AISI Project Proposal/Plan

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Section A: 1(a-c). Project Parameters
(Print Preview)

Project ID: 40075 (Current Status: Approved by Alberta Education)
Submitted Date: May-29-2009 Approved Date: Aug-25-2009 Last Updated: Sep-07-2012, Ary De Moor

a. Project Title:
Science Kits Group Project

b. Project Proposed for Which School Years?
☑ 2009/2010 ☑ 2010/2011 ☑ 2011/2012

c. School Authority Name:
High Level Christian Education Society
School Authority Code: 9421
School Authority Website:

AISI Group Project Report

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Project	Title	School	2009/2010	2010/2011	2011/2012
40075 (Main)	Science Kits Group Project	9421 High Level Christian Education Society	5,506	4,712	2,656
40076	Science Kits Group Project	0072 Slave Lake Koinonia Christian School Society	3,471	4,043	1,924
40094	Science Kits Group Project	0161 International School of Excellence (ISE)	13,842	15,334	9,075
41039	Science Kits Group Project	0233 Living Truth Christian School Society	0	753	620
41341	Science Kits Group Project	0248 The Military Families Support Society	0	0	4,977
40460	Science Kits Group Project	9045 Cornerstone Christian School Society	4,210	4,684	2,558
40115	Science Kits Group Project	9127 Destiny Christian School Society	10,622	11,542	5,980
40077	Science Kits Group Project	9211 Koinonia Christian School - Red Deer Society	20,798	21,788	8,622
40140	Science Kits Group Project	9225 Progressive Academy Education Society	11,068	10,622	5,583
40186	Science Kits Group Project	9365 The Edmonton Lutheran School Society	4,057	2,927	558

			73,574	76,405	42,553

Please review the AISI Principles and Operational Procedures before completing this proposal. AISI terminology is also included in the AISI Handbook for Cycle 4.
Note: A School Year cannot be deleted if there are values for that year in any of the following sections: **A1e, B1a, B1b, B3 and B4a**.

Section A: 1d. Project Parameters
Schools Involved

Actual Number of Schools Involved: **1**

- High Level Christian Academy

Section A: 1e. Project Parameters
Students and Grades Involved

2009/2010	
Grade	Number Of Students
preK	
K	7
1	8
2	2
3	5
	3

2010/2011	
Grade	Number Of Students
preK	
K	7
1	7
2	8
3	2
	5

2011/2012	
Grade	Number Of Students
preK	
K	7
1	7
2	7
3	8
	2

4	
5	7
6	4
7	5
8	8
9	3
10	
11	
12	
Total	52

4	
5	3
6	7
7	4
8	5
9	8
10	
11	
12	
Total	56

4	
5	5
6	3
7	7
8	4
9	5
10	
11	
12	
Total	55

Section A: 1f. Project Type

Alberta Education, school authorities, universities and other AISI users often want to undertake various analyses of AISI projects. This type of analytical work requires the capability to extract and group AISI projects accurately by various categories.

Not all categories may apply to your project. Only do the checklist for the categories that are needed to describe your project. However, you must do the following categories: **Targeted Students, Subject, Themes and Teaching Strategies**

Targeted Students	• All Students
Subject(s)	• Science
Theme(s)	• Student Engagement
Keywords (Teaching Strategies/PD/Programs)	• Experiential Learning (Hands-On) • Professional Learning Communities
Number of Students in Project	• 101-200
Grade	• K

	• 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9
Zone	• Zone 1 Services
Number of Schools in Project	• 1
Location of School(s) involved	• Rural & Urban
Division Grade Level	• 1 (K-3) • 2 (4-6) • 3 (7-9)
School Authority Type	
Types of Measures	• Description of Quality Measures • Provincial Achievement Tests
Constituency	• Peace River
City or Town Name	• High Level

Section A: 2. Project Description

a. Provide an overview of the project (What do you plan to do and how?)

This is the main project for the Science Kits Group Project. The project participants are:

High Level Christian Education Society
Slave Lake Koinonia Christian School Society
Koinonia Christian School - Red Deer Society
Destiny Christian School - Red Deer
Faith Lutheran School - Edmonton
Cornerstone Christian School - Medicine Hat
International School of Excellence - Calgary
Progressive Academy - Edmonton

Living Truth Christian School - Killam - yrs 2 & 3
Art Smith Aviation Academy - Cold Lake - yr 3

We will be meeting together regularly for the duration of the three year project to work on the development of Science Kits for use in our K - 12 classrooms. We will benefit from the work already accomplished in previous AISI cycles by other schools in the province. We will meet with these schools and will also plan a program of professional development for our classroom teachers.

We will improve the quantity and quality of hands-on Science instruction for kindergarten to grade 12 students.

The administration, teachers, and parents have indicated a need to improve learning in the sciences, and also increase student interest and participation in Science. These goals will be met through the creation of Science Kits for grades K to 12. Teachers are enthused about the project and will be given Professional Development opportunities to enhance their instructional skills using these kits.

Science Kits are generally large containers which contain all teacher and student materials required to teach a specific Science unit at a certain grade level. The container is built and stored at each school and lists all materials needed as well as suggesting various teaching and learning strategies. Teachers are able to access each Kit prior to the Science unit being taught and will have a complete set of classroom materials as well as teaching plans readily at hand to teach the unit. The container is restocked according to the list contained in each Kit after every use in the classroom to facilitate sustainability and to ensure that teacher preparation time is reduced prior to each unit. Grade level teachers from each school will meet to discuss and construct their unit specific Science Kits and will benefit from the experience of teachers who have constructed and used Kits in previous AISI projects. Some Kits will be copied from other schools, others will be updates of previous Kits and others will be new Kits that can be shared with other schools.

b. Indicate why the project is needed.

All of the group project schools have identified Science as an area that needs improvement. The students need to be excited about Science, and teachers have indicated that they do not have the resources or training to teach Science in an interesting, effective manner. Parents have expressed concern about students' performance on the PATs.

c. How is this project innovative? Projects can be:
I) Innovative projects focusing on themes that are brand new to a school authority
II) Innovative projects that go into greater depth on current themes with new research, strategies, or measures
III) Innovative projects that are collaborative, across school authorities focusing on common goals

Describe the innovation. What`s new and different for your school authority?

All of our schools have been searching for ways to make teaching and learning Science more engaging, interesting and motivating for students, and more easily taught by teachers who are constantly looking for new and effective strategies and resources. The Science kits that other schools have produced are a great step in the right direction and we wish to incorporate these kits into our program and also build new kits for our teachers and students to work with. The development of many classroom-ready Science kits is a new venture for all our schools and will change the way our teachers and students engage in Science.

Section A: 3. School Community Involvement

As collaboration is an essential element for school improvement, project applications must reflect support of those who will implement the projects and include meaningful involvement of the school community. What are the indications that the project has meaningful involvement of the school community?

	a. Describe the participants` involvement in the consultation and planning process.	b. Describe how the participants will be involved or support the implementation of the project.
Authority Administrators		
Business/Community Agencies		
Parents	Our parents have expressed the need for improvement in our Science program through teacher-parent discussions and through our parent school boards and education committees.	Parents will be asked to assist the teachers in the creation and maintenance of the Science Kits. They will also be able to help with activities in the classrooms while the kits are being used.
Principals	Our principals all participated in the discussion of this AISI project. They worked with AISCA-AISI staff to come together to plan this project and to make it work.	Principals will ensure that the project is well run, that teachers are given full opportunity to participate in the professional development activities, and that teachers are able to purchase and use the materials and kits in the classrooms.
School Board	Our repsective school boards all approved this AISI project and are supportive of our staff members working with teachers in other schools.	Our school boards will receive regular reports on the success of this project and they will review the project on an annual basis.

School Council		
Students	Students did not participate in the formation of this project but they have indicated a sincere desire and willingness to try new ways of learning in the Science classrooms.	Students will be the main participants in the use of the Science kits. They will be busy making use of the materials and will be the main beneficiaries of the new ways of doing Science in our schools.
Support Staff		
Teachers	The teachers in our schools were all involved in the selection of our AISI project topic. Our Science teachers reviewed the project proposal and have committed themselves to working on this for cycle 4.	Teachers will be involved in assembling the Science kits. They will develop and participate in the professional development plan and will implement the new teaching and learning strategies in the Science classrooms.
Other Specify		

Section A: 4. Research

The requirement to reflect school improvement research as foundational to project development and implementation ensures there is a strong possibility for success.

a. What research/literature base informs your project? At least 3 current references (within the last five years) are required.

Author	Year	Title	Source(if not a book)
Yager, Robert E.; Abd-Hamid, Nor Hashidah & Akcay, Hakan	2005	The Effects of Varied Inquiry Experiences on Teacher and Student Questions and Actions in STS Classrooms.	Bulletin of Science Technology and Society, V25N5 pp.426-434. ERIC #EJ717993
	200	Geographic	Constructivist Approaches to Science Curriculum Restructuring

Walker, Scott L	4	al Information Systems and Students as Scientists.	Geographic Leaning Environments Monograph No.1 June 2004
Roth, Wolff-Michael & Lee,Stuart.	2001	Rethinking Scientific Literacy: From Science Education as Propaedeutic to Participation in the Community	ERIC #ED478153 http://www.educ.uvic.ca/faculty/mroth/conferences/CONF2001/AERJSciLit.pdf

Section A: 4. Research

The requirement to reflect school improvement research as foundational to project development and implementation ensures there is a strong possibility for success.

b. What other AISI projects or promising practices inform this project. Include project numbers and titles.

AISI project 9186/776 Leduc Christian School
AISI Project 10051/9025 Lacombe Christian School

c. Summarize how the above research and AISI projects inform the project design and implementation.

The Roth book is applicable to the project as it calls into question the method and the motivation for teaching Science in a particular way. Teachers in middle schools would be able to reflect on their own practice and to debate the merits of the philosophy of Science education that is presented in this text. This text offers teachers an opportunity to reflect on their teaching practices in the Science classroom. The authors offered their students an opportunity to learn Science while they participated in a community effort to learn about a creek in their community. Roth and Lee suggest that Science educators would do well to set up situations that allow a variety of participatory modes, more consistent with a democratic approach to teaching and learning of Science.

Walker suggests that given the constructivist approach to learning Science, the student-as-scientist metaphor plays a very important role in conceptual change in learning. This researcher cites the work of Yager (1995) and Glynn & Duit (1995) who argue that there is very little evidence that meaning can be transferred directly to learners unless they engage themselves in a thought process that is often initiated by a scientific problem or a discrepant event. Using this research to rethink students' mental models, their perceptions of their world and their varying social conditions, teachers will need to provide a variety of opportunities for students to achieve a more 'scientific' understanding of the concepts in the Science curriculum. This monograph suggests that the use of technology in the teaching of Science will provide for a more dynamic experience of Science in the middle school environment.

Yager's focus is the examination of different inquiry experiences and how they effect Science teachers' performance in regard to their questions and classroom actions. The study questions the limiting effect of structured and guided labs on student thinking. Success in guided inquiry was observed when teachers used more open-ended questions and more unique experiments.

The AISI projects are ones that inspired our group project and will give it shape throughout our three years. We intend to meet regularly with teachers involved in these prior projects and we hope to benefit from their experience and improve on the work that they have done so far in the production of Science Kits.

Section A: 5a.Improvement Goals:

	Goals	Strategies	Measures
Student Learning	Students will improve their Science knowledge and will increase their enjoyment of Science learning activities.	Teachers will create and implement Science Kits which will contain new and different hands-on materials and instructional strategies for teacher and student use.	We will use the grade 6 and 9 PAT scores as our measure. We will also report on teacher and student responses to the use of the new strategies and resources.
Other Related	Teachers will be more able and willing to teach Science using strategies that provide students with increased hands-on activities.	Teachers will meet with teachers of similar grade level in group-member and other schools to discuss, construct and learn how to use Science Kits.	We will gather comments from teachers regarding their professional development to see how their meeting and working together has improved their teaching of Science.

Section A: 5b. Improvement Goals

How do these AISI goals relate to specific aspects or priorities in your Three-Year Education Plan and Annual Education Results Report (AERR)?

The Three-Year Education Plan for all our schools include the goal of improving the teaching and learning of Science in our K - 12 classrooms. This project is intended to meet that goal.

Section B: 1a. Quantitative Measures

Measures should be expressed as percentages, where possible. It is recommended that baselines be determined using a three-year average. Targets should be realistic and attainable, based on prior performance.

Measure Category: Provincial Achievement Test Results -Science
Measure: Grade 6 Science - Acceptable Standard

Measure Description				
Results	**Target**	**Actual**	**Number of Students**	**Comment (optional)**
Baseline		77.6	57	Baseline is the average percentage of all schools in the group project over the 2006-2009 school years.
2009/2010	78	90.40	57	Results for group project.
2010/2011	80	92.30	28	Small school results not posted
2011/2012	82	94.30	37	

Measure Category: Provincial Achievement Test Results -Science
Measure: Grade 9 Science - Acceptable Standard

Measure Description				
Results	**Target**	**Actual**	**Number of Students**	**Comment (optional)**
Baseline		73.4		Baseline is the average percentage of all schools in the group project over the 2006-2009 school years.
2009/2010	75	82.40	48	Results for group project.

2010/2011	77	71.40	12	Small school results not posted
2011/2012	80	78.20	15	

Measure Category: Provincial Achievement Test Results -Science

Measure: Grade 6 Science - Standard of Excellence

Measure Description	

Results	Target	Actual	Number of Students	Comment (optional)
Baseline		25		Baseline is the average percentage of all schools in the group project over the 2006-2009 school years.
2009/2010	30	32.80	50	Results for group project
2010/2011	34	43.90	28	Small school results not posted
2011/2012	36	39.40	26	

Measure Category: Provincial Achievement Test Results -Science

Measure: Grade 9 Science - Standard of Excellence

Measure Description	

Results	Target	Actual	Number of Students	Comment (optional)
Baseline		15.8		Baseline is the average percentage of all schools in the group project over the 2006-2009 school years.
2009/2010	16	6.10	44	Results for group project
2010/2011	18	14.30	12	Small school results not posted
2011/2012	20	12.30	11	

Section B: 1b. Survey Measures

Measures should be expressed as percentages, where possible. It is recommended that baselines be determined using a three-year average. Improvement targets should be realistic and attainable, based on prior performance.

Measure Category: Provincially Determined Surveys

Measure: Education Quality - Parents

Measure Description	Percentage of parents satisfied with the overall quality of basic education				
Results	Target	Actual	Number of Surveys Returned	Response Rate	Comment (optional)
Baseline		96			The baseline will be set at the end of year one of this project.
2009/2010		96.00	19	22.00	Only 3 schools reporting
2010/2011	97	96.50	22	23.00	Three schools reporting
2011/2012	98	94.00	18	19.00	

Section B: 1c. Qualitative Measures

Qualitative data provide rich, transferable descriptions of individuals` experiences of educational phenomena, with a focus on process, meaning and human behaviours as they occur in context. Sources of evidence might include: interview transcripts, written reports (e.g., policy documents; observation field notes), focus group transcripts, video/audio recording (e.g., documenting classroom activities), artifacts/documents/portfolios (e.g., personal/professional journals; artwork).

The "Current Situation" provides a baseline. The "Success Indicators" demonstrate how we know the "Desired Change" has been achieved. When reporting on these success indicators, plan to include a summary of qualitative evidence, rather than including all the raw data. For example, rather than including all the interview transcripts from the in-depth qualitative interviews conducted, include a summary of evidence-based themes from the data analysis.

	Current Situation	Desired Change	Success Indicator(s) (You will be requried

			to report on each success indicator identified.)
	Teachers suggest that they do not have the material and experience necessary for teaching Science in a creative, engaging manner. Students do not find Science exciting.	Teachers will be more enthusiastic about teaching science. Students will develop more interest in Science through active participation.	Teachers will report that they are much more able to teach Science in an enjoyable and interesting manner. Teachers and students will report that Science is more fun and the activities are more helpful in learning when the Science kits are being used.
2009/2010	**Briefly describe the evidence of success achieved (required) for each identified success indicator.** High Level - We have two 1st year teachers at our school this year. Neither teacher has a science background, but the junior high science teacher, especially has reported that the science boxes have greatly improved her access to hands on materials and has made teaching science in an interesting way much easier. Progressive - We have had a number of successes during the 2009/2010 school year. Teachers have found that the accessibility of science supplies/ materials make it easier to conduct science classes in an effective manner. The science kits cut down on prep time and shopping time. Teachers have conducted record numbers of experiments this year. Students find it enjoyable to use a variety of resources from vermi composting to balloons to popsicle stick bridges. We have brought the student body together a number of times to celebrate in science; students participated in a school wide Earth Day and Science Fair. A hands-on		

	approach to learning has been made easier with the wide variety of supplies we now have available and accessible. Destiny - We had 4 different teachers who were involved in implementing the science project. We had a grade 1 teacher, grade 2 teacher, grade 3/4 teacher and one who taught grades 5 through 9. The teachers were enthused about building kits as one of the frustrations each teacher has expressed is not having equipment and having to spend time looking for materials or going out and purchasing them. Each teacher was given the job of preparing 1 or 2 kits for their class each year for the next 3 years. Each teacher was able to schedule a PD day to organize and prepare. The teachers indicated that it was much less stressful knowing that they had the resources to purchase the needed materials. They also look forward to teaching those units in future years as the ground work has been laid for the next year. Cornerstone -Teachers have been able to really explore in more depth science curriculum that was previously only discussed. Teachers as well as students are excited about the old information that is being presented in a new way. Students have been enthusiastic about receiving new materials, seeing new posters, having new assignments and seeing things in a new way for the first time. (Results continued on next measure - due to limited space in the text box)... **How Well:** Very Well
2010/2011	**Briefly describe the evidence of success achieved (required) for each identified success indicator.** Living Truth Christian School: This year, we purchased the ADLC module kits. For this 2010-2011 school year, teachers and parents brought in many of the required materials from home. Thus, we appreciated that the ADLC module kits we purchased made science experiments readily accessible for our students. We also rented the ADLC team-teaching lab kits, as we could not yet afford to outfit a fully-stocked science lab having only 10 funded students. The materials we have purchased have made the instructional process more effective and streamlined, which has helped our grade 5-8 classroom. For instance, as a new school we were able to quickly move into teaching the grade 5 science curriculum, since it was the first year we taught grade 5 Science. The same was true with our grade 8 science curriculum. This project has given us the opportunity to get our science program started and have access to the most basic materials to help us fulfill our curricular requirements. As a brand-new school, we were very grateful to be able to begin this process. King of Kings: In general the teachers report in two ways. Either, it is not more helpful or more fun, because the teachers were already used to teaching in a very hands on way. However, it was useful in that each kit being organized, helped the teacher to not have to search for everything that they needed. The other main thought is that it was much easier to make the learning more fun and hands-on. Therefore the children were interested and the teacher more willing to do engaging learning activities. Destiny: This year we purchased microscopes for the grade 8 cell units and electric meters for grade 9 electricity units. The grade 3 teacher purchased

	mineral sets for the rock and mineral units. Several teachers were also able to purchase some storage equipment (i.e. Storage cabinets and a cart for storing posters.) Many consumables were also purchased for the younger grades for their building units. Teachers have reported that they are enjoying teaching science more. The science kits have made it easier for teachers to find materials and reduced the time in setting up activities. Students have been more excited about learning as they have been able to experience firsthand the activities as opposed to simply watching a teacher demo or discussing "what should happen". Progressive Academy: This project has had an extremely positive impact on student learning. Students have increased access to materials and are offered a wider variety of choice in projects. Because the teacher is able to spend her time focusing on finding interesting web resources and supplementary activities, rather than the basic resources, students are exposed to a much richer and diverse science program. For example, the Grade 6 class used their science kit to complete the Evidence and Investigation unit in a fun way. The kit has everything from old shoes to a variety of different black markers in it. The teacher was able to turn the unit into a big mystery game. She set up a crime scene and taught the students how to use the resources to solve the crime. The resources in the science kit made learning realistic and meaningful. Red Deer Koinonia: One teacher said "it makes teaching science easier. Everything is right there for me." The students love the hands on activities and science is way more fun now that everyone can do the activity at the same time. Slave Lake Koinonia: Teachers are, for the most part, happy with the boxes. They enjoy having materials readily available rather than having to run about trying to get materials. Students have a much greater satisfaction in Science, especially in the elementary grades. Junior high kits are still in the process of being put together and still need some work. Cornerstone Christian School: Teachers, who are not specialized in Science are excited about the hands on experiences they can provide for their students .Students are better able to grasp concepts presented. Students participated in a Science Fair at the school level which challenged students to go beyond regular classroom learning and involved parents as judges. International School of Excellence: The teacher reported: Science activities/experiments are mandatory and very important for grades 2 to 5, and having science kits in the classroom has made my job much easier and has improved the science learning in the classrooms. It has saved me trips to the science lab for getting the things for the experiments, or going to lab thinking the materials I need are there and they are not, and set a classroom lab which fulfills the scientific knowledge requirement for the early age science learners, as I have everything in the class in these kits. Planning for science is easier as most of the experiments are hands on. Each unit in science is more organized as the required materials are in my kit at the beginning of the school year (I can organize the materials in the beginning according to the material list provided with each lesson). Classroom lab experiments provide a clear understanding of the topics to the learners and enhance their critical thinking. Students are now

	much more able to understand the concepts being taught and are able to see for themselves, the ideas that are being presented in class. High Level Christian School went through a substantial changeover in staffing and has elected to carry over their funding for Science Kits to year three to enable a more stewardly use of the funds at that time. **How Well:** Very Well
2011/2012	**Briefly describe the evidence of success achieved (required) for each identified success indicator.** This project has once again met all its goals in the participating schools and has changed the way science is taught in all classrooms. Students and teachers are well served by the science kits and are much more able to learn and teach science in an enjoyable and interesting, hands-on manner. Science kits are being used, restocked and used again as the main instruments of teaching and learning in the classrooms of our schools. Specific comments from schools include the following: Destiny - During the last three years we built science kits for all units in grades 1 through 9. We had set out a schedule so that there would be equal numbers of crates created each year. Teachers report that they were very pleased with the results of the science kits. They found that they spent less time preparing for science activities as they were not having to search/purchase materials for the labs. They were much more willing to do activities which resulted in students being more engaged in learning. The feedback from students was that they really enjoy the classes where there are hands on activities that they can engage in. Progressive - Grade levels grade 1 to 9 all units. Science was a lot more fun because all materials were ready, so focus was on adapting and improving - not looking for stuff. Were able to conduct many experiments and the students enjoyed the activities and projects and realized that science is fun. Kits were well stocked - they provide a good example of hands on activities and support learning. Kits made it easier to do science with more experiments. Having the kits filled at the beginning of the year helped make planning for science easier. Found that we are more likely to do experiments if all the materials are available beforehand. Having the material to hand made it possible to engage the students in experiential learning and in science labs. High Level - Our grade 3-6 teacher reports that teaching science is now much easier and more enjoyable because he can focus on planning engaging activities without worrying about finding the necessary resources. The students seem to have fun as well because all the resources they need are readily available. Our grade 7-9 teacher finds that students are much better able to understand the material when manipulatives and demonstrations are a part of their learning experience. The science boxes have provided many tools for such activities, helping to foster a creative learning environment. International School of Excellence - Grade 1 : a.) Creating Colour b.) Seasonal Changes c.) Building Things d.) Senses e.) Needs of Animals and Plants. Grade 2 : a.) Exploring Liquids b.) Buoyancy and Boats c.) Magnetism d.) Hot and Cold Temperature e.) Small Crawling and Flying Animals. Grade 3 : a.) Rocks and Minerals b.) Building with a Variety of Materials c.)

	Testing Materials and Designs d.) Hearing and Sound e.) Animal Life Cycles Grade 4 : a.) Waste and our World b.) Wheels and Levers c.) Building Devices and Vehicles that Move d.) Light and Shadows e.) Plant growth and changes. Grade5 : a.) Electricity and Magnetism b.) Mechanisms using Electricity c.) Classroom Chemistry d.) Weather watch e.) Wetland Ecosystems Grade 6 : a.) Air and Aerodynamics b.) Flight c.) Sky Science d.) Evidence and Investigation e.) Trees and Forests Grade 7 : a.) Interactions and ecosystems b.) Plants for food and fiber c.) heat and temperature d.) structures and forces e.) plant earth Grade 8 : a.) Mix and flow of matter b.) Cells and Systems c.) Light and Optical Systems d.) Mechanical Systems e.) Fresh and saltwater systems Grade 9 : a.)Biological diversity b.) Matter and Chemical Change c.) Environmental Chemistry d.) Electrical Principles e.) Space Exploration This year at ISE students experienced an enriched Science learning experience. There was an increased level of interactive and hands on resources for students to benefit from. Students displayed a higher level of academic achievement in this subject and improved comprehension and understanding of scientific units. Teachers were able to provide a more dynamic lesson and keep students engaged in the lessons. Slave Lake - Our project was focused on K-9 kits. We completed all units at all grades over the past three years. Our goal was to put together all units in two grades in each year. We started with the PAT grades and one other. In year two we completed the other grades in 1-6. In this final year, we focused on grades 7-9. The science bins made hands-on projects so much easier for teachers. Having all resources available made the experiments and projects readily accessible which eliminated or reduced the stress of gathering materials. This was especially appreciated by new teachers who were unfamiliar with the science curriculum, and/or were not trained science teachers. Teachers reported that science was more enjoyable mostly because of ease of access to resources. Students indicated their excitement for science in that they would often share their experiences and what they were doing in class. Some students started doing science experiments and/or projects at home which they brought to class to share. One student commented, "I did not know science was this fun." Another told me, "I love chasing the ants." Some students who previously were not engaged or had an aversion to science were beginning to become engrossed these activities. Although optional, all eight junior high students chose to participate in the APEGGA Science Olympics in the final year of the project. Cornerstone - With the proper equipment science is easier to teach. One can demonstrate the idea that is being taught or allow the student to participate in a lab to learn through inquiry what has been discussed in the classroom. The teacher is able to see the moment when a student grasps the concept and is able to carry through with a final project and create his/her project with complete understanding and enjoyment. It becomes more play like (fun) and the retention of the concept is embedded more concretely. (Results continued on next measure - due to limited space in the text box...See box below for more information on remaining schools) **How Well:** Very Well

	Teachers suggest that they do not have the material and experience necessary for teaching Science in a creative, engaging manner. Students do not find Science exciting.	Teachers will be more enthusiastic about teaching science. Students will develop more interest in Science through active participation.	Teachers will report that they are much more able to teach Science in an enjoyable and interesting manner. Teachers and students will report that Science is more fun and the activities are more helpful in learning when the Science kits are being used.
2009/2010	**Briefly describe the evidence of success achieved (required) for each identified success indicator.** (Continuation of previous measure - due to limited space in the text box)... Int. School of Excellence - The AISI Coordinator reported : I am very hopeful that this will, indeed, be the case. However I had great difficulty in getting my Elementary staff on board - they are predominantly teaching blended classes and they feel that they already have considerable additional planning to undertake, and were unable to get their lists of requirements to me by April 2010. I then decided to undertake the work by myself, and copied the lists of materials from the Edmonton curriculum, and compiled lists of requirements for the 15 Topics included in the Grades 1 - 3 curriculae. I ordered materials for group activities for 20 students per class, working in groups of 4. As time was no longer on my side, I decided to order only from one supplier (Boreal Northwest) to facilitate this undertaking. Faith Lutheran - Mainly this year has been a year of trying to get the bins together. It has been a challenge to get the units from the teachers. Rather than having the bins made prior to a unit being taught, it was decided that the units were to be handed in after it was taught with a list of the experiments done. The		

	bins will focus on units from the Grades 3 & 5 curriculums. The students have used the supplies that will be going into the bins. The teachers have been using the materials for hands on activities. With the school in transition and few teachers teaching multiple grades and for sanity's sake, the staff did not want to decide for next year's teacher which actual experiments would be chosen so some grades were left out this year. This led to some difficulty in getting the bins started. While the bins themselves were actually not used this year, the teachers are aware of them and look forward to using them next year. Koinonia Christian - This year for grade 9 science, we brought more equipment in for the electricity unit, allowing the students more opportunity to investigate electricity using hands-on science labs. A couple of comments made by students in regards to hands-on labs include: Andrew- "I like experiments because they help me learn" and Justin - "It's easier for me to learn when I use my hands." With hands-on learning, students in grade 6 are able to apply the knowledge they have gained through instruction. Using experiments helps students "make sense" of what their being taught. It brings the learning process full circle for the student and helps science come alive. When a student is actively involved in the learning process they look forward to each class and learning can become fun and interesting. Often the student will begin to see the importance of these topics of learning for everyday life. Using hands-on activities brings science material to life for grade 3 students. For some, things that were not making sense, all of a sudden a light bulb goes on and it begins to make sense. Comments made by grade 3 students include: Valeria- "It teaches us things we never new", Janina- "It makes us smarter" and Braden- "It's not just a sheet of paper, you are actually doing it so you will remember it better!" Slave Lake - Teachers were excited to have resources on hand without having to bring from home or do shopping before being able to complete experiments. Positive feedback was given by teachers in having access to enough materials for every child or small groups of children rather than completing only a demonstration. Students in the grade 1-3 class enjoyed their building and life cycle units. Having "real" tools for building and an actual aquarium made the units more fun. Much excitement was generated in watching the frog eggs go through metamorphosis. Students in the grades 4-6 class expressed the desire to do science more often. There was great anticipation while waiting for new resources to come in. Some students indicated they could understand better when they could "see" what they were supposed to learn. **How Well:** Very Well
2010/2011	**Briefly describe the evidence of success achieved (required) for each identified success indicator.** As indicated above. **How Well:**
2011/2012	**Briefly describe the evidence of success achieved (required) for each identified success indicator.** (Continuation of previous measure - due to limited space in the text box)... Red Deer - Our project was focused on K-9 but our High School program also

	benefited from access to the common materials such as microscopes, chemicals, specialty materials. The scope of our project included creating specific science kits for each unit in each grade from K-9. We are using Edmonton Public curriculum for K-6 and have used Science Focus as our base for grades 7-9. Teachers consistently reported that they enjoy using the science kits to enhance hands on learning. Teachers regularly use the science kits in their classroom instruction. This has led to a far more hands on approach to science instruction. The science kits have given confidence to teachers whose specialty is in areas outside of the science world. One teacher reported "Students found the materials more accessible. Instead of just doing one demonstration, all students could create and participate." One student reported "I loved doing the activities!" Art Smith Aviation - Grade level: This year we stocked the grade 1 to 4 kits in all 5 areas, for a total of 20 kits. The process we used was to assemble a list of all the materials contained within each of the tubs used by Elk Island Public. We put all this information together in excel and did a giant sort. Then we went through the list and wrote W for Walmart, E for Extra Foods, D for the Dollar Store, or R for Rona. We found that 70% of the materials for all 20 tubs were available locally. By doing the sort, we were able to buy enough straws, or paper plates to fill all of the tubs that needed those items. There is an amazing amount of duplication, and it was not uncommon to find that some items were needed for 8 or 9 of the 20 tubs. Then we went on giant shopping trips to stock up. For those items that were not available, I had our Science teacher prepare an order to Boreal, or other science material providers. Living Truth - This year, we again purchased the ADLC module kits. Teachers and parents brought in many of the required materials from home. Thus, we appreciated that the ADLC module kits we purchased made science experiments readily accessible for our students. We again rented the ADLC team-teaching lab kits, as we could not yet afford to outfit a fully-stocked science lab having only 10 funded students. The materials we have purchased have made the instructional process more effective and streamlined, which has helped our grade 5-8 classroom. This project has given us the opportunity to get our science program started and have access to the most basic materials to help us fulfill our curricular requirements. King of Kings used their limited funds for Science materials but the school closed at the end of the year and has not reported specifics at this time. **How Well:** Very Well

Section B: 2. Plans for Key Strategies and Processes

Identify and explain the processes and strategies you plan to use to achieve your goals. Indicate the timeframe where applicable.

Category	Planned Strategies/Processes	Refinements/Changes

a. Instructional Strategies: **Projects must identify instructional strategies to be used to improve student learning.(i.e. technology integration, clarifying and sharing learning outcomes with students, differentiated instruction, etc.)**	Our main strategy is to develop Science Kits for each of the grades and many of the topics. Teachers and students will use the kits to increase the number of active activities in Science. Students will learn more through experimentation, trial and error, small and large group work, increased use of technology and through their own research to master concepts in Science.	
b. Student Assessment: **Projects must provide annual evidence of student learning and performance.**	We will be tracking student achievement in Science through the grade 6 and 9 Science PATs. We will also ask teachers to reflect on their classroom experience in order for them to comment on what is changing in their own teaching ability and how that is affecting student learning in the classroom in Science. Student input regarding the use of Science Kits will also be requested and reported in our narrative reports on the project. We will also track the percentage of parents satisfied with the overall quality of basic education.	
c. Project Management and Coordination: **AISI Coordinators are responsible for managing, supporting, and coordination projects. It is expected that Project Management and Coordination will represent approximately 5% of project expenses. The proposal should indicate a) who will be responsible for management, b) the proportion of his/her time that will be invested in this activity, and c) how the project will be managed.**	Each school will have an AISI coordinator who will work with teachers at their respective schools to build the Science Kits. Each school will also send at least one teacher to the group meetings to benefit from the experience of others in the group and from schools that have done the project in the past. At the group meetings, representatives will plan a set of goals for the development of topics and grade-specific Science kits. With the help of the AISCA-AISI office, we will manage the project through local in-school work and through the work of our group meetings.	
d. Professional Development:	1. Teacher attendance at and/or participation in professional development activities (eg. workshops,	

School authorities must provide professional development as it is essential to the school improvement process. It is expected that Professional Development will represent at least 15% of project expenses. Professional Development includes resources, materials, external consultants, sub costs, travel, accommodation, facilities, other costs related to PD.	inservices, speakers). This will be planned in conjunction with the other participating group project schools. 2. Teachers will have release time from regular teaching to plan and develop their programs and kits in their own schools and in conjunction with group project schools across the province. 3. Teachers from all schools will meet as a group with schools that have done this project in prior AISI cycles. They will benefit from their experience and will continue the work done by these schools. we will úse Guskey's model of evaluation to determine the effectiveness of the PD on student learning.	
e. Parental & Community Involvement: **There must be meaningful involvement of parents in planning the proposal.**	The parents at each of our schools are very much involved with the school program. Parents participate in classroom settings as volunteers, and they form the education committee and school board. Parents will be requested to assist teachers in ordering and assembling the Science kits.	
f. Knowledge Dissemination, Sharing and Communication: **Projects must identify how what has been learned will be shared. Ways to disseminate new knowledge and practices include project documentation, workshops, events, conferences, promising practices for the AISI website, monographs, research briefs, and articles for the School Improvement Scoop, professional magazines, and journals.**	Our group project is one way in which we share and communicate. We also plan to learn from other schools that have done this project before us and to participate in the AISCA-AISI sharing sessions and Professional Development sessions through all three years of cycle 4. We will also share our work with the Science Kits with any school that is interested in working on a similar project and will post our promising practices to the Clearinghouse.	

g. Networking: **Project leaders are encouraged to use networks for knowledge dissemination and the exchange of information, ideas, and resources. Networks include face-to-face and digital communication.**	We will stay in touch with schools across the province that form part of our group. We will exchange ideas and areas of progress through regular group meetings and through on-line sharing.	
h. Integration and Sustainability: **Projects must indicate how educators will integrate what is learned: how they incorporate new practices, strategies, learnings, and key findings into their instructional repertoires. AISI projects are designed to have lasting impact on educational practices in schools. Proposals must indicate how the school authority plans to continue to benefit students and influence effective teacher practices in future years (beyond the AISI project).**	The previous AISI projects on Science Kits have shown us that the development of the kits during the three year AISI project have a profound and lasting effect on teaching and learning Science. We are committed to this new approach and will ensure that the kits will continue to serve our teachers and students by being readily adaptable to curricular changes and by replenishing the consumables as required. The schools that have preceeded us in this venture testify to the fact that the three-year initiative is very sustainable after the initial project time.	
i. Project Evaluation Process: **Evidence is more compelling if it is corroborated through multiple sources. Projects describe the evaluation methods and data sources they will use to determine the success of their project. Multiple methods (e.g., student assessment, surveys), data sources (students, parents, teachers), and levels (e.g., grades 1, 2, 3, etc.) are recommended.**	The ongoing and overall effectiveness and success of this project will be evaluated by the teachers and board in the following manner: 1. Students will be more excited about Science. 2. Teachers will enjoy teaching science and will indicate that they are happy that the science kits provide them with the resouces/materials necessary for creating hands-on, exciting science lessons. 3. PAT scores will improve. Teachers and principals will meet regularly to determine if these goals are being met and/or exceeded. Any adjustments will be made yearly on the basis of the APAR written for the	

	project and on the basis of our AISI group discussions.	

Section B: 3a. Staffing Requirements

Projects must identify the people who will be involved. Staff can include teachers and AISI coordinators, other professionals, teaching assistants, administrative and support staff.

	FTE 2009/2010		FTE 2010/2011		FTE 2011/2012	
	AISI Funded	Funded From Other Sources*	AISI Funded	Funded From Other Sources*	AISI Funded	Funded From Other Sources*
Certificated Teachers						
Teachers	0.00		0.00		0.00	
AISI Coordinators						
Other Personnel						
Professionals (e.g., Social Worker, Liaison Worker)						
Teaching Assistants						
Administrative Support Staff						
Other						
Total FTE	0.00	0.00	0.00	0.00	0.00	0.00
Total $ amount allotted for Staffing & Benefits	0		0		0	

*FTEs allocated for AISI projects that are not paid with AISI funds
If there are no FTEs please indicate with a "0".

Section B: 4 Budget & Financial Report
B4a. Estimated Project Budget

Please use Section B4b (Estimated Project Budget - Comments) to provide comments on budgeted amounts and/or reported actuals **if necessary**.

Revenue	2009/2010		2010/2011		2011/2012	
	Approved Budget*	Working/Actual YTD	Approved Budget*	Working/Actual YTD	Approved Budget*	Working/Actual YTD
Unexpended Funds at the beginning of year			0	0	0	0
AISI Funding	5,506	5,506	4,712	4,712	2,656	2,656
Funding from other sources	0	0	0	0	2,456	2,456
Approved AISI Funding transferred to/from other AISI projects	68,068	68,068	71,693	71,693	75,749	75,749
Total Revenue	73,574	73,574	76,405	76,405	80,861	80,861
Expenses						
Project Management	3,500	3,500	3,500	3,500	3,500	3,500
Check where applicable: ☐ Office Supplies ☐ Travel Expenses ☐ Other expenses (Please comment in section B4b)						
Salaries and Benefits	0	0	0	0	0	0
(Cost of FTEs charged to this project). Check where applicable: ☐ Lead Teachers ☐ Internal Consultants/Specialists ☐ Support Staff ☐ AISI Coordinator ☐ Classroom Teachers						
Professional Development	9,500	9,500	9,500	9,500	9,500	6,350
Check where applicable: ☐ Resource Materials ☐ External Consultants/Presenters Fees ☐ Sub Costs ☐ Travel/Accommodation/Meals/Facilities ☐ Other Related Costs (Please comment in section B4b)						
Instructional Material/Resources	60,574	60,574	63,405	63,405	67,861	71,011
Equipment	0	0	0	0	0	0

Equipment and Other Capital, together, will not exceed 10% of project expenses.						
Other Capital	0	0	0	0	0	0
Total Expenses	73,574	73,574	76,405	76,405	80,861	80,861
Unexpended Funds	0	0	0	0	0	0

*Proposed budget will change to Approved budget upon approval.

Section B: 4 Budget & Financial Report
B4b. Estimated Project Budget - Comments

This section is designed to provide you with an opportunity to clarify/explain budgeted amounts and/or reported actuals:

	Comment
Revenue	
A. Unexpended Funds at the beginning of year	
B. AISI Funding	
C. Funding from other sources	2011-12: $2456 of these funds are additional AISI funds granted by the Alberta government in October 2011
D. Approved AISI funding transferred to/from other AISI projects	
Total Revenue	
Expenses	
Project Mangement	
• Office Supplies	
• Travel Expenses	

• Other Expenses	
Salaries and Benefits	
• Lead Teacher(s)	
• Internal Consultants/Specialists	
• Support Staff	
• AISI Coordinator	
• Classroom Teachers	
Professional Development	
• Resources/Materials	
• External Consultants/Presenter Fees	
• Sub Costs	
• Travels/Accommodation/Meals/Facilities	
• Other Related Costs	
Instructional Materials/Resources	
Equipment	
Other Capital	
Total Expenses	
Unexpended Funds	

*Proposed budget will change to Approved budget upon approval.

Section B: 5. Attachment (Optional)

Please attach additional supplementary documents in this section that may be helpful in reviewing this project. (Excel spreadsheet, Word format or PDF)
Note: File cannot exceed 1000KB in Size or 20 pages single spaced.

File Sent	File Received	Sent Date	Received Status	Copyrighted Document

Section B: 6. Project Contacts

Key project contacts who can provide additional information about the project should be included.

Surname	Given Name	Position	Business Address	City	Postal Code	Phone Number	Fax Number	E-mail Address
Krahn	Tim	Superintendent						krahn.tim@gmail.com
Krahn	Tim	Principal	Box 1110 10701 100Ave	High Level	T0h1Z0	780 926-2360	780 926-3245	krahn.tim@gmail.com

Section B: 7. Superintendent/CEO Certification of Project Plan

As part of the accountability process, the Superintendent/CEO must certify that the project meets requirements. Please note that the Superintendent will be required to complete this section on the online Extranet submission of the **Project Proposal/Plan** to Alberta Education.

Project ID: **40075** ***(Group Project)*** Current Project Status: **Approved by Alberta Education**		
Does this project:	Yes	No
1. Address an identified need?	◉	○
2. Address goals strategies, schools, grades, etc., that are different from those addressed in Cycles 1, 2 and 3 (2000-2009)?	◉	○
3. Have meaningful involvement of the community, including school councils?	◉	○
4. Have the support of those who will implement it?	◉	○
5. Have a research base?	◉	○

6. Have a processes in place for ongoing monitoring during the cycle?	◉	○
7. Identify provincial and/or local (and quantitative or qualitative) measures that appear reasonable?	◉	○
8. Have improvement targets that are achievable?	◉	○
9. Identify strategies that have a reasonable chance of achieving the improvement goal(s) and target(s) (Refer to question A5.)	◉	○
10. Include a workable plan for knowledge dissemination and sharing? (Refer to question B5.)	◉	○
11. Identify appropriate evaluation methods? (Refer to question B3.)	◉	○
12. Have FOIP compliance regarding names in the proposal and/or attachments.	◉	○
13. Superintendent/CEO Approval	◉	○

Section C: Estimated Staffing Percentages

Estimate the percentage of AISI funded staff time spent to deliver professional development and on project management/adminstration

School Year: 2011/2012

	2011/2012 AISI Funded FTE	% of Staff Time Spent on		
		Delivering Professional Development	Project Administration	Other
Certificated Teachers				
Teachers	0.00			100
AISI Coordinators				100
Other Personnel				
Professionals (e.g., Social Worker, Liaison Worker)				100
Teaching Assistants				100
Administrative				100

Support Staff				
Other				100
Total FTE	0			

*IT will design to capture annual estimates

Section D: 1. Student Outcomes

What IMPACT on student learning has this project had? Use the EVIDENCE from your results on quantitative, survey, and qualitative measures to support this conclusion.

2009/2010

Our grade 6 PAT results showed an increase in the acceptable standard from a baseline of 77.6 to 90.4%. Our standard of excellence increased from a baseline of 25 to 32.8% in the first year. Our grade 9 PAT results showed an increase in the acceptable standard from a baseline of 73.4 to 82.4%. Our standard of excellence declined slightly from a baseline of 15.8 to 6.1% in the first year of this project. Our parent satisfaction survey showed a 96% satisfaction rating with the quality of education provided for our students. Although the low numbers of students participating wrecks havoc with percentages and meaningful comparisons, we still rejoice in seeing that our students are generally doing very well in the PAT results in grades 6 and 9 Science. Some more specific results are described below by individual schools in the group project:

High Level - This project has equipped our teachers to do experiments that were previously impossible due to lack of supplies. Now our teachers and students are able to conduct appropriate experiments at the appropriate times during the year. We believe this will have a greater impact on overall student learning as instruction can be cemented with hands on work and experimentation.
Progressive - This project has had a positive impact on student learning. Student interest is evident in that students look forward to science class as a fun and exciting time of day. Much talk can be heard in the hallways of Science Fair projects in the making. For example, the grade three students showcased their popsicle stick bridges and tested them in front of an audience. The grade six students invited members of the school and the community to watch their egg drop. The grade four students are constantly teaching students and staff about composting and encouraging litter-less lunches. The addition of classroom plants have created routine and responsibility as students water and fertilize their plants.
Slave Lake - Pre/post testing indicated a greater understanding of learning. The purchase of videos which were purchased also gave teachers more freedom to utilize such resources on their schedule rather than trying to fit their schedule into the availability of such resources from Regional Resources Center. This allowed topics to be introduced or reviewed in a variety of ways. Teachers spent a day at Lacombe Christian School looking at their science bins which helped them to see the organization as well as the impact on students. This was a motivating factor. Parental involvement was minimal

this year except in providing some consumable resources.
Medicine Hat - Students come to class expectantly. The revelation that they are having about science, inventions & technology and ideas that they are exploring are all exciting and enabling. The students are coming up with interesting questions, comments and conclusions to all the experiments that are covered. Students have started to think beyond the words and delve into unknown ideas.
Int. School of Excellence - Students and teachers have not had enough time to work with the materials to assess effects on student learning. This will be different next year.
Faith Lutheran - Mainly this year has been a year of trying to get the bins together. It has been a challenge to get the units from the teachers. Rather than having the bins made prior to a unit being taught, it was decided that the units were to be handed in after it was taught with a list of the experiments done. The bins will focus on units from the Grades 3 & 5 curriculums. The students have used the supplies that will be going into the bins. The teachers have been using the materials for hands on activities. With the school in transition and few teachers teaching multiple grades and for sanity's sake, the staff did not want to decide for next year's teacher which actual experiments would be chosen so some grades were left out this year. This led to some difficulty in getting the bins started. While the bins themselves were actually not used this year, the teachers are aware of them and look forward to using them next year.
Koinonia Christian - As far as the impact hands-on science has made for the students in Gr. 3, 6, and 9, the following comments speak for themselves: Jake - "I pay attention more - because it's FUN!"; Carolyn - "Makes me remember"; Josh - "When you do it (hands on science), it gets in your head"; Matthew - "It's easier to learn"; Annie - "It's learning the FUN way!" These are all comments from Gr. 6 students regarding their love for hands-on science.
Destiny Christian - This project has definitely given students more opportunity for hands on activity. Many students have shown enthusiasm when they see an activity being set up. As the ordered materials started to arrive there was often intrigue and curiosity about who the materials were for. The grade 2 teacher stated that she was able to pre set up the materials and the students were very excited as they came into class. Both the grade 3/4 teacher and the middle school teacher were able to have much smaller goups working, thereby increasing the opportunities for students to work hands on.

2010/2011
Our grade 6 PAT results showed an increase in the acceptable standard from a baseline of 77.6 to 92.3%. Our standard of excellence increased from a baseline of 25 to 43.9% in the second year. Our grade 9 PAT results showed a slight decrease in the acceptable standard from a baseline of 73.4 to 71.4%. Our standard of excellence declined slightly from a baseline of 15.8 to 14.3% in the second year of this project. Our parent satisfaction survey showed a 96.5% satisfaction rating with the quality of education provided for our students. Although the low numbers of students participating wrecks havoc with percentages and meaningful comparisons, we still rejoice in seeing that our students are generally doing very well in the PAT results in grades 6 and 9 Science. Some more specific results are described below by individual schools in the group project:

Living Truth Christian School: Because we have a 4-day school week, a significant amount of homework had to be completed over weekends. Since we were able to use the ADLC materials, everything that the parents need to mentor their children through their homework was there to help them assist their children. Parents weren't left wondering what a teacher was trying to accomplish; as everything was carefully laid out for parents. Since we had a grade 5-8 split this year (up from a 2-grade split last year,) the ADLC materials helped us to effectively teach more grades at the same

time. While the teacher would be giving a mini-lesson to one group, the others would be able to continue on, since the ADLC materials enable students to be more self-directed than most other curriculums. The ADLC team-teaching partnership was invaluable in helping us ensure that students were able to keep learning while others were receiving instruction.
King of Kings: We are somewhat better supplied than before which provides for more experiences and not leaving things out because we couldn't round up the supplies. Students are able to access more resources and understand concepts easier through the use of those resources. Students are able to see concrete examples of topics, and have hands-on learning experiences.
Destiny: There has been more anticipation about lab activities. Some students who have struggled in science have shown great interest in certain projects. They have been more motivated and have taken pride in the final outcome of their project. An example was in the grade 7 building unit students were required to build a structure to protect an egg from a 3 m fall. Some of the students were very proud of the creative ideas they had come up with and really enjoyed the testing even if their idea was not as successful as some of the others. Through these activities they were able to see that there are often many ways to solve a problem. We have seen this across the different grades
Progressive Academy: This project has had an extremely positive impact on student learning. Students have increased access to materials and are offered a wider variety of choice in projects. Because the teacher is able to spend her time focusing on finding interesting web resources and supplementary activities, rather than the basic resources, students are exposed to a much richer and diverse science program. For example, the Grade 6 class used their science kit to complete the Evidence and Investigation unit in a fun way. The kit has everything from old shoes to a variety of different black markers in it. The teacher was able to turn the unit into a big mystery game. She set up a crime scene and taught the students how to use the resources to solve the crime. The resources in the science kit made learning realistic and meaningful.
Red Deer Koinonia: Students are actually able to participate and reproduce some of what they have been learning from their textbooks. This introduces experiential learning to our students in a way we were not able to provide before.
Slave Lake Koinonia: In January, our one grade nine student has a greater success rate on his PAT than on any other PAT. His science grades improved significantly. Elementary students enjoy science much more and have indicated it is their favorite subject.
Cornerstone Christian School: Teachers, who are not specialized in Science are excited about the hands on experiences they can provide for their students .Students are better able to grasp concepts presented. Students participated in a Science Fair at the school level which challenged students to go beyond regular classroom learning and involved parents as judges.

2011/2012

Our grade 6 PAT results showed an increase in the acceptable standard from a baseline of 77.6 to 94.3%. Our standard of excellence increased from a baseline of 25 to 39.4% in the third year. Our grade 9 PAT results showed a slight increase in the acceptable standard from a baseline of 73.4 to 78.2%. Our standard of excellence declined slightly from a baseline of 15.8 to 12.3% in the third year of this project. Our parent satisfaction survey showed a 94% satisfaction rating with the quality of education provided for our students. Although the low numbers of students participating wrecks havoc with percentages and meaningful comparisons, we still rejoice in seeing that our students are generally doing very well in the PAT results in grades 6 and 9 Science. Some more specific results are described below by individual schools in the group project:
Destiny - This project has resulted in students getting excited about science. The students have spent more time "doing" science. Students have been exposed to more experiences where they are able to

see scientific principles in action and they have then had more opportunity to discuss and collaborate with their peers.
Progressive - Generated interest in science for example: the grade class was having so much fun doing science that they wanted more. The teacher started a science club and opened it to all students from K to grade 3. Science Club is run once a week during lunch break. The students' knowledge of science was carried over into observing and questioning in the school playground. An example of this is that some students were studying about composting and worms and were very curious when we had a parent rototill our garden. The students were closely inspecting the dirt for worms etc. The students have been on several neighborhood walkabouts to observe nature. For example, the grade 3 students went out to observe and find rocks related to their Rocks & Minerals unit.

International School of Excellence - It has been reported by several ISE teachers that these kits have created a higher quality of learning; "I have found that the manipulatives are a great tool to use with those students who may have difficulty learning concepts due to behavioural issues, or language barriers, because it helps engage them and keep them on task." (ISE Teacher 2012). The Science Kits introduced new subject matter and topics that captured the interest and enthusiasm for science from students.
Slave Lake - PAT results were suppressed in the first year, according to the accountability pillar, due to lower than six students at each grade level. In the second year of the project, PATs were not written due to the Slave Lake wildfire and mass evaluation of citizens. However, the January/11 result of the one grade nine student showed an increase from below average on the grade six PAT to a high acceptable standard on the grade nine PAT. Further, in the third year of the project, grade 7-9 students competed against eighteen teams from Public, Catholic and Independent schools in the APEGGA Science Olympics for the Peace Region. They placed second in one of the individual competitions and second overall. This confirmed to us that the science bin project has been successful in accomplishing our goal of enjoyment of, and improvement in, science.
Cornerstone - The availability of a variety of hands on materials for each science unit enabled students to engage more actively in the science projects, which sparked their interest and enthusiasm. Indications from the Alberta Achievement tests showed positive results in student achievement. 20% of our students who wrote the 2012 PATs achieved excellence, and the remainder achieved acceptable results.
Red Deer - Our school has moved from a text book science teaching model to an investigative model of instruction. Students are more regularly allowed to participate in the learning process through hands on activities. Our PAT results for grade 6 and 9 demonstrate an overall shift to greater percentages of students achieving the standard of excellence in science. This has been markedly noticeable with the grade 9 science PAT results
Art Smith Aviation - The interest from both teachers and students has been phenomenal. Teachers really appreciate that they do not have to spend a significant amount of time running out to stores the week before they present lessons in the classroom. We also have to be brutally honest. The reason that many experiments don't take place in the classroom is that it all requires too much setup and preparation. When teachers have access to the tubs, and all the materials and resources, they do what they do best - engage the kids and teach!

Section D: 2. Effective Classroom Practices

What has changed in your classroom(s) to impact student learning? (E.g. instructional strategies, student assessment, parental involvement, etc).

2009/2010

High Level - Teachers are able to spend less time in lab preparations and supplies are available to all students to participate in most aspects of hands on activities. Previously, there were times where supplies were not adequate and students had to wait their turn. The science boxes allow the teacher to take more of a coaching role and allow students to direct their own investigations.

Progressive - The introduction of science kits has changed our classroom atmospheres. Students are involved in the direction of their own learning in that they know where to go to get supplies and where to conduct their experiments. They know where the materials are and how to gain permission to access them. As students become more engaged and enthusiastic, so do their parents. Parents have stepped up and donated supplies and contributed many ideas to the project. Teachers now offer more experiments during class time and allow students to differentiate their learning. Some teachers offer students choices between experiments because they have the resources available for both. Many instructional strategies have been impacted by ideas gain at out PD, for example we learned that there is a global footprint calculator specific to Edmonton. The conferences have opened our eyes to various free resources and methods to implement them in science.

Slave Lake - The biggest impact this year came in the use of hands-on practical testing combined with traditional written tests. For example, as part of the grade 5 electricity unit students were required to demonstrate how series and parallel circuits worked as well as complete a multiple choice test. This was particularly enjoyed by students who have difficulty with written work, and allowed teachers to have a more accurate picture of learning. This type of assessment permitted one particular child to have a much higher success rate on tests.

Medicine Hat - Teachers can be more prepared for each experiment &/or demonstration as well as become "experts" on the subject even if they have no previous experience. Students are being encouraged to try new things and to "think outside the box" Students know where all items from lesson belong so clean up and set up are easier and more streamlined.

Koinonia Christian - The most significant change that has occurred in the classroom is knowing that there is a conscious plan to purchase science equipment for grades 1 through 9 in the next 3 years. Staff are enthusiastically looking at possibilities of bringing hands-on science into the classroom on a weekly basis that will allow students the ability to grapple with science concepts by using their hands.

Destiny Christian - Teachers have reported that they have greater ratio of classroom time spent doing science rather than talking about it. Instead of just demonstrating a concept, they now often have the ability to demonstrate and then allow students an opportunity to explore it themselves individually or in small groups. We had several people volunteer to do work on the kits. They did things like photocopy supply lists and materials to place in the unit binder from each kit.

2010/2011

Living Truth Christian School: Because of the limitations of being a new school with 10 funded students, the application of these materials worked very well for us. The ADLC science materials can be quite extensive, and that was a challenge at times, but our students were able to complete all of the work within these module kits.

King of Kings: For the most part, instructional strategies haven't changed, because as stated before,

these particular teachers were accustomed to teaching in a hands-on, experimental way. Assessment was also therefore done based on hands-on tasks as well as written tasks.
One teacher reports that it is easier for children to understand the science concepts being taught than her previous experiences. The colour unit was better understood because of the resources that were purchased and each child had their own colour paddles to experiment with. Student involvement was extremely high because they could do experiments themselves rather than watching the teacher. Assessment became easier as I could walk around and watch each child figure out the answers to the problems themselves.

Destiny: Teachers have reported that they are able to set up different stations and have more students actively engaging in the class. There is also more self discovery as they are able to work in small groups or independently. Observation of the students while they work has also become a more common assessment of their progress. Teachers were able to circulate around to the different groups and see how the students would collaborate as they worked together. This was valuable in measuring the comprehension of the students
Progressive Academy: The science kits have made science more readily available in the classroom. Teachers who have access to a full kit are more willing to set up and carry out experiments in their classroom. Before the project, many students complained that they never had the opportunity to do anything hands-on in science. Now that we have implemented the science kit project, students are constantly engaged in hands on learning. For example, the students in Grade Three used to send out a wish list for their bridges unit and then build bridges with the recyclables that their parents donated. Now, a large wish list is published in the school newsletter at the beginning of the year and parents from all grades bring in the desired items. We now have a large supply of recycled materials readily available. The grade three class was able to complete a number of different bridges with a larger variety of resources. Not only does this increase student learning, it also increases parent involvement and support as they are updated on the various projects in the school newspaper. Parents are also invited to come into the school and view a number of the project that they help create at our school wide science fair. As far as assessment goes, resources, including rubrics, are put into science kits. For example the Edmonton Regional Science Fair rubrics are made available to all teachers. The hope is that the rubric will help teachers focus on the importance of using scientific method in the classroom and give them a suggestion on how to weight different criteria.
Red Deer Koinonia: Teachers are more willing to do hands on learning as all the supplies are readily available. Teachers are therefore making the choice to allow the children to learn experientially whereas previously hands-on learning was more limited.
Slave Lake Koinonia: The availability of materials has allowed teachers to focus more on experiential activities as opposed to all book work. Students have gained a greater understanding of concepts which is indicated in high results in unit exams. Student assessments include greater use of project assessments rather than paper/test assessments. Only one parent became involved, who helped to organize some of the junior high bins.
International School of Excellence: Some rapid changeover in staffing over the past two years has not helped us build the science kits concept rapidly, but slowly on we are implementing the kits into the science lessons in grades 1 to 8. Teachers have made many purchases of materials and units to plan their science activities and are making science teaching and learning much more hands on in the classroom. Students are very enthused with being involved with the experiments and are learning well. The concept of hands-on materials in the higher grades is slowly but steadily being implemented and we hope to increase the level of participation in the science kits across the grades in year three. To date we have built the following kits:
Grade 1: Creating Color, Building Things, Senses, Seasonal Changes, Needs of Animals Grade 2:

Boats and Buoyancy, Exploring Liquids Grade 3: Hot and Cold Temperatures Grade 4: Light and Shadows, Plant Growth and Changes Grade 5: Weather Watch, Classroom Chemistry Grade 6: Sky Science, Flight, Trees and Forests and Grade 8: Cells and Systems. Our new administration will oversee the change in year three and will enable and encourage teachers at all grades to participate and build the program.

2011/2012

Destiny - There has been an increase in group work, projects and hands on activity that has allowed students the opportunity to really be a part of the learning process. Observing the students as they interact during these activities has been a very important part of the student assessment. As the students were discussing the activity, there was a benefit to students who were learning from and teaching each other. There was also an increased level of pride in the student work. The students enjoyed sharing what they learned with each other as well as other audiences such as peers, parents and grandparents.

Progressive - The teachers are themselves more involved and interested in science and are finding applications for student study in their surroundings. Teachers are better prepared for their lessons greatly impacting their use of time. Having the supplies on hand and available for immediate use as sometimes topics come up unexpectedly.

High Level - Students are able to freely access the resources they need from the science kits. Teachers are able to focus more on planning activities and assessing student progress especially via observation, since they spend less time hunting for resources.

International School of Excellence - The quality of lessons has been heightened due to the available resources in the Science kits. Teachers feel more confident that they have the attention of students and the lesson becomes relevant to them as the lesson comes "to life" with the hands-on resources. At ISE we have an "open door" policy for parents to sit-in for a lesson and observe. Parents reported that their children displayed a greater interest also in the home environment, taking what the science inquiry which they learned about in the classroom and applying it in their own environments outside the classroom.

Slave Lake - Teachers have access to hand on resources; therefore, assessments are based less on written evaluations such as tests and quizzes and more on practical assessment of experiments and projects. Rubrics were used to evaluate the outcomes of projects and adjusted for special needs students. Although parental involvement was not as high in the past year as it normally has been, one dedicated parent used his science expertise in helping with labs and the Science Olympics at the junior high level. He also helped to organize resources into specific labs for this level.

Cornerstone - Through the AISI project we were able to purchase a butterfly kit for the grade 1 - 3 class. Staff, students and parents all became excited and involved in observing the stages of development leading from chrysalis to butterfly.

Red Deer - Our classrooms have moved from a text book/lecture style to a style that includes a much greater percentage of student involvement in the learning process. This is especially noticeable for those who have not taught science before or are not science specialists. Teachers are able to better assess for understanding as students demonstrate learning or deficiencies through the hands on activities. Thus deficiencies are quickly caught and successes can be reinforced. The kits have greatly increased the engagement of our ESL students as they are able to participate at a much more meaningful level than previously.

Art Smith Aviation - This project has helped us to flip the classroom. The time in school is when the fun, hands on stuff happens, and much of the drier preparatory reading takes place at home. The

classroom is seen as the active, engaged place. Parents are seeing more enthusiasm from students towards science. Because this is our first year (and last in the cycle), we don't have data showing PAT improvement in Science.

Section D: 3. Overall Summary of Project Practices

Provide an overall summary of project pratices. Your response should include the following:

I. What worked well (successes)

2009/2010

High Level - The teacher reported: Creating the boxes went very well this year. As an administrator I gathered the requisite supply lists. I asked the teachers to create a list of all required materials for all their teaching units for the year. By the end of October all lists were in. I then began organizing the material into categorical lists and then built a purchasing list from those categories. My wife and I then went on a "shopping date" to Wal-Mart.(In the North we have to drive 3 hours to find a Wal-Mart). We found that we were able to purchase approximately 90% of all required material at Wal-Mart, Canadian Tire, and Peavey Mart. After purchasing the material, I organized a build day. Teachers in turn took purchased items and built the boxes and then itemized the boxes for future use and replenishment. After the build day, teachers made an itemized list of missing items and I completed another shopping trip about two weeks later. In May of 2010 we did a final build day and completed all our boxes and created detailed inventories. Currently we have 16 fully operational science boxes that encompass all the Alberta Ed units for Kindergarten, grade 3, grade 6 and grade 9.
Progressive - We had a number of successes during the year. Teachers were on board with the project as a whole. They compiled supply lists for each grade's science units in a prompt fashion. We had the opportunity to dedicate two full days to shopping for supplies and distributed them to each teacher. We discovered a free resource day at Telus World of Science and gained a number of resources on our lists and addition resources for free. We created a number of connections with other teachers and universities at different conventions that we attended. Our Earth Day was a huge success as we were able to clean over 15 city blocks. Students are excited to make a global impact; we are continuing to encourage recycling programs, sustainable shopping habits and conserving electricity and paper.
Slave Lake - The teacher reported: We started this project in August with an explanation of our project and the goals we had in creating bins for the grades we were teaching. All teachers were excited and did a good job of giving lists to be ordered. We were able to create bins for grades 3, 5, 6 and some units in grades 7-9. These bins are complete and will be updated at the end of the year. Using funds to order DVDs to have in the school helped teachers with planning and having a specific plan in place for developing practical experiences was positive and appreciated by students and teachers. DVDs were purchased from Schlessinger Media. They have a number of series of which I bought many of the DVDs from their Earth Science, Life Science, Physical Science & The Way It Works . I especially found Ballooning and Flight helpful and the students really enjoyed them. Please note these are not Biblically based, and some are strongly evolutionary. The DVDs come with a teacher guide. You can find their resources at www.libraryvideo.com. Considering God's Creation by

Susan Mortimer is a reproducible workbook which contains a variety of topics for all grades. It is helpful in planning Biblical integration. It can be purchased from most home schooling suppliers and may be available through www.christianbook.com.
Medicine Hat - Having more materials to create better experiments helped students confidence to increase because they could do each experiment individually or in a partner rather than read about it or do it as a virtual experiment. Putting all of the unit plans, lesson plans, questions, assignments, tests etc. onto a flash drive for each unit allowed for better organization. Creating inventory lists for each unit so other teachers know where to find materials as well as where to put them back created less chaos with material sharing. Sitting down with staff and explaining my objectives as well as the idea behind the science boxes helped them to see the importance of the project as well as helped to build support for the project. Ordering supplies from Prolab in Ontario worked very well for me this year. Their website was easy to navigate and the orders were complete and came promptly. Also they had a school billing option so no credit card was needed with order. In a small school this was very handy because we could simply write a cheque rather than me pay and then be reimbursed.
Edmonton public science units for grades 1-3 worked very well in helping focus the elementary teachers on their science objectives. Attending Operation Monerva for promoting girls in science helped to share information, experiments as well as teaching strategies. The girls also enjoyed learning about the different science fields.
Int. School of Excellence - The teacher reported: Although the teachers seemed initially very excited and enthusiastic, when it came down to actually compiling lists and/or spending time on the planning for the new materials they were uncooperative. I should have requested some PD day time to spend with them (when the students were out of school) so that we could have worked more collaboratively, as I know we are all busy doing our own class work/prep work and any other time together is a before or after school arrangement when teachers are stressed at the end of the day, or not in school before classes start.
Koinonia Christian - This year has been a challenging year in the implementation of our AISI project. We met as a staff of science teachers in October 2009 and decided to implement a cross-curricular science program of purchase. We spent a great deal of time putting thoughts to paper and points of purchase items but due to a staffing change that occurred at the beginning of the 2010 year, ended up causing us to refocus and look at a different way of implementing our AISI program for this year. As a result, we looked at three individual grades (Gr. 3, 6, 9) and decided to focus on supplying all of the needs for the science programs in each of those areas of study. Although a couple months behind, we are planning to fill the science kits by May 31. Our larger purchases will include supplies for the high school biology program. We did use some of the AISI money for our elementary teachers to travel to Lacombe and spent an afternoon looking through established science kits, which was very valuable.
Destiny Christian - All the teachers really embraced the project. They have been committed to working on the kits and putting together the resource materials as well as purchasing the materials. Teachers were very good at getting together orders or purchasing local items. Communication between the staff was very good as well. We were able to share experiences with one another.

2010/2011
King of Kings: Dioramas of a room with temperature changes, in grade 2 Science was an excellent assessment, which followed the idea of hands-on activities. Magnets in kindergarten, large enough for their hands and small enough for them to be able to carry around and try out- was very exciting for the children. Senses game for grade 1 had the children interact and work cooperatively in order to win the game together, developed their knowledge of the senses and allowed those who had difficulty with the subject to achieve success. These all relate to some of the newly purchased items

for the kits.
Because our school has moved into a new location without a Science Room, and without very much storage, this worked well for us. We wouldn't have had a place to spread out our scientific materials and have easy access to them, had they not been in unit bins. This allowed each of us to take the bins into our classrooms as needed, and save on space. It is also very simple to have everything needed all together.

Destiny: We had good experiences with setting up an online account with Boreal scientific supplies. We were able to quickly order what we needed and they were very good at getting the orders delivered quickly. Teachers took responsibility for building their crates and were actively using them. They reported that the benefit really came when they were able to use a crate that had been created last year.
Progressive Academy: One of the things that we are most proud of is the great network we have created. It is one of the goals of Progressive Academy to share our successes with and build on the successes of other organizations. Through attending the AISI Conference and ELAC Conference, Progressive Academy was able to partner with a number of excellent schools and organizations to gain great resources. We learned about an interesting science project the Grade Six class at Calgary Girls Schools created with the help of the Galileo Educational Network. We also are beginning a team teaching project with Alberta Distance Education as they have a number of excellent, free resources. We have focused on finding places to gather resources to fill our science kits inexpensively in preparation for when AISI funding stops. We attend the annual Telus World of Science free resource day, shop at the Edmonton Reuse Centre and collect resources from parents. We have also made partnerships with companies that provide free resources for school; for example Tomatosphere.org provides teachers with free tomato seeds to complete science experiments.
Red Deer Koinonia: Teachers have just enjoyed using the new science material. It is wonderful to see the science kits in each classroom being used by some of the teachers. Those who are using them are really enjoying the resource.

Slave Lake Koinonia: The grade four to six classes were very successful and the science bins were easily incorporated into the planning. Much more experiential activities and assessments were used. There was some use of the bins in grades 1-3 and 7-9. The grade 1-3 teacher was new and came in the middle of the year and is just getting used to the bins. She has had difficulty in keeping up with the restocking, but overall has found the bins useful. The grade 7-9 bins are in progress with one parent helping to sort through experiments in those grades and putting together appropriate bins.
Cornerstone Christian School: Having curriculum related materials consolidated into units including materials, plans, etc. has saved teachers time and has encouraged them to be much more adventurous and deliberate in the teaching of their Science lessons. The following units have been created by us so far and they are all working really well in the classroom setting:
Grade 1: Seasonal Change, Senses, Building things, Needs of animals and Plants, Cresting Colour
Grade 2: Small Crawling Animals
Grade 4: Building Devises that Move, Some of Plant Growth and Changes, Light and Shadows
Grade 5: Electricity and Magnetism, Classroom Magnetism
Grade 6: Evidence and Investigation, Some for Trees and Forests
Grade 8: Cross over in Electricity and Magnetism in Grade 5 (as smaller school we share some of these materials across grades)
Grade 9: Chemistry, Biological Diversity

International School of Excellence: The teacher reported: The manipulatives are a great tool to use

with those students who have difficulty learning concepts due to behavioral issues, or language barriers, because it helps engage them and keeps them on task. Having a science kit with manipulatives which I can incorporate into my teaching is beneficial for students and for myself as well. I find that I spend a great deal of time gathering materials for science class and getting set up and organized. Having all of the necessary materials in one kit, cuts down on preparation time.

2011/2012

Destiny - As the project has progressed over the past three years, there are areas that have become more efficient. The process of building the kits has become more efficient. Teachers have been responsible for purchasing their own everyday supplies from local stores. Wal-Mart and dollar stores have been the most common places to shop. Teachers who needed more science specific materials would bring orders to the AISI coordinator who ordered online from Boreal. We found Boreal to be easy to work with and the orders were usually received within a few days. Teachers have now had the opportunity to use some of their kits more than once. They have reported that it has really been beneficial to their planning time as well as getting the students more hands on time in the class. One grade 2 student was observed in the foyer showing the boat he had made during his science class. He was heard saying he couldn't wait until the next day because he was going to make a different one and see how it floated too.

Progressive - Kits were supplied as a result of refreshing/updating supplies in June. Combining class supply lists to purchase in bulk. Having teachers responsible for their own kits by keeping them in their classrooms and requesting supplies for replenishing kits. Having a box that was big enough for the kits. Having a specific type/style of boxes so they can easily be identified as Science kits. Having each box identified with Grade and unit. Sending 5 teachers to the AISI conference. This resulted in changing our next year's teachers' conference to having all staff attend the AISI Conference in 2013.

High Level - Having the science kits in an easily accessible location. Our staff worked well together through out the year compiling resources, sorting, labeling and creating inventory lists. This helped all of us to see what was in the kits.

International School of Excellence - Implementing science videos for the whole class to view and observe how the scientific method is applied in the field of Science, proved to be of great benefit to the students when applying it to their own assignments and inquiry also, while conducting their own Science Fair Projects. Teachers also found new strategies to apply in the classroom by meeting with teachers of other grade levels. Teachers were able to converse and discuss effective and positive strategies that they found to be successful in their own experiences.

Slave Lake - Teachers utilized the bins well, and successes were had at all levels through the increase of enjoyment and hands on projects. Storage of bins was more than adequate but was not easily accessible as it was in an unused area of the school.

Cornerstone - Grade 9's were able to flame test chemicals because of equipment we were able to acquire. Other projects that worked very well were the investigation units and the electricity units. Our school benefitted tremendously from having adequate materials for each grade level. This is something that a small school like ours would be unable to achieve without AISI funding.

Red Deer - What has worked well this year is an increased scrutiny of curricular material prior to purchasing equipment. In the other two years of the cycle purchasing was based on the materials list provided at the back of an Edmonton public curriculum guide. A key issue with this was the ambiguity of some of the materials to be used. This year, prior to purchasing, I went through every single experiment to be done in order to understand the correct material to be purchased. This has been time consuming but very beneficial. Increased communication with the affected teachers has

increased buy-in to the project. This occurred more so in year 3 of this cycle than in previous years. As a result, I am seeing more teachers making use of the science kits on a more regular basis than before.
Art Smith Aviation - The bulk buying for all the tubs at once really helped limit the work. The $400-$500 shopping trips were like a scavenger hunt, and was kind of fun. Then it was just a matter of sorting out the straws and popsicle sticks and plastic bags and paper plates. Most of the items were significantly cheaper than ordering from an external company.

II. What did not work well (challenges)

2009/2010

High Level - The biggest frustration was properly itemizing the purchase list. Some materials as listed in text books or other curricular materials are not necessarily clear and unless you have taught the unit before you do not know what exactly the material is calling for. Example: the materials list calls for a bowl. My question was: What size of bowl?
Progressive - We had a few setbacks this year. We would like to introduce more school-wide PD as teachers do not have time to brainstorm and work together to share science kits related ideas. Teachers need to continue to update supply lists and work to conserve their supplies.
Slave Lake - Having time to put things together in the bins and make lists was troublesome. Waiting for resources was at times frustrating. Looking through catalogues and comparing prices was time-consuming, and at times frustrating. We now have established suppliers which are reasonably priced and usually quick delivery. We have chosen to use Prolab & Spectrum. We have found these to be efficient, reasonably priced and are Canadian so we avoid changes in dollar rates and customs. One problem was the storage of bins. We are hoping there will be more space which can be allotted to the bins once we move to our new building in September.
Medicine Hat - The teacher reported: After sitting down with the teachers at the beginning of the year and explaining my focus, the goal of the project as well as their responsibilities as science teachers, it was very difficult to then keep them accountable. I asked them to write lists and submit them to me. This, after a period of months was still incomplete so I changed my focus from elementary to the junior high level. More deadlines and accountability need to be given by me.
Int. School of Excellence - The teacher reported: I think the idea that we could sustain momentum and work collaboratively did not work well at all. I have decided that for Academic Session 2010 - 2011 I will prepare the materials orders by myself, using the same methodology that I used to compile this year's Grades 1 - 3 orders. If my new Grade 1 and Grades 4/5 teachers are more enthusiastic and/or helpful, I will be more than happy to have their input and will certainly be open to any fresh ideas they may have about materials they may be familiar with or have enjoyed using before.
Koinonia Christian - Learning from your mistakes can always be turned around to the positive in realizing what not to do for the next year. With the problem of spending a little too much time writing things down on paper, the goal next year will be to ask for individual teachers to be more accountable with their hands-on activities/labs. Thanks to High Level for sharing their lists of materials for Gr. 3, 6, and 9, we will be able to complete many of our science boxes this year for use in fall 2010. Other things that did not work well was the fact that one of our key administrators left the school halfway through the year and, as a result, left a void. Because of this, we lost about two months of our implementation of our AISI project for this year.

Destiny Christian -We had a late start with getting the project going. Once we had met as a group of

schools, we then had a clear direction that we were going in. It took time to get all the teachers the information and expectations of the project. Ordering also took time and there were a few kits that some materials showed up a little late. We also need to solve the storage issue with the new kits as our space right now is quite limited.

2010/2011

King of Kings: Some of the liquid experiments didn't work as planned, in grade 2. The other major problems we had were as said before, storage. Even though it was a positive to have the bins come into our rooms, storing them when we weren't using them was a problem. We have them in three different locations in three different buildings, so it is a challenge. However, it would be even worse to try to store and set up a "science room" and access all of the necessary items. All of our miscellaneous items are in two large bins, hard to access, so we either are going to move them to an easier accessible place, or disperse them between all of the kits. Another challenge was staff turnover. We lost our AISI project coordinator, and gained other staff members who were unfamiliar with the project, so it became a challenge to ensure all staff understood all aspects of the project. We now feel we are on a great wavelength to achieve even more next year with the remainder of the project.

Destiny: Storage continues to be an issue. Fortunately the crates look fairly good and in some classrooms have had to be stored in plain view. Restocking the crates was also a concern for some teachers as they were not necessarily getting them restocked right away. This is something we will address to ensure they get done before the end of the year.

Progressive Academy: We continue to have problems motivating teachers to restock their kits immediately after each unit is taught. Often teachers put their empty kit back on the shelf and forget about it. This poses a problem when the next teacher takes the kit out; they must restock it before they can begin their unit. Our solution to this problem is to create a dedicated teacher work day to restock science kits at the end of each year. Also, we continue to have problems with teachers using some of the perishable items for non-science related projects. For example, some teachers utilize their science hot glue guns and glue for art projects. This will be addressed by ensuring the art room is stocked with hot glue so that the teachers can save their science resources for science.

Red Deer Koinonia: One thing that we would like to improve is how the boxes are built. Lack of understanding on the part of the staff who assembled the boxes led to items being put where they do not belong and some items being left out. A more detailed list should help with this. We ordered Lithium powder and the supplier was out so they sent us the much more reactive and explosive version (lithium rods). We could not return them and had to sell them to a public school which had proper storage facilities for such chemicals.

Slave Lake Koinonia: Available time to restock and the organization of grade 7-9 bins took much longer than expected and so were not as useful as they might have been.

International School of Excellence: A constant change over in teachers and administration has not allowed the project to grow as quickly as planned. Further, teachers have gathered materials for hands-on science experiments but have not always placed these into the science kits format for continued use and implementation into the classroom. We will improve this over the final year of the project and will ensure that the materials gathered and the kits created over all the grade levels 1-9 will serve future students and teachers in a sustainable manner.

2011/2012

Destiny - Looking back at the past three years the positives have greatly outweighed any negatives. The biggest challenge came from the logistics of creating science kits for 45 units. There is a

significant investment of time to get the kits built and organized. The teachers who taught single grades had to create one or two kits each year. Teachers with alternating curriculum for split classes had to create up to 5 kits in one year and one teacher who teaches several grades had to create between 7 and 8 kits each year. The time required as well as storage issues were the greatest challenges but we all believe it was worth it in the end.
Progressive - Not clearly identifying where commonly used items (that are not in the kits) are kept and establishing a signing out procedure. Not having regularly set meetings to review expectations and that everyone was on board, to ensure that all aspects of the project were completed for each class. Not having regular meetings with the principal and AISI Project leader to ensure that project is progressing.

High Level - Due to the staff turnover, especially principals, we spent a lot of time trying to figure out what resources were purchased and still needed to be purchased; it was almost worse than starting from scratch. But this also helped our staff to work together to figure things out.
Slave Lake - Up keep of bins did not work well as teachers were more noticeably using the resources in the bins, which depleted the resources more quickly. They also had the additional stresses of dealing with trauma issues which arose from the residue of the Slave Lake Wildfire as well as serious health issues of two students, a parent of a student and the death of the husband/parent of previous staff member and students, who did not return after the fire. Access to the storage area was not ideal, although it has much space. Teachers would store the bin for their current units in their classroom which took up limited space.
Cornerstone - The Astro labs although followed exactly were very difficult to use.
Red Deer - One of the drawbacks of having a non-science person creating the kits is that the lack of science knowledge can cause potential issues. In this case a package of highly reactive and explosive Lithium rods was purchased instead of a less volatile school friendly product. Thankfully this mistake was caught before any damage was done. Storage is an ever increasing problem as the kits take significant space. As we are finishing the last kits we are finding that we simply have no more storage space. This will have to be addressed in the near future. We may have to store some boxes in the individual classroom.
Art Smith Aviation - It took a while to get total buy in from staff. For some it was easier to just go to the science lab and take stuff. Once they bought in though, and accepted that we were going to have incredible redundancy, it worked. When they were confident that everything they needed would be there, they were very supportive. The ongoing challenge will not be the funding of the necessary restocking, but finding the time to re-inventory and delegate restocking.

III. What changes (if any) did you make to enhance the success of the project? (project adjustments)

2009/2010

Progressive - We would like to make a few modifications to our program to make it more successful in the coming year. We are going to have teachers keep an up-to-date list of their supplies on our staff-on-server. We would also like teachers to compile their lesson plans on a flash drive and place it in the science kit. We would like to give a hard copy of these lesson plans to our qualifications department. We are going to make more school-wide activities and host our science fair earlier in the year so that students have the opportunity to travel to and compete in nationals.
Slave Lake - The teacher reported: We will continue with building bins for grades 1, 4 and completing Jr. High. We will also begin to develop lesson plans on jump drive and compile material lists for each bin which will include consumable resources to be replenished each year. I hope to

utilize parents and/or work experience students to do the compiling.
Medicine Hat - The teacher reported: Next year I would like to sit down with each teacher individually at the beginning of the year and have them make a goal for science and have them choose their deadlines so that they feel more in charge of their project. Have monthly meetings for accountability. Take time to review projects and boxes throughout the year rather than just at the beginning and end.
Int. School of Excellence - The teacher reported: I am going to stress the accountability factor. We are accountable to our Administrative team, our Board of Directors, our students and their parents for delivering the Alberta Programs of Studies. If we can enhance that delivery by means of a sustained commitment to improving our Science teaching and learning by introducing equipment to make these lessons more exciting and interesting for both teachers and students, then we owe it to ourselves to go that extra mile. Expectations will be different this coming year - not that they are doing me a favour by telling me what equipment they need or would like to have available to them, but that in the pursuit of excellence we will commit ourselves to improving the delivery of our Science curriculum, even if it means more time spent on planning lessons and planning our AISI funding expenditure.
Koinonia Christian - The plan for next year will be to upgrade the science equipment for Grades 2, 5, and 7. We will be meeting once a month in September and October to establish lists and get parent support in purchasing the equipment. We will also make an appeal to the parent body to come in and assist teachers with the science kits so that organization and implementation can be done smoothly and efficiently. We plan on going to the Telus Science Center and take advantage of the free equipment given away to schools each fall.
Destiny Christian -We want to ensure each teacher books off time at the start of the year for purchasing and planning. The project coordinator purchased Rubbermaid kits for the teachers. The grade one teacher is purchasing her own kits as she is storing them in her room and wanted a different size and look. We are going to stream line the ordering process and simplify the tracking procedures for individual teachers as they purchase their own local products. We want to further increase parental or volunteer help with shopping and setting up the kits.

2010/2011
Living Truth Christian School: Next year, we plan on purchasing many of the consumables for our science kits, as well as some of the apparatus we will need so that we won't have to keep renting the lab kit from ADLC. Since our school is so small, (and thus our AISI grant is minute) we will focus on building up and completing the science kits one grade at a time, since it is preferable that the kits be of excellent quality. Again, we are very appreciative of the grant to help us boost our science program, and the overall improvement in learning for our students.
King of Kings: Reworking the miscellaneous bins.
Ensuring there is a checklist for each bin to replace consumable materials.
Including "science talk time" in each staff meeting.
Holding a parent experiment night instead of a Science Fair.
Somehow working on Safety procedures and including them in each bin, or in our monthly science talks. We also have to complete some more bins, and make binders for the existing bins for lesson plans/experiment directions.

Destiny: The coordinator will standardize the equipment lists that each person is to have in the crates. Each teacher will be required to ensure that all crates have been restocked and the orders submitted to the coordinator before the end of June.

Progressive Academy: We have put the focus on creating the kits but some of the kits are not equipped so that every student can complete the experiment on his or her own. We will focus on stocking the kits so that they have the resources for each experiment to be completed by 15 students.
Red Deer Koinonia: We will put a greater focus on teacher discussion groups to discuss project successes and failures. this will be used to increase teacher buy-in.
Slave Lake Koinonia: Better communication of the project to new teachers with a list of expectations for upkeep and use of the bins. It would be nice to have more parental involvement, especially in the restocking and upkeep of the bins. Training teachers on how to use experiential assessment as opposed to written assessment. Working on rubrics for assessments, especially for younger, less experienced teachers
Cornerstone Christian School: Ordering of materials has been simplified by breaking the goals into smaller steps and teachers involved will be encouraged to meet regularly over the course of the year to ensure that all the goals are met.

2011/2012
None to report.

IV. How have you shared project results/successes with teachers, trustees, parents, community, etc.? (sharing and celebration of successes)

2009/2010

2010/2011
- School newsletters
- Science Fair presentations at many schools
- Parent evenings to present work done in science classes
- Parents participate in classroom work with the Science Kits
- Parents participate in making, using and restocking the Science Kits for the classroom
- All Science Kits Project teachers met together at Lacombe Christian School in May 2011 to share the work we have done to date and to further explore the Kits that are already available at the school. We shared resources, planned our next steps and were able to help each other with tips, advice and encouragement in the growth of these projects in our schools.

2011/2012
Destiny - We did several things to showcase the work of our students. We have an annual spring celebration in which we put out displays of student work. This was done during the second and third year of the project and we received very positive feedback from friends, parents and grandparents. We also have a monthly newsletter that we put in pictures of students working on science activities.
Progressive - Project was promoted in school newsletter, in the Science Fair brochure, the 3 year Plan and the Annual Education Report. It was promoted to the faculty at staff meetings. We've had a Science Fair 3 years in a row - celebrates the student interest in science and promotes it to parents. Winners go to regionals. In the second year of this project, we had students win in the Edmonton Regional Science Fair.

High Level - We promoted the Science kits to our staff at staff meetings and PD days and by having

all staff involved in the planning and preparation of the kits. The project was promoted to the larger community by giving tours of the area where we were putting together our kits and by talking about the kits at public meetings.
International School of Excellence - Students enjoyed finding research partners and Science Fair "buddies", to conduct their own projects and apply the knowledge they have gained from the interactive science resources that had been available to them throughout the year. ISE conducted a Science Fair at junior and senior levels; students displayed a sense of pride and genuine confidence while presenting their projects to their school community which included: Special guest judges, administration, staff, students and parents. The winners of the competition headed to the 2012 CYSF -Calgary Youth Science Fair. This was an enrichment experience for all involved.
Slave Lake - The AISI project is introduced to new parents at our first parent meeting of each year. Updates are given at additional meetings at least once throughout the year. Any successes of the project are presented at these meetings as well as through our weekly newsletter. Larger successes such as our second place in the Science Olympics are promoted through the local newspaper, and posted on our Community Bulletin Board. We also post pictures of projects and activities on this community board.
Cornerstone - Students were able to release beautiful Monarch butterflies in to a park nearby. Students of Cornerstone participated in regional science fair receiving various awards.
Red Deer - Promotion was done mostly at the staffing level with personal contact between the AISI coordinator and the staff affected. Promotion of this project was also done at the administrative level through staff meetings. Community promotion came through inviting members of the community to contribute to the production of the science kits. The above points were common to all three years of the cycle.
Art Smith Aviation - We are constantly giving tours of the school. We always lead people to the tub room, and explain the project. It confirms our commitment to Science. We also show it off on parent-teacher nights.

Section D: 4. Sustainability and Integration

How will the project be sustained and/or integrated?

2009/2010

2010/2011
The Science Kits are being built at each of the schools for most grade levels. At the end of the three years, many schools will have a great start to a full complement of Science Kits across the grades. These kits will serve students and teachers for years to come since they are set up to be easily maintained, restocked and useful for continued use. The storage and access to Science Kits has been set up in each school so that they will not be lost, cannot be ignored and will be used. The pedagogy of using hands-on materials in the teaching of science is firmly entrenched in most of our schools and

is slowly growing in others. We hope that one more year of work on this project will ensure a solid foundation for the teaching of science for years to come. Our schools are committed to funding the restocking of these Kits since they form such an important part of the pedagogy of teaching science.

2011/2012

The Science Kits are now built at each of the schools for most grade levels and many schools now have a great start to a full complement of Science Kits across the grades. These kits will serve students and teachers for years to come since they are set up to be easily maintained, restocked and useful for continued use. The storage and access to Science Kits has been set up in each school so that they will not be lost, cannot be ignored and will be used. The pedagogy of using hands-on materials in the teaching of science is firmly entrenched in most of our schools and is slowly growing in others. Our schools are committed to funding the restocking of these Kits since they form such an important part of the pedagogy of teaching science.

Destiny - There is a commitment from our school principal and directors to continue using the science kits. They are committed to funding the restocking and maintenance of the kits so they can continue to be an effective tool in the classroom. Teachers will be required to go through each kit at the end of the year to ensure that it is ready for the start of the next school year.

Progressive - Since the basic supplies were funded with AISI funds, the school will continue to include the cost of replenishing the kits' supplies in their budget. Teachers can order supplies throughout the school year through our purchase order system. In June they are required to do a complete inventory of their kits so that supplies can be purchased over the summer break. Yearly review/meeting to discuss ongoing implementation/updating of science kits project.

High Level - We have set up a teacher resource center in our library where the Kits are located for ease of access. We have also attached inventory lists and will replenish items as needed. For next year we hope to get a volunteer (staff or parent) to keep the science kits replenished.

International School of Excellence - The International School of Excellence has experienced many positive outcomes through the AISI Science Kits Project and will continue to sustain this initiative via inclusion of the program and regular annual budgeting for additional resources to keep students actively engaged in Science Awareness.

Slave Lake - Our Board has included the AISI science project in our new budget. Also, we can apply for funds through Canadian Natural Resources Education fund. As an oil field company, science and math projects are often recipients of these funds.

Cornerstone - A checklist will be placed in each kit, and as consumable materials are used the teacher will check mark items needing to be replaced. At the end of each unit a copy of the list will be given to the office. A science budget will be in place to ensure a level of excitement for learning in science can be sustained.

Red Deer - The bulk of the material has been purchased and so upkeep will be minimal compared to the overall cost of the initial program. Parents and the wider community will be involved in contributing to the restocking and maintenance of the science kits. Each summer a parent volunteer will inventory the boxes to be used in the coming year and ensure that they are ready to go for the fall.

Art Smith Aviation - There is no question that this is an extremely successful program that we would have done, with or without AISI support. We are thankful for the level of support we have received. Restocking, and continuing the program now becomes our highest priority. It is inconceivable that we would not continue the program after seeing the tremendous success we have experienced.

Section E: Superintendent/CEO Certification and Approval of AISI Project Annual Report (APAR)*

Please note that the Superintendent will be required to complete this section on the online Extranet submission of the **Annual Report (APAR)**

☑	The information provided in this AISI Project Annual Report is, to the best of my knowledge and belief, accurate, reliable and valid. I believe that all AISI requirements have been met.
☑	The school authority has the documentation and systems that support the reported information.
☑	Parents are involved and aware of the progress and results of the project.
☑	Superintendent/CEO Approval

*To be completed with each annual submission