipated needs
  - not everyone brought resources to share, would like to have had the chance to work with grade 5 teachers too
  - too little time to plan 2 units
- 7. What could we change to make the workshop better?**
- grade specific
  - a larger variety of resources
  - great
  - set up resources by unit and grade so teachers have a chance to look through and pick. Follow this up with sharing after the teachers have used the new curriculum.
  - continue pulling in resourceful teachers to demo hands on ideas
  - expect to bring created units to share and discuss materials and resources
  - possible step by step demo of a unit such as Weather Watch
  - finish one unit with greater detail
- 8. Should we have another workshop in the fall to co-ordinate two other units?**  
 yes 17=89% no 1=5%  
 \*One person did not answer this question but commented instead.\*

**If yes, which two would you like to do?**

- all
- Classroom Chemistry, electricity and Magnetism
- Weather Watch, Classroom Chemistry
- Go over resources after using them
- electricity and magnetism, weather watch
- any, after we had some experience with the new curriculum
- Sky science, Trees and Forests
- Forests/Sky Science
- Weather Watch/Tree and Forest
- Weather watch, Classroom Chemistry
- Tree and Forest/ Sky Science. Weather Watch/ Pond Ecosystem
- Weather and Electricity and Magnetism

- Chemistry, electricity and Magnetism
- Air and Aerodynamics
- Grades 3 and 4

\*I think that we should have a meeting of grade 6 teachers next year about this time to discuss what resources are really good and where it is going.\*

April 13, 1997

Dear (each letter is personalized),

Our Science Implementation Committee would like to thank you for your continued commitment to the teaching of science to our children. Our mission is to serve you the teachers in our division, and help you to make hands on science happen.

To assist us to evaluate our program so that we may better serve you, we ask your help. You will find a short questionnaire attached to this letter. We would appreciate your assistance in answering the questions and returning the form to Sharon Sims at River Glen School by May 1, 1997. Sharon will be compiling the results of your answers. They will be available by the end of June, 1997, providing replies are expedient. Questionnaires can be returned through the mail as a self-addressed return envelope is included. Forms are completely confidential unless you would be willing to be interviewed about your workshop experience. If you are interested in an interview, please fill out the bottom of the form and return it with your questionnaire.

If you have any questions about the questionnaire, please call Sharon Sims at 346-4755, or Bill Hoppins or Warren Phillips at 227-4272.

Thank you again for your time. Your input is valuable so that we may build better workshops and inservice programs for you.

Sincerely,

Sharon J. Sims  
Your Science Implementation Committee Representative

\*\*\*\*\*

I am willing to be interviewed about my workshop experience.

Name \_\_\_\_\_

School \_\_\_\_\_

Day phone number \_\_\_\_\_

Return to: Sharon Sims  
River Glen School  
By: May 1, 1997

## Elementary Science Workshop Study

Please check (✓) the appropriate response(s) for each question.

1. Which workshop did you attend?

Olds Deer Meadow (March 1996)\_\_\_\_\_

Poplar Ridge (March 1996)\_\_\_\_\_

Ross Ford Didsbury (March 1996)\_\_\_\_\_

2. At the time of the workshop, what grade level(s) were you giving science instruction to?

Please check (✓) all appropriate levels.

K\_\_\_\_\_ 1\_\_\_\_\_ 2\_\_\_\_\_ 3\_\_\_\_\_ 4\_\_\_\_\_ 5\_\_\_\_\_ 6\_\_\_\_\_ other\_\_\_\_\_

3. How far did you have to travel to get to the workshop site?

0-25 km\_\_\_\_\_ 26-50km\_\_\_\_\_ 51-75km\_\_\_\_\_ 76-100km\_\_\_\_\_ 101-125km\_\_\_\_\_ 125-150km\_\_\_\_\_

151-175km\_\_\_\_\_ more than 175km\_\_\_\_\_

4. Did the workshop entice you to purchase or suggest the purchase any of the new science resources?

yes\_\_\_\_\_ no\_\_\_\_\_

If yes, please check appropriate ones.

Innovations\_\_\_\_\_ Explorations\_\_\_\_\_ Red Deer Public Materials\_\_\_\_\_ Let's Do Science\_\_\_\_\_

Lego\_\_\_\_\_ Other(please list below)\_\_\_\_\_

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5. How many units did you plan on the workshop day?

0\_\_\_\_\_ 1\_\_\_\_\_ 2\_\_\_\_\_ 3\_\_\_\_\_ 4\_\_\_\_\_ 5\_\_\_\_\_

Please indicate the usefulness of the following parts of the workshop.

Please check (✓) the appropriate response(s) for each question.

6. Was the process for development of units useful?

very useful\_\_\_\_\_ useful\_\_\_\_\_ limited use\_\_\_\_\_ of no use\_\_\_\_\_ not applicable\_\_\_\_\_

7. Was working with and talking to other teachers in our district who teach the same grade levels useful?

very useful \_\_\_\_\_ useful \_\_\_\_\_ limited use \_\_\_\_\_ of no use \_\_\_\_\_ not applicable \_\_\_\_\_

8. Was/were the unit(s) that you developed at the workshop useful?

very useful \_\_\_\_\_ useful \_\_\_\_\_ limited use \_\_\_\_\_ of no use \_\_\_\_\_ not applicable \_\_\_\_\_

9. Was the viewing of new print materials useful?

very useful \_\_\_\_\_ useful \_\_\_\_\_ limited use \_\_\_\_\_ of no use \_\_\_\_\_ not applicable \_\_\_\_\_

10. Was the viewing of other materials like Lego useful?

very useful \_\_\_\_\_ useful \_\_\_\_\_ limited use \_\_\_\_\_ of no use \_\_\_\_\_ not applicable \_\_\_\_\_

11. In the future, would you consider attending another workshop, that used a similar format for unit development?

yes \_\_\_\_\_ no \_\_\_\_\_

If yes, check the appropriate subject heading.

Language Arts \_\_\_\_\_ Social Studies \_\_\_\_\_ Math \_\_\_\_\_ Science \_\_\_\_\_ Art \_\_\_\_\_ Health \_\_\_\_\_  
Physical Education \_\_\_\_\_ Computer \_\_\_\_\_ Music \_\_\_\_\_ other (please list below) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

If **Science** please indicate the grade level and unit(s) you would be interested in developing.

Grade Level \_\_\_\_\_ Unit(s) Title(s) \_\_\_\_\_

School Phone Number \_\_\_\_\_

**Please return to: Sharon Sims**

**River Glen School**

**By: May 1, 1997**

**Thank you!!**

**Elementary Science  
Workshop Study  
Final Summary**

**1. Which workshop did you attend?**

	attended	sent out		returned
Olds Deer Meadow	=19	17		14
Poplar Ridge	=12	10		9
Ross Ford Didsbury	=13	13		8
<b>Totals=44</b>		<b>40</b>		<b>31 =78%</b>

Out of the total attendants, 3 were on maternity leave at the time the final survey was sent to school, and 1 teacher was no longer employed by our division.

**2. At the time of the workshop, what grade level(s) were you giving science instruction to?**

Please check all appropriate levels.

**K=0 1=7 2=7 3=8 4=8 5=8 6=8 other=0**

19 teachers were teaching 1 grade level.

11 teachers were teaching 2 grade levels.

1 teacher was teaching multiple grade levels.

**3 How far did you have to travel to get to the workshop site?**

km	participants	%
0-25	=7	23%
26-50	=6	19%
51-75	=8	26%
76-100	=5	16%
101-125	=4	13%
126-150	=1	3%
151-175	=0	0%
176+	=0	0%
	<b>Total=31</b>	<b>100%</b>

**4. Did the workshop entice you to purchase or suggest the purchase of any of the new science resources?**

**yes =20 no =11**

**If yes, please check appropriate ones.**

**Innovations = 6 Explorations = 8 Red Deer Public Materials = 2**

**Let's Do Science = 6 Lego = 13 Other = 1**

**Summary of comments:**

- The materials were all purchased for our school.
- We had already been introduced to all of these resources.
- We had already purchased Innovations and were just beginning to use it.
- Purchased before the workshop
- We were sent a copy of Olds Elementary Construction Unit
- Edmonton Public
- Our school did purchase the teacher editions of Innovations and Explorations

**5. How many units did you plan on the workshop day?**

0 = 5

1 = 13

2 = 6

3 = 2\*

4 = 2\*

5 = 0

\*There were 2 participants who check off 3 and 4

- not as such, but learned about the unit structure offered within the Innovation material
- We shared ideas and resources and experiences and year plans/integration more than actually coming up with concrete "units".
- I was helping facilitate the planning.

**6. Was the process for development of units useful?**

very useful	useful	limited use	of no use	not applicable
11=35%	16=52%	3=10%	0=0%	1=3%

- I really liked this portion of the day.
- I was assigned to teach Grade 4. Units I prepared were in grade 6.

**7. Was working with and talking to other teachers in our district who teach the same grade levels useful?**

very useful	useful	limited use	of no use	not applicable
24=77%	6=19%	0=0%	0=0%	1=3%

**8. Was/were the unit(s) that you developed at the workshop useful?**

very useful	useful	limited use	of no use	not applicable
9=29%	16=52%	3=10%	0=0%	3=10%

- I took ideas from the other teachers and resources.

**9. Was the viewing of new print materials useful?**

very useful	useful	limited use	of no use	not applicable
13=42%	15=48%	3=10%	0=0%	0=0%

- The best part was the resource teachers brought. We already had ordered the other.
- Because I learned how to use them.

**10. Was the viewing of other materials like Leg useful?**

very useful	useful	limited use	of no use	not applicable
13=42%	13=42%	4=13%	0=0%	1=3%

- We already have lots of Lego Dacta at school.
- We had already been inserviced at our school. It was a good review and another opportunity to handle the materials.

**11. In the future, would you consider attending another workshop that used a similar format for unit development?**

yes=                      no=

**If yes, check the appropriate subject heading.**

Language Arts	Social Studies	Math	Science	Art	Health	PE	Computer
10	14	9	12	4	1	1	5

Music    other(please list below)

4

**Summary of Comments:**

- I have my units pretty well planned. If any part of the curriculum changed, then it would be good to plan new units.

- It is always beneficial to meet with others and hear a different perspective or confirm what you are doing or get new ideas.
- After school is not the best time. People have to travel so far. Everyone is tired at the end of the day. Thinking is not as clear as it should be for something like this. PD day would be a great time.
- None at this time because I don't teach elementary science now. I believe my replacement would be keen.
- Not really sure as I am changing jobs.
- If time at the workshop permitted and people came in with a focus for a particular unit rather than just general info and interest-time was lost because different people had different foci and interests/needs.
- any or all
- but tell teachers specifically which units to bring activities to share on. E.G. Do a common theme. E.G. Grade 1 Bears/Language Learning/Science Theme, Bring you best 3 activities.
- I would be very interested in specific sharing/planning meetings.
- We bought Edmonton Public Science Units and they are excellent!!
- This is because we all have a variety of resources, plus science units (good ones) can be purchased from Edmonton Public which follow the curriculum.
- My Family and Other Canadian Families

**If Science please indicate the grade level and unit(s) you would be interested in developing.**

Level 1	Senses Seasonal Changes Creating Colour
Level 2	Hot and Cold and Temperature Small Crawling and Flying Animals
Level 3	Rocks and Minerals (3)
Level 4	Waste and Our World Light and Shadows
Level 5	Wetland Ecosystems
Level 6	Trees and Forests(3) Flight Sky Science
Level 7	Evidence and Investigations Changes in the Earth's Surface

**Interview Number One**  
**May 22, 1997**

Introduction:

The first interview was held on May 22, 1997. It took place at the teacher's school early in the morning. The interview itself lasted about twenty-five minutes from the beginning to end. I chose to do an interview summary, as the purpose of the interview was to gather information, and a summary will provide us with the best overall picture.

Introduction Summary:

During my introduction, I thanked the teacher for taking the time to do this interview. I then stated that the purpose of the interview was two fold, firstly to gather information about professional development for our school division, and secondly, to use this interview as part of my final project for a masters degree through the University of Lethbridge. I also explained that I had chosen him for an interview from all of the notifications for two reasons: I had chosen one person from grades 1 and 2, one person from grades 3 and 4 and one person from grade 5 and 6. I also chose people that I had no previous experience with, making it easier for the interviewee to answer questions truthfully. I next explained that I had brought along a tape recorder to help me remember what was said. I then told the teacher that the interview is confidential and nothing said would be used at a later time for any reason. I told him that this interview was about his own personal professional development experience and asked if the teacher had any questions of me before we began.

Interview Summary:

The first request in the interview was to tell about successful professional development that the teacher had experienced.

The teacher replied that he had two very positive experiences with professional development. The first experience came about six years ago when he attended a Teacher Effectiveness Training workshop on listening strategies and effective questioning techniques. This workshop helped him to analyse the way he was asking questions and gave him ways to ask better questions. He said that the workshop came at a time when he was ready to improve himself and found it very helpful.

The second successful professional development experience happened last spring when the division offered the science workshops. These workshops were designed to help teachers develop science units of their own in conjunction with the implementation of the new Program of Studies for Elementary Science. This workshop was held last spring at Poplar Ridge School for grade levels 3 and 4. This teacher taught both grade levels at the time so found this one particularly useful. He felt that it brought him in line with the introduction of the new science curriculum and opened doors for the use of new and innovative activities in his own science program.

He thought that the best part of the whole workshop was the resources displayed so that each one could be examined and compared. With site based management, schools can not afford to buy all of the resources available. Teachers need the opportunity to compare resources and purchase the one that best suits their needs.

He explained that they looked at the two major resources that were available. After looking at both resources, his school was able to decide that the *Innovations* resource was better than the *Explorations* resource. He explained that three teachers from his school attended workshops, one teacher at each one. When they returned to the school, they were able to sit down with administration and make an educated decision about how best to spend their money. He also explained that the decision was unanimous to go with the *Innovations*.

They also had a chance to view other resources available at the time. Science Alberta Foundation's publication called *Let's Do Science*, was another resource that they considered purchasing. Eventually they did decide to buy the whole set of binders. This binder was purchased because the expectations were outlined with all of the major resources listed. They will save time for the teacher as the initial groundwork will be done and it takes the guess work out of planning. He saw the saving of time as being very important in the planning process.

A second important aspect of the workshop was the time spent talking with other teachers about what they are doing. If someone had already used these resources, then you were able to ask their opinion about them. It took the guess work out of buying materials. It also gave teachers the opportunity to share the best ideas about how to present a certain concept. It also enabled teachers to spread their knowledge around, and support each other by providing a network within schools and outside of the schools as well.

When the workshops were finished, the whole teaching team at this school was super charged and ready to begin planning for the new curriculum to happen. For this teacher, timing was perfect for a workshop of this kind.

The final question asked was how can we best acknowledge teachers for doing professional development?

He thought that teachers do professional development because they want to. It helps them professionally to do a better job. He did feel that teachers need to be given the opportunity to participate in professional development, be supported by their staff and administration and that they be given the chance to share what they have learned.

The other important thing that we can do is to listen to the teacher's ideas about what their professional development needs are, and provide opportunities to meet the needs of the teacher. Meeting the needs and timing of workshops is crucial in a positive professional development experience.

**Interview Number Two**  
**May 27, 1997**

Introduction:

The second interview was held on May 27, 1997. It took place at the teacher's school, again the interview was held early in the morning. The interview itself lasted about twenty minutes from the beginning to end. I chose an interview summary for the best overview.

Introduction Summary:

During my introduction, I thanked the teacher for taking the time to do this interview. I then stated that the purpose of the interview was two fold, firstly to gather information about professional development for our school division, and secondly, to use this interview as part of my final project for a masters through the University of Lethbridge and part of my project includes doing interview such as this one. I also explained that I had chosen her for an interview from all of the notifications for two reasons: I had chosen one person from grades 1 and 2, one person from grades 3 and 4 and one person from grade 5 and 6. I also chose people that I had no previous experience with, making it easier for the interviewee to answer questions truthfully. I next explained that I had brought along a tape recorder to help me remember what was said. I then told the teacher that the interview is confidential and nothing said would be used at a later time for any reason. I told her that this interview was about his own personal professional development experience and asked if the teacher had any questions of me before we began.

Interview Summary:

I asked the teacher to tell about any successful professional development experiences that she has had.

She asked if that included the science workshop held by the division and I replied that it could be one. She said that she really enjoyed it. Talking to teachers from all over the division that you hadn't met before was really good. She wishes that we would have more of that kind of professional interaction. Teaching in a single location doesn't allow you to talk to other teachers who teach the same thing that you do, often enough. She came away with an investigations unit that she was able to adapt to her classroom right away.

Our division wide Professional Development day held each fall is good in that aspect too. She really likes to get something that you can take away with you and use in your classroom right away. Sharing with other teachers is really important.

Last summer she attended the Science Alberta Foundation Elementary Teacher's Summer Institute in Lloydminster. She thought that it was awesome for the hands on experience that you got.

She also attended a workshop in Three Hills last summer called "Blended Structure Style Writing Workshop." It was a week long event where teachers learn how to help good writers become better and give poor writers the tools to get started and be successful writers. There was also time included in the workshop to make materials for the classroom. This workshop was very practical and the teacher was able to use the program in her classroom right away.

The science workshop presented in Olds last spring was a bit of a disappointment when it came time for sharing of ideas. The teacher brought a paper box of materials and units that she had begun planning for in Lloydminster during the summer. Their school had decided to begin with the new science curriculum last year, so much material had already been gathered. Not very many other people brought things to share. In her opinion the best part of the workshop was towards the end when time was given to plan workable unit for yourself. She felt that it would have been nice to work through some more but time didn't allow that to happen.

Another great part was seeing the pneumatics kits put out by Lego. The computerised Lego controller was awesome also. The rest of the print resources had already been viewed and the school had already decided that they would not be purchasing text books for classroom use. Instead they purchased the teacher's resource books for each of the major print resources. That was a compromise that seemed to meet everyone's needs.

The next question was how should we acknowledge teachers for doing professional development?

The teacher said that professional development is a very important thing. It is her responsibility to get better at what she does. It is part of her job to develop professionally. Professional development does not need to be recognized officially except that it helps you to do a better job. T-shirts and mugs are great, but we are in a time of financial cutbacks and we don't need the frills. The knowledge that you come away with is the most important thing. If you can use what you have learned in the workshop to make your program more interesting and better, then you have succeeded. At workshops you get to bounce ideas off other people and find out what works and what doesn't work. It begins at the workshop and then continues into your classroom with the kids. Her students keep a science journal where one of the things that she asks the students is how can she make the experiment better? Often the students have valid ideas and she uses them. She tries to encourage her students to be risk takers. Part of this process involves the teacher taking risk and asking for evaluation of her ideas. This is an important experience.

She then stated again that she would like to see more opportunity for teachers to get together. She would even give up her summer to do it.

**Interview Number Three**  
**June 2, 1997**

Introduction:

The third interview was held on June 2, 1997. It took place at my school, after work. The teacher chose as a matter of convenience for her, to come to my place of work. The interview itself lasted about 20 minutes from the beginning to end. I chose to do an interview summary, as the purpose of the interview was to gather information, and a summary will provide us with the best overall picture of the whole workshop experience.

Introduction Summary:

During my introduction, I thanked the teacher for taking the time to do this interview. I then stated that the purpose of the interview was two fold, firstly to gather information about professional development for our school division, and secondly, to use this interview as part of my final project for a masters through the University of Lethbridge. The project included the initial planning for the workshops, the initial survey, the workshop, the follow-up survey and these interviews. I also explained that I had chosen her for an interview from all of the notifications for two reasons: I had chosen one person from grades 1 and 2, one person from grades 3 and 4 and one person from grade 5 and 6. I also chose people that I had no previous experience with, making it easier for the interviewee to answer questions truthfully. I next explained that I had brought along a tape recorder to help me remember what was said. I then told the teacher that the interview is confidential and nothing said would be used at a later time for any reason. I also stated that I would be doing a summary of the interview, and not the direct transcripts. I told her that this interview was about her own personal professional development experience and asked if the teacher had any questions of me before we began.

Interview Summary:

I asked the teacher to tell about her own successful professional development experiences. They could be specific or general.

The teacher said that the ones that she got the most out of are where teachers are invited to come and bring their best activities and share them. Red Deer Public school division offered this type of workshops about twice a year after school. They usually took about an hour. The teachers were given a theme and asked to bring their best activities and bring twenty copies. The teachers then explained the activity and how it worked. She said that she liked having activities that she could take back and use right away.

The teacher also liked a workshop where you can get together and see new resources, such as in the science workshop that we attended. Teachers don't have much opportunity to do that kind of thing. She also likes when you can get together and plan with teachers who teach the same grade as you.

Another workshop that she liked was one on portfolios. There were lots of examples from each grade level. She came with parent and student evaluations that were also very helpful. The presenter went through the whole process with the staff.

The science workshop was good because many people brought units and activities that they used in their classrooms. People were more than willing to share them with everybody. The viewing of resources was relevant as well because resources are expensive and schools don't have the opportunity to look at them on an individual basis. The Lego wasn't that useful for me because we have it already at school and are using it. Workshops have to be practical.

I then asked her what is a good way to acknowledge teachers for doing professional development?

She said that in her school when you go to a workshop, everyone wants to hear about it. You don't necessarily do a formal presentation, instead we might take a lunch hour to talk about it. It is important to me that someone is interested in what I have to say. I would be nice to have the division pay for it and to have it during school time. There is often a lot of driving involved with workshops in our area so it is nice that we could do it at our own school, but that is not always possible and we don't have a lot of money at our schools for professional development.

You have to have a staff who likes to be innovative and find out about new things that are out there. She said that she really misses the Red Deer workshops that she used to attend. The sharing time is really important. She wishes that our division did more of that kind of sharing time.

Sharon J. Sims  
River Glen School  
4210 - 59 St.  
Red Deer, Alberta  
T4N 2M9

June 10, 1997

Dear teacher's name,

Thank you so much for offering to be interviewed about your science workshop experience. I was truly surprised about the number of teachers who were willing to share their views with me. I especially thank you for taking the time out of your already busy schedule to share your ideas with me.

I have now completed the interviews and will get on with the writing of the final paper. I was greatly encouraged by the results of the surveys and the interviews. I hope that this will serve for a model for future professional development activities in our division. Your time is both valuable and appreciated. Thank you again.

Sincerely,

Sharon J. Sims

Sharon J. Sims  
River Glen School  
4210 - 59 St.  
Red Deer, Alberta  
T4N 2M9

June 10, 1997

Dear teacher's name,

Thank you so much for offering to be interviewed about your science workshop experience. I was truly surprised about the number of teachers who were willing to share their views with me. I could not accommodate everyone, although if you wish an informal interview, I would gladly set up another time.

Due to time constraints, I was only able to interview one teacher who attended each workshop. I have now completed the interviews and thank all of you who responded. I was greatly encouraged by the results. I hope that this will serve for a model for future professional development activities in our division. Your time is both valuable and appreciated. Thank you again.

Sincerely,

Sharon J. Sims