COMPUTER TECHNOLOGY INTEGRATION HANDBOOK FOR PRIMARY AND ELEMENTARY TEACHERS

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Computer Technology Integration
Handbook for Primary and Elementary Teachers

by

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Abstract

Computer technology has been in schools since the early 80s. Information Communication Technologies (ICTs) have been incorporated more at the junior high and senior high than at the primary and elementary level. Boards have often focused attention on the senior grades. Primary and elementary teachers have received little support with the integration of technology into classroom settings. Many primary and elementary teachers have not adopted technology as another tool in their classrooms. There are many reasons for this, one of which includes the lack of training for teachers in how to successfully integrate technology into teaching and learning. Professional development in the area has progressed through three stages with the most current being "just-in-time". There is much research telling why we should use technology and how. This work, an electronic handbook, is a justification for the use of technology in the lower grades. It offers research that supports why teachers should use technology and its curriculum connections. It also includes sample lessons from K-6, ideas of how to use one computer in a class, and links to relevant websites that are appropriate for both teachers and students.

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Computer Technology Integration

Project Design

To partially fulfill the requirements for the degree of Master of Education, I designed and developed an electronic handbook titled, *Technology Integration: Handbook for Primary and Elementary Teachers*.

Initially I planned to develop in-service sessions for teachers to show them how to integrate technology into their curriculum. These sessions were going to be designed so that they that could be given during staff meetings, informal get togethers after school, or on professional development days. However, as I researched the different waves of professional development (Jacobsen, 2001), it became evident that the most successful in-service takes place just-in-time. That is, as teachers need it. It is done based on a need or desire of a teacher to integrate technology into his/her teaching. To solve this professional development problem I decided to design and develop an electronic handbook dealing with technology integration in the primary and elementary grades.

The framework of this project consists of five components. The first deals with why teachers should use technology in their teaching and assessment. According to the *Education Indicators in Canada* (2003, p.78), Newfoundland and Labrador schools have, on average, a student computer ratio of 7:1. The majority of students reported that they used the computer more frequently at home than at the

school and only 30% of the 15 year old students that were surveyed, reported that they used the computer frequently to help them learn school material. The structure and nature of how we work, research, communicate, and even how we shop, bank and spend our leisure time has been revolutionized through the use of technology (Barrell 2001, p.18). But many educators have not yet brought this technology into their classrooms. As a society we are now living in a technological era, but this is not evident in many schools.

The second component looks at the curriculum connections to technology. The curriculum in schools in Newfoundland and Labrador has been developed on the philosophy of resource-based teaching and learning and it has the use of technology embedded in it. Some teachers fail to recognize the importance of technology and how it is a crucial part of their curriculum. This may be due to the fact of their lack of confidence in integrating technology, but as a result students are not getting the well-rounded education they deserve. The component gives examples of outcomes, from the Essential Graduation Learnings to specific subject outcomes, which deal with the use of technology.

The third component contains sample lessons for kindergarten to grade six. There are at least two examples per grade level. They include samples of full resource-based units that contain centres that use technology as well as individual lessons. The resource units are designed to be implemented with the assistance of a teacher-librarian. The curriculum outcomes that they address have been included.

The fourth component has ideas of how to use one computer in a classroom. Because it means a change in methodology, many teachers are reluctant to use one computer and feel that its presence in the classroom is useless. However, one computer in the classroom can be a very valuable tool. This section offers ideas on how to use one computer as a means of instruction for the whole class or as a centre at which students complete work.

The final component contains others points of interest. This includes links to various sites on the Internet. It has been divided into five sections, which include: search engines for kids; crossword puzzles to create and print; criteria for evaluating webpages; children's magazines online; and links to some authors and illustrators. This should be a valuable resource for teachers because it provides quick and easy access to resources on the Internet.

My reason for choosing this task was to design a user-friendly project to illustrate to teachers that the integration of technology needs to be explored in the primary and elementary grades. For the past thirteen years I have worked as a teacher-librarian in many schools in the province developing resource-based units that include the integration of technology. It has been my experience that many primary and elementary teachers are reluctant to use computer technology in their classrooms. There are varied reasons for this, from the fear of computers to the lack of confidence in their own skills. But technology is now a part of our daily lives and it needs to be come part of the daily lives of teachers in school.

Technology in Schools

Technological advances have, in part, led to an explosion in the availability and construction of knowledge. These same technological advances have made this information more available to the public at large. Computers, in part, have helped turn the world into a global community. Information is no longer restricted by geography or time. Instantaneously news is reported from one side of the world to the other. In most countries computers are linked to networks, allowing information to be available at the press of a button. Globalization is possible because of this technology.

Technology is having an impact on all Canadians. According to Jean Chretien (April 2002), the former Prime Minister of Canada:

> Globalization and technology have redefined the market place. It is a new economy in which a country's standard of living and the quality of life of its citizens will be directly linked to its success in fostering knowledge creation, innovation and adaptability, and in maximizing educational opportunity and cultural expression.

As a result, students need to learn how to deal with the vast amounts of information, managing its complexity, learning how to solve problems, and how to think more critically about global issues and events.

Indisputably, technology is having an impact on our education system, especially with the rapid developments of information and communication technologies (ICT). There are emerging new literacies that deal with the influx of information available to children. For students communication technology is a

natural part of their landscape (Jacobsen, 2001, p. 3). For many teachers this is something new and intimidating. They have not grown up with it. According to Jacobsen, Clifford, and Friesen (2001), "there is a growing digital divide between what students actually know how to do with technology and what they are permitted to do in school." (p .2).

For the past 20 years technology has been met with both enthusiasm and resistance within our schools. Some teachers have welcomed it with open arms, while others view it as an add-on to their curriculum and workload. This is not simply a case of old meets new, in terms of experienced teachers trying to work with technology. It is also a problem with new meets new, in terms of newly trained teachers not having been taught how to integrate technology into the curriculum. Many of these teachers are highly skilled computer users, but they lack the knowledge of how to use it effectively in classrooms.

In Newfoundland and Labrador, the mission statement of the Department of Education states that students should acquire, " through lifelong learning - the knowledge, skills and values necessary for personal growth and the development of society" (http://www.gov.nf.ca/edu/dept/mandate.htm). This includes learning how to effectively use technology.

In many schools this is achieved with the assistance of a teacher-librarian. According to Asselin, Branch, and Oberg, D. (2003) in "*Achieve information literacy: standards for school libraries in Canada*", school libraries are learning centers for

life-long learning (p. 6). "The major learning outcome for the school library program is to develop students who are information literate" (p. 4). The teacher-librarian works collaboratively with classroom teachers to help develop, in students, habits necessary for life-long learning.

Rationale/ The Problem

Society has been transformed by the advancements of technology. According to Barrell (2001, p.18) the structure and nature of how people work, research, communicate, and even how people shop, bank and spend their leisure time have been revolutionized through their use of technology. This societal transformation is apparent in 21st century schools. Yet research (Cuban 1999, Haughey 2002, Jacobsen 2001, Mishra & Koehler 2003, Willms 2002) shows that few teachers have adopted technology for teaching learning tasks and a small percentage use technology to help develop inquiry-based learning. The curriculum demands teachers integrate technology in both teaching and learning. However, there are few markers of what it looks like when a classroom of learning uses technology in new and exciting ways. There is a lack of exemplars of the most effective methods of integrating technology into teaching and learning. Unfortunately in many cases thousands of dollars are spent getting technology into schools without giving careful consideration to an educational vision or careful planning (Kleiman, 2000).

Many educators acknowledge that technology is a part of all the disciplines and that its use is present as each pushes the frontiers of subject knowledge. Thus educators must play an important role in the education and preparation of their students for life in the 21st century. According to Leu (2002) "preparing children for their future is not an extra, it is central to our role as literacy educators" (p. 1). But technology is also important in the present and the daily intellectual work kids do.

Computers have been in schools for years (Clifford & Friesen, 2001). Schools have placed an emphasis on computer technology and ensuring that students and teachers have access. However, in many schools and school districts, very little time and effort has been spent showing teachers how to integrate this technology into their curriculum in dynamic and effective ways. There does not always appear to be a correlated increase in understanding how technology can and should be used to enrich an understanding of both the arts and sciences, or an in-depth understanding in the difference that technology makes in education. Jonassen (2000, p. 7) states: "technologies have been used traditionally in schools to teach students, much the same way as teachers teach students".

In addition, teachers still often view technology as something else they have to teach. Very few see it as a means of enriching what they are already doing. There is no doubt that teaching and learning with technology is challenging and it is almost impossible to keep up with the ever changing field (Jacobsen, Clifford, & Friesen, 2001). But teachers need to adapt instruction to the diverse student abilities and

learning styles of the students (Bar-Yam, M., Rhoades, Sweeney, Kaput and Bar-Yum, Y., 2003). ICTs offer help here.

Role of the Teacher-Librarian

Teacher-librarians strive to teach students how to learn. In this age of information, students need to be taught how to handle the massive amounts of data available and then to use it effectively and wisely. In doing so students are prepared for the world of work, a concern of the Department of Education. Teacher-librarians are expected to be creative in their approaches to teaching and assessment, to have the skill of intertwining curriculum outcomes and making learning authentic. They are always looking for new ways to strengthen their programs and roles (Johnson, 2002). Teacher-librarians work closely with colleagues in developing meaningful learning experiences. In working with schoolwide pedagogical developments, the capacity to enhance outcomes and student achievement is maximized (Crowther, Kaagan, Fergusan & Hann, 2002).

Other than the administration in the school, teacher-librarians are often the only other person actively involved with the process of learning for the entire school (Wilson, 2001). Their role is to work with the entire school community in all curriculum areas (Farmer, 2001). They need to lead by example and use the resources at their fingertips to explore curriculum connections (Todd, 2003).

Within schools teacher-librarians need to play a leadership role in staff development and in-service training (Haycock, 2003). Curriculum is constantly changing and new resources are being produced and published. Teacher-librarians have the ability and opportunity to integrate current research into relevant professional development for colleagues. They need to provide instruction and guidance in the use of the most current resources (Learning Resources Policy, 2003). They need to make sure that teachers are able to effectively teach the curriculum using a range of print resources and multimedia technologies.

Teachers tend to look at techer-librarians as colleagues who keep current with the newest approaches to teaching and assessment. This includes keeping up-to-date with technology.

With specialized course work in resource based learning and teaching, teacher-librarians are able to develop relevant professional development and in-service sessions for colleagues. These sessions can be offered during staff meetings, afternoons after school, on in-service days, or informally whenever it is good for other teachers. They can be used to inform teachers of new resources in the library, how to use a new computer program, how to search the Internet, how to use the automated catalog, and how to create learning activities suited to individual needs. Some of the best in-servicing or professional development occurs unexpectedly. A teacher may see you doing something and come and inquire about it. Or she/he may need to learn something out of necessity and approach the teacher-librarian for help.

Teacher-librarians need to share their expertise in creating "inquiry based learning, promoting Canadian learning resource and using technology effectively" (Haycock, 2003, p. 36).

The workload of teachers within schools is increasing at an alarming rate. How can teachers help alleviate some of this problem? They can do this by working cooperatively and collaboratively with teacher-librarians. All of the curriculum now being taught has been developed on the philosophy of resource based teaching and learning. The curriculum is no longer taught through a textbook alone, it is only one of the many resources used. "Resource-based learning fosters the development of individual students by accommodating their varied interests, experiences, learning styles, needs and ability levels" (Foundation for the Atlantic Canada Language Arts Curriculum, p. 39). The teacher-librarian needs to support the classroom teacher in the implementation of this curriculum, "employing a multiplicity of teaching learning strategies and resources " (Learning Resources Policy, p. 2).

Teacher-librarians need to show leadership by approaching other teachers and working collaboratively with them in creating authentic and dynamic units and lessons for the students. Teaching is becoming more outcome based and teachers need to be constantly reminded that many outcomes for various curriculum areas can be taught through one unit or lesson.

The teacher-librarian is a "primary leader in the school's use of all kinds of technologies – both instructional and informational – to enhance learning" (American

Association of School Libraries, 1998, p. 54). With increased access to networked computers that provide access to Internet and library resources, higher achievement levels of students are expected (Haycock, 2003). Teacher-librarians find themselves, especially in primary and elementary schools, as the persons responsible for technology in the school. They are responsible for integrating it into the curriculum, for providing in-service for teachers on how to use it, for ordering hardware and software and many times fixing problems as they arise. They have to be careful, however, not to let the role of a technician to take over their job. Instead they should concentrate on successfully integrating its use into the curriculum.

Teacher-librarians need to "integrate information and communication technologies into all parts of the curriculum" (Asselin et al, p.19). This is increasingly more important as we teach students to handle the vast amounts of information available and prepare them for the world of work. Because they are knowledgeable in the area of technology use, they need to integrate the skills and software into the curriculum (Learning Resources Policy, p. 2). Teacher-librarians have knowledge of the technological resources that are appropriate for use with students in various areas of curriculum (Asselin et al., p. 57).

Why are teachers reluctant?

According to the *Foundation for the Atlantic Canada Technology Education Curriculum Guide* (n.d., p. 38), "teachers play a significant role in implementing technology education". *The English Language Arts 4-6 Curriculum Guide* (1998) reinforces the importance of teachers integrating technology into the curriculum in order for students to become information literate. According to this guide, students will be expected to use technology with increasing proficiency as they progress through the elementary grades.

Even though the use of technology has been embedded in the curriculum, there are only pockets of teachers who integrate technology innovatively in their classroom (Jacobsen, Clifford & Friesen, 2001). As a teacher-librarian for 13 years, it has been my experience that many primary and elementary teachers are not using technology in their classrooms. The cross-curricular resource based units that I develop collaboratively with classroom teachers include the integration of technology. In the implementation of these units, I, as a teacher-librarian, become responsible for the sections that deal with technology and the classroom teachers take responsibility for other aspects of the unit. Once the unit is finished, the classroom teachers go back to their individual classes and do little more to integrate technology into their teaching. Why, in this technological age are teachers so reluctant?

Few can argue that the integration of technology requires serious changes to traditional teaching methodology. According to Jacobsen (2001), Kleiman (2000),

and Murphy and Laferriere (2001), it requires a paradigm shift. This is why some teachers are finding it so difficult. These teachers were trained to "deliver instruction based upon an industrial age model – knowledge packaging and transfer from expert to novice" (Jacobsen, p. 3). These teachers are not comfortable with the changing relationships in the class. The teacher is no longer the provider of all knowledge but instead becomes more of a facilitator, a leader into a collective inquiry.

Another barrier for teachers is that they have never been shown how to effectively integrate technology to successfully meet the intended outcomes. Technology can be intimidating and many teachers are not confident in their own ability to use it (Jacobsen, Clifford & Freisen, 2001). According to Mackenzie (1999, p. 2), "until classroom teachers are shown how new technologies can improve the way students learn and think in social studies, science and math class, they are unlikely to sit up, take notice and make significant use of these tools". This has to be done not only for teachers who are currently in the education system, but also for pre-service teachers at the university. Very few new teachers enter the profession with the ability to use technology effectively or wisely. They need to experience the effective infusion of technology on a regular basis (Jacobsen, Clifford & Freisen, 2001).

In addition to being shown the advantages of the technologies to increase learning, teachers need to be provided with opportunities to build confidence in their own skills (Jacobsen, Clifford & Freisen, 2001). Until this happens it is unlikely that

teachers will attempt to use these skills with students (Jay & Jay, 2003, p. xiii). Classroom teachers need to develop their own computer literacy skills and they need exposure to training that will facilitate this (Jay & Jay, 2003). Teachers need professional development that is designed to develop and build their own computer literacy skills and engage them in a philosophical understanding of the possibilities of technology within a new paradigm that situates teachers as inquirers into discipline knowledge and construction.

An obstacle encountered here by many teachers is the issue of time. In order for them to become comfortable using the computer they need to spend time figuring it out. This can be done by way of formal instruction, professional development or teachers sitting at the computer and learning by trial and error. But many will argue that there is no time in an average work day to do this. The mandated curriculum is overloaded and teachers feel pressure to get it covered. For many, sitting to a computer and working with it is too overwhelming and stressful.

Even teachers who are comfortable using technology state time as being one of the main reasons why they do not use technology in their teaching. These teachers feel that sufficient amounts of time are not provided for the planning and development of ICT lessons (Jacobsen, 2001). Recently a school district offered to fund half of the cost of a learning center in each school. These centers would have four computers, a printer, a scanner and a web cam. It would all be located in one classroom. Teachers who get involved have to be willing to submit one lesson plan

per month to the school board to show how the technology was integrated in the class. Unfortunately most teachers were not interested because no additional prep time would be given. This may have only been an excuse for some, but for other teachers the issue of time was a concern.

Another reason why teachers are reluctant to learn how to use technology and then implement it in their teaching is the insufficient hardware and technical support available at the school. Some primary and elementary schools in Newfoundland and Labrador have a computer lab that can accommodate full or half classes. Unfortunately if there is a problem with one or more of the computer systems there is usually no one on site that can fix the problem. Teachers then have to wait for a couple of weeks for a technician to come to the school to fix it. This is very frustrating for teachers. Computer labs are also problematic because of scheduling. Teachers will often give up on bringing their class to the lab because they are unable to schedule a period at an appropriate time. If there are 25 classes in a school with one computer lab, the demand on the room can be very high.

In schools where labs are not available, computers have been placed in individual classrooms. This poses another barrier for teachers and why they are reluctant to use it. The thought of having to use one computer with 30 students can be intimidating. I've often heard it said that having one computer in a class is useless. Teachers have not been shown how they can use one computer to enrich their lessons. Also, having this instructional tool available and being able to use it effectively,

means a change in teaching methodology. For many teachers, this goes beyond their comfort zone and they are unwilling to make the changes.

Professional Development

The mere presence of computers in a classroom does not lead to changes in educational practice (Jacobsen, 2001). Teachers need professional development to learn why they should use technology in their teaching and how to effectively use information and communication technologies for learning. Jacobsen gives insights into technology professional development.

Jacobsen (2001) claims professional development dealing with technology has progressed through three waves. Traditionally the sessions offered focused mainly on the computer – learning the different parts of the machine, and how to put it together and take it apart. These sessions also dealt with learning technology skills such as formatting disks, and installing software. Generally, they were held after school hours at a centralized location. This form of professional development proved to be very ineffective and had very little impact on technology integration in the classroom.

With the second wave of professional development came "the realization that technology integration had less to do with technology itself and much more to do with approaches to teaching and learning" (Jacobsen, p. 6). These sessions attempted to bring technological tools together with teaching issues. Like the first wave of professional development, these sessions were offered at a centralized location for

extended periods of time (for example, half and full day sessions). Though teachers did learn some skills, this form of professional development was considered ineffective. It failed to bring "large-scale transformations in teaching practice" (Jacobsen, p. 6) that was sought. They simply provided knowledge but did little to help transfer the skills into the integration of technology (Granger, Morbey, Lotherington, Owston, & Wideman, 2002).

The current, third wave of professional development focuses on "onsite mentorship and support that responds to teachers' individual needs" (Jacobsen, p. 6). With this approach professional development becomes an integrated aspect of teaching and learning. It is no longer viewed as an event that occurs once or twice a year. Instead, it becomes "part of the daily work life of educators" (Cook, 1997, p. 2). Teachers learn to use technology as they need it, or just-in-time, instead of learning it just-in-case they may want to use it at some time (Jacobsen, Clifford & Freisen, 2001). Their learning becomes self-directed. This approach to professional development empowers teachers and transforms them from passive recipients to active builders of knowledge (Cook, 1997). With just-in-time professional development the teacher is learning to integrate technology into their curriculum based on a need or desire. This learning opportunity is meaningful and authentic. This approach to profession development has been successful. Teachers favor informal learning over formal experiences (Granger et al., 2002).

Curriculum Connections

The Atlantic Provinces Education Foundation has developed a common core curriculum and common assessment strategies for schools within the Atlantic provinces. To help ensure a consistent vision on the development of the core curriculum, Essential Graduation Learnings statements were developed (The Atlantic Canada Framework for Essential Graduation Learning in Schools, p.6). These statements describe the knowledge, skills and attitudes expected of all students when they graduate high school. They are not subject oriented but considered to be cross-curricular. These statements served as a framework for the curriculum development process.

There are six statements of Essential Graduation Learnings. They include: aesthetic expression, citizenship, communication, personal development, problem solving, and technological competence. "The achievement of these essential graduation learnings will prepare students to continue to learn throughout their lives" (Foundation for the Atlantic Canada English Language Arts Curriculum, n.d., p. 5).

The technological competence learning states: "graduates will be able to use a variety of technologies, demonstrate an understanding of technological applications and apply appropriate technologies for solving problems" (Foundation for the Atlantic Canada English Language Arts Curriculum, n.d., p. 9). Upon achieving this, students will be able to effectively use various technologies to locate, evaluate, adapt,

create and share information, and demonstrate an understanding of the impact of technology on society.

The core curriculum taught in schools in Newfoundland and Labrador was developed on the philosophy of resource-based learning that "actively involves students, teachers, and teacher librarians in the effective use of a wide range of print, non-print and human resources" (Social Studies Foundation Document, p. 30) and it has the use of technology embedded into it. At all levels technology should be used to build students' confidence and competence in using a range of technologies for information retrieval and information processing to meet their own information needs (English Language Arts Curriculum, n.d., p.?). Computers and related technologies have become valuable classroom tools for the acquisition, analysis, presentation and communication of data in ways that allow students to become more active participants in research and learning (Foundation for Atlantic Canada Science Curriculum, n.d., & Foundation for Atlantic Canada Social Studies Curriculum, n.d.,).

The Foundation for the Atlantic Canada Technology Education Curriculum Guide (n.d., p.v.) states that "technology education for Atlantic Canada fosters the development of all learners as technologically literate and capable citizens who can develop, implement and communicate practical, innovative, and responsible technological solutions".

To help achieve the essential graduation learnings, key-stage and specific learning outcomes have been developed in various subject areas. In meeting these outcomes over the grade levels, students will graduate technologically competent.

The use of technology is very evident in the primary and elementary English Language Arts curriculum. Both guides state, "as information technology shifts the ways in which society accesses, communicates and transfers information and ideas, it inevitably changes the ways in which students learn" (English Language Arts Grades 4-6: curriculum guide, 1998, p.196). Students are growing up with technology, they use it for tasks that many adults would use pen and paper for. What it means to be literate is changing. Literacy now encompasses media and information literacies.

Key stage outcomes in the English Language Arts curriculum identify what students are expected to know and be able to do by the end of grades 3, 6, 9 and 12. (Foundation for the Atlantic Canada English Language Arts Curriculum, n.d., p. 15). These outcomes are only meant to provide a framework for instruction and assessment. They reflect a continuum of leaning and "are not intended to limit the scope of learning experiences in any key stage" (*Foundation for the Atlantic Canada English Language Arts Curriculum*, n.d., p.15). The use of technology is evident in these outcomes. Figure 1.1 is an example of expected technology use.

Reading and Viewing	
Students will be able to interpret, select, and combine information using a variety of strategies, resources, and technologies.	
By the end of grade 3, students will be expected to	*By the end of grade 6, students will be expected to*
Answer with assistance, their questions and those of others by seeking information form a variety of texts • Use a range of print and non-print materials to meet their needs • Use basic reference materials and a data base or electronic search.	Answer, with increasing independence, their questions and those of others by seeking information form a variety of texts • Use a range of reference texts and a data base or electronic search to facilitate the selection process.

Figure 1: Example Key-Stage Curriculum Outcome

In addition, students can also use technology to assist them in meeting other curriculum outcomes that do not have technology explicitly stated in it. These outcomes would traditionally be met using paper, pencils, and crayons. For example, in the Grade Five English Language Arts curriculum outcome 6.1 states that students will be expected to "describe, share and discuss their personal reactions to a range of text across genres, topics and subjects " (English Language Arts Grades 4-6: a curriculum guide, 1998, p.72). To help students achieve this outcome teachers can have them illustrate the most memorable scene from a novel they read. Traditionally, students would use paper, pencils and other art supplies to complete this task. But computer software programs, such as Microsoft Paint, can be used to meet the same outcome.

Conclusion

Society has been transformed by advancements in technology. Within schools, more and more technology is being made available. Time and effort needs to be spent on showing teachers how to successfully integrate this technology into their teaching and learning, instead of concentrating on teaching basic technology skills in isolation (Johnston, 1999). Just the mere presence of technology is not going to have an impact unless teachers are shown how to use it. According to Jacobsen, Clifford and Friesen (2001), it takes courage, creativity and imagination to learn how to teach and learn in new ways with technology. Computers should be used to extend or facilitate student learning and when used appropriately they can increase educational opportunities.

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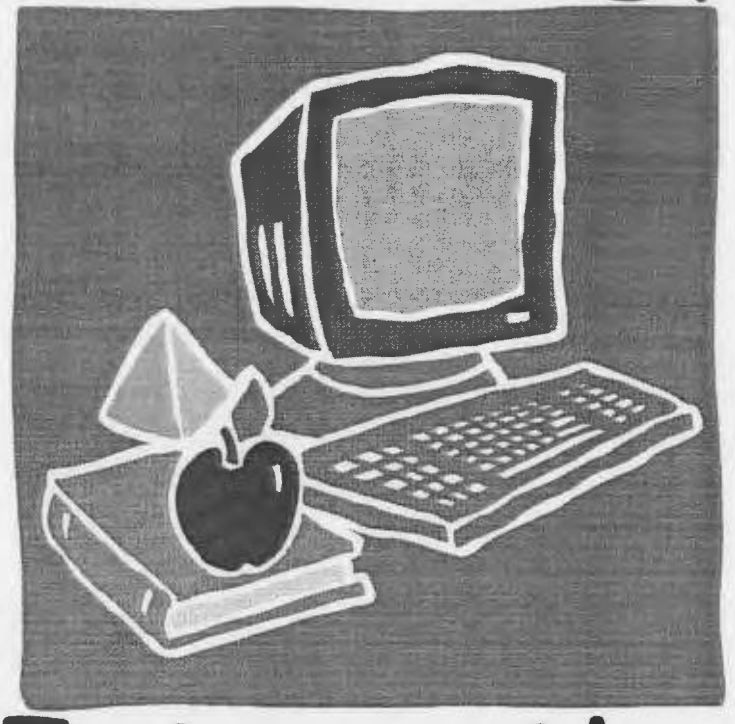
Technology

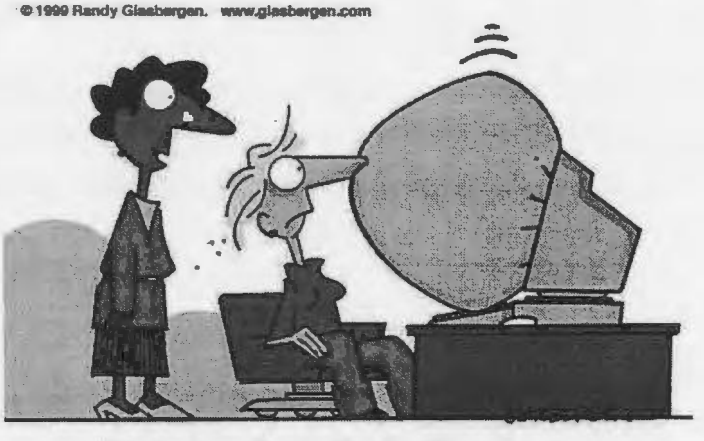


Integration

Handbook for Primary & Elementary Teachers

Table of Contents

Why Use Computer Technology?



"It's the latest innovation in office safety.
When your computer crashes, an air bag is activated
so you won't bang your head in frustration."

Why Use Technology

- Our lives have been transformed by the advancements of technology. According to Barrell (2001, p.18) the structure and nature of how we work, research, communicate, and even how we shop, bank and spend our leisure time has been revolutionized through our use of technology.

- According to Semali (2001, p.2):

  > If we are to prepare students for the emerging information age, we must help them comprehend and communicate through both traditional and emerging technologies.

- Canadian schools are among the highest in the world with the number of computers connected to the Internet (*Education Indicators in Canada, 2003)*

- Technology must play an important role in the education and preparations of our young people (Education indicators in Canada, 2003; Holumt and Gahala, 2001; Kleiman, 2000; Semali, 2001; Willms, 2002).

- Being literate today involves more than the traditional reading and writing, it also involves being able to read multimedia texts, accessing and evaluating data, and working with multiple resources. (Asselin, 2004: Brown, 2000; Bruce and Bishop, 2002; Holum and Gahala, 2001).

- "Technology is no longer seen as an add-on to subject knowledge, but rather a tool for helping mediate, display, critique and create data information and new knowledge". (Hammett and Barrell, 2002, p.?)

- "Technology education for Atlantic Canada fosters the development of all learners as technologically literate and capable citizens who can develop, implement, and communicate practical, innovative, and responsible technological solutions". (*Foundation for the Atlantic Canada Technology Education Curriculum Guide,* n.d., p.v)

- "Word processing, computer-assisted design (CAD) tools, graphics packages, and outlining programs are essential productivity tools for classrooms and should be used whenever they can facilitate student work". (Jonassen. P.15).

- Students should be able to identify important problems, gather information from multiple sources, critically evaluate the information, and then communicate its solution (Leu, 2002: Asselin, 2004).

- When students are involved complex projects supported by technology, their motivation and self-esteem increases, they work better collaboratively, and they learn the skills to deal with increasing complex situations. (Means and Olsen, 1995, p.2-3).

- "Students become empowered and spend more time in active constructions of knowledge when using technology. Technology provides more resources for student use in problem solving, thinking and reflection. Students spend more time collaborating with other students and communicating with teachers when developing technology projects" (Boethel and Dimock, 1999, p13).

- For students communication technology is a natural part of their landscape (Jacobsen, Building ..Brigdes).

- According to Jacobsen, Clifford, and Friesen (New Ways..), "there is a growing digital divide between what students actually know how to do with technology and what they are permitted to do in school."

- The Department of Education states that students should acquire, " through lifelong learning - the knowledge, skills and values necessary for personal growth and the development of society" (http://www.gov.nf.ca/edu/dept/mandate.htm).

- Teachers need to adapt instruction to the diverse student abilities and learning styles of the students (Bar-Yam et al, 2003).

- We need to "integrate information and communication technologies into all parts of the curriculum" (Asselin et al, p19)

- The mere presence of computers in a classroom does not lead to changes in educational practice (Jacobsen, 2001). However, it is how the technology is used that will determine its value (Bennett, 2003).

Curriculum

Connections

Curriculum Connections

- In Newfoundland and Labrador, the mission statement of the Department of Education states that students should acquire, " through lifelong learning - the knowledge, skills and values necessary for personal growth and the development of society" (http://www.gov.nf.ca/edu/dept/mandate.htm). This includes learning how to effectively use technology.

- According to the *Foundation for the Atlantic Canada Technology Education Curriculum Guide* (n.d., p.38), "teachers play a significant role in implementing technology education".

- *The English Language Arts 4-6 Curriculum Guide* (1998) reinforces the importance of teachers integrating technology into the curriculum in order for students to become information literate. According to this guide, students will be expected to use technology with increasing proficiency as they progress through the elementary grades.

- There are six statements of Essential Graduation Learnings. They include: aesthetic expression, citizenship, communication, personal development, problem solving, and technological competence. "The achievement of these essential graduation learnings will prepare students to continue t learn throughout their lives" (Foundation for the Atlantic Canada English Language Arts Curriculum, n.d., p.5).

- The core curriculum taught in schools in Newfoundland and Labrador was developed on the philosophy of resource-based learning that "actively involves students, teachers, and teacher librarians in the effective use of a wide range of print, non-print and human resources" (Social Studies Foundation Document, p.30) and it has the use of technology embedded into it

- At all levels technology should be used to build students' confidence and competence in using a range of technologies for information retrieval and information processing to meet their own information needs (English Language Arts Curriculum, n.d., p.?).

- Computers and related technologies have become valuable classroom tools for the acquisition, analysis, presentation and communication of data in ways that allow students to become more active participants in research and learning (*Science and Social Studies Foundation Documents*).

- *The Foundation for the Atlantic Canada Technology Education Curriculum Guide* (n.d., p.v.) states that "technology education for Atlantic Canada fosters the development of all learners as technologically literate and capable citizens who can develop, implement and communicate practical, innovative, and responsible technological solutions".

- The use of technology is very evident in the primary and elementary English Language Arts curriculum. Both guides state, "as information technology shifts the ways in which society accesses, communicates and transfers information and ideas, it inevitably changes the ways in which students learn" (p.255, p.196).

- The use of technology is evident in the key stage outcomes. For example,

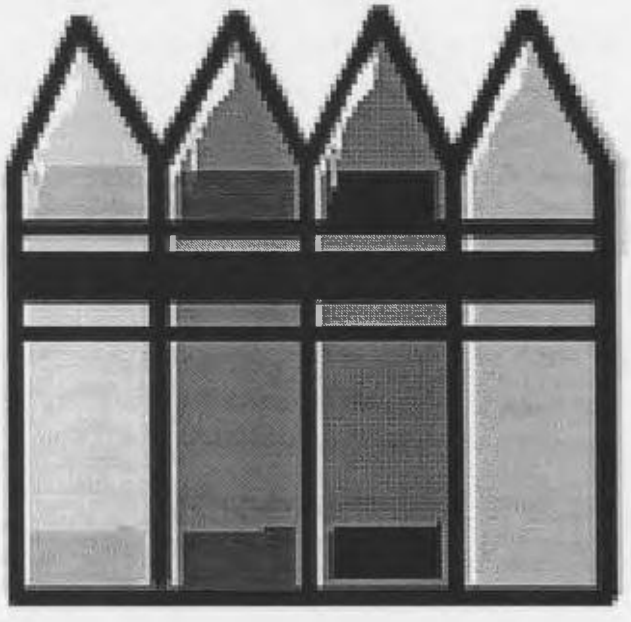
Reading and Viewing	
Students will be able to interpret, select, and combine information using a variety of strategies, resources, and technologies.	
By the end of grade 3, students will be expected to	*By the end of grade 6, students will be expected to*
Answer with assistance, their questions and those of others by seeking information form a variety of texts • Use a range of print and non-print materials to meet their needs • Use basic reference materials and a data base or electronic search.	Answer, with increasing independence, their questions and those of others by seeking information form a variety of texts • Use a range of reference texts and a data base or electronic search to facilitate the selection process.

- In addition, students can also use technology t assist them in meeting other curriculum outcomes that do not have technology explicitly stated in it. These outcomes would traditionally be met using paper, pencils, crayons,

etc.. For example, in the Grade Five English Language Arts curriculum outcome 6.1 states that students will be expected to "describe, share and discuss their personal reactions to a range of text across genres, topics and subjects " (p.?). To help students achieve this outcome teachers can have them illustrate the most memorable scene from a novel they read. Traditionally, students would use paper, pencils and other art supplies to complete this task. But computer software programs, such as Microsoft Paint, can be used to meet the same outcome.

Sample Lesson Plans

Kindergarten



Snake with a S

Kindergarten students love to work with pictures. To help recognize the beginning sounds, students will use the computer program, Kidspirations, to complete a graphic organizer on matching a letter with pictures that begin with the same sound. In this lesson students will concentrate on the letters – S, L, & M. (You can make other Super Groupers to have students work on other letters.) This is a lesson that can be done using one computer and a LCD projector or students can work in groups of two and complete the activity.

Outcomes:

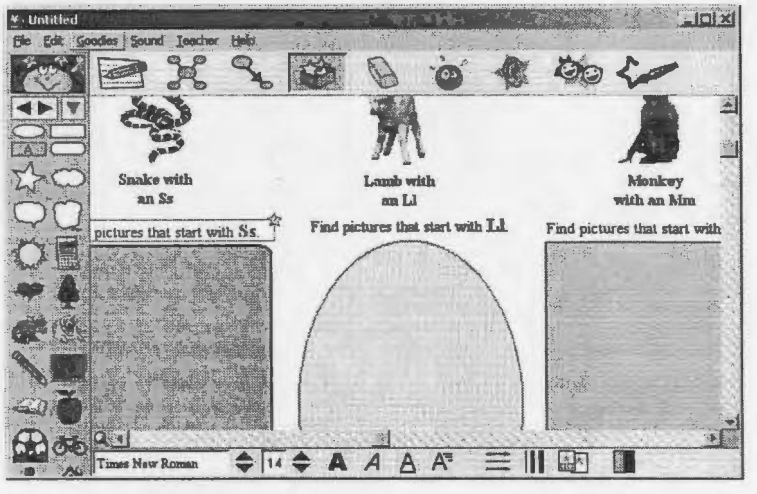
- expressing ideas in visual forms
- following simple directions
- representing ideas in different media
- knowing that books, magazines, videos, computers, and cassettes can be sources of information and pleasure
- using information technology tools such as computers
- use pictures for checking and predicting
- communicate through drawings, scribbles, invented letters, and conventional letters
- know that print holds meaning
- use drawings, approximations, and letters to record meaning
- begin to include temporary spellings in own writing
- use drawing, talking and reflecting as ways of rehearsing and planning for writing

Materials:

- computers
- Kidspiration Software

Method:

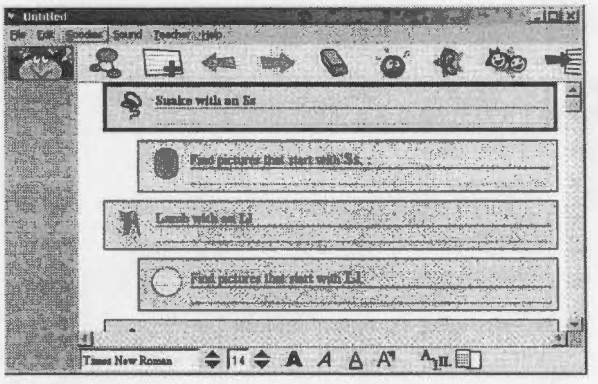
- Review with students the letters – S, L, & M.
- With the class as a whole or in groups of two, open up Kidspiration.
- On the main menu, click on the Reading and Writing icon.
- Then scroll down the screen until you find the graphic organizer labeled, *Snake with a S.* Double click on this.
- The following screen will appear:



- Choose pictures from those on the left hand side to put in the correct box. You can change the pictures by clicking on the right arrow. ▼

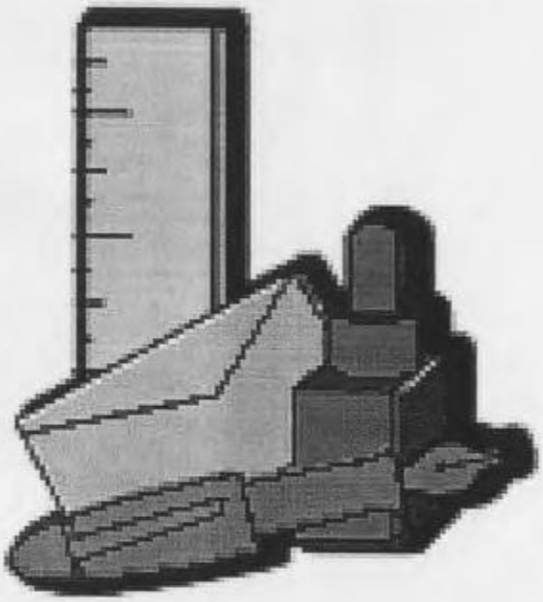
- When the chart is full, have students write sentences using the writing feature. Click on the following icon 

- The following screen will appear:



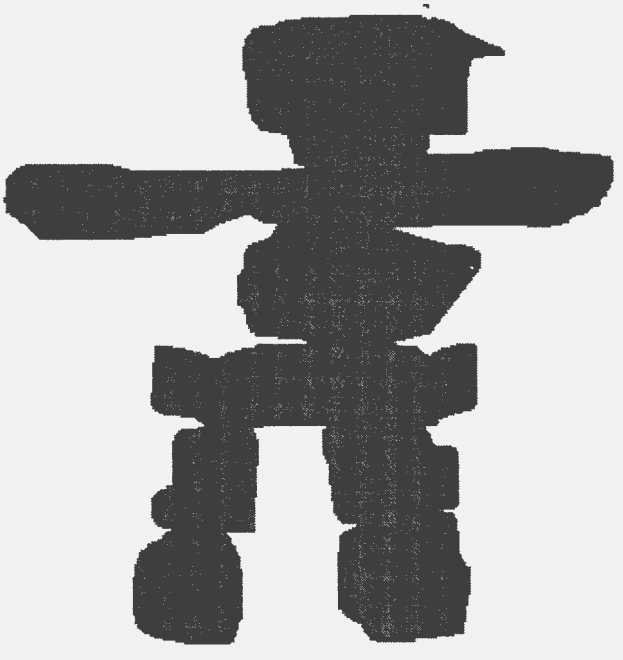
- Have students write a sentence for each picture.

Grade One



The North

Inukshuks and Northern Lights



A resource unit for Grade One.

Created: Marina Foley

****Special thanks to Ms. Lillian Bussey for her art expertise in helping me develop this unit!!!**

<u>Language Arts Outcomes:</u>

1. Students will be able to communicate information and ideas effectively and clearly, and to respond personally and critically.
    - Participate in conversation and in small and whole group discussion
    - Respond to and give simple directions or instructions

2. Students will be expected to select, read and view with understanding a range of literature, information, media, visual and audio texts.
    - Regard reading/viewing as sources of interest, enjoyment, and information

3. Students will be expected to interpret, select and combine information using a variety of strategies, resources, and technologies.
    - With assistance, interact with a variety of simple texts. (e.g., pictures, computer software, videotapes, nonfiction) as well as human and community resources.

4. Students will be expected to respond critically to a variety of texts, applying their understanding of language, forms, and genre.
    - Recognize some basic components of texts such as author, illustrator and title

5. Students will be expected to use writing and other forms of representation to explore, clarify and reflect on their thoughts, feelings, experiences and learnings; and to use their imaginations.
    - Use writing and other forms of representing to convey meaning

6. Students will be expected to create texts collaboratively and independently, using a variety of forms for a range of audiences and purposes.

- Create written and media texts using some familiar forms

7. Students will be expected to use a range of strategies to develop effective writing and media products to enhance their clarity, precision and effectiveness.

- Begin to develop strategies for prewriting, drafting, revising, editing, and presenting,
- With assistance, begin to use technology in writing and other forms of representing
- Use a drawing program/simple word processing program to create illustrations for a group story or to draw a picture and write a caption.
- With assistance engage in the research process to construct and communicate meaning.
- Interact with a variety of simple texts (e.g., pictures, computer software, videotapes, easy fiction, and nonfiction), as well as human and community resources.

Visual Arts Key Stage Curriculum Outcomes:

GCO1. Students will be expected to explore, challenge, develop and express ideas, using the skills. Language, techniques, and processes of the arts.

- 1.104 explore basic art skills, techniques, and vocabulary
- 1.105 explore a range of materials, tools, equipment, and processes

GCO3. Students will be expected to demonstrate critical awareness of and value for the role of the arts in creating and reflecting culture.

- 3.104 explore images from a variety of historical and cultural contexts.

GCO4. Students will be expected to respect the contributions to the arts of individuals and cultural groups in local and global contexts, and value the arts as a record of human experiences and expression.

- 4.202 investigate art styles from a variety of social, historical and cultural contexts
- 4.204 develop awareness of the ethnic diversity, cultural uniqueness, and influence of the visual arts in our society
- 4.206 demonstrate an awareness that many works of art can be studied according to their context (design, function, and setting)

Resources:

George, Jean Craighead (1997). ***Arctic son.*** New York: Hyperion Paperbacks for Children. ISBN: 0-7868-1179-X.

Inuglak School (1999). ***The lonely inukshuk***. Toronto: Scholastic. ISBN: 0-590-51650-7

Kusugak, Michael Arvaarluk (1993). ***Northern lights the soccer trails***. Ontario: Firefly Books. ISBN: 1-55037-338-2

Roop, Connie and Peter (2003). ***Over in the arctic***. New York: Scholastic. ISBN: 0-430-40979-9

Trottier, Maxine and Stella East (2000). ***Dreamstones***. Toronto: Stoddart Press. ISBN: 0-7737-3191-1

Turnbull, Andy (1999). ***By truck to the north***. Toronto: Annick Press. ISBN: 1-55037-550-4

Waboose, Jan Bourdeau (2000). ***Skysisters***. Toronto: Kids Can Press. ISBN: 1-55074-697-9.

Wallace, Mary (2001). ***Make your own inuksuk***. Toronto: Owl Books. ISBN: 1-894379-09-8

→ Two poems about the northern lights were used. These poems were taken from, ***The Canadian Arctic Inuit: Grades 2-3***, {Irons, Jaonne, (1998). ***The Canadian Arctic Inuit: Grades 2-3***. (S & S Learning Materials.}

The Unit

The goal for this unit is to bring children's literature and art together so that Grade one students can learn about the North, with emphasis being placed on the Northern Lights and Inukshuks.

Unit Outline:

1. Introduction to the North
    - Students will learn about the animals, people, land, and other aspects of the North.
    - The following resources are used:
        - ***"Over in the arctic"*** by Connie and Peter Roop
        - ***"Arctic Son"*** by Jean Craighead George
    - Read these stories to the students. After reading each book go through the story again. Discuss what they learned through the stories.
    - Fill in the chart
    - Sample chart:

Animals	People
Land	Other

2. Northern Lights
    - After students have a general knowledge of the North, it is time to introduce the Northern Lights
    - The following resources are used:
        - *"Northern Lights the Soccer Trails"* by Michael Kusugak
        - *"Skysisters"* by Jan Bourdeau Waboose
        - Two poems by Joanne Irons
        - Northern Lights slide show.
    - Before reading the books tell the students what the Northern Lights are and how they are also known as the Aurora Borealis.
    - Read the stories and discuss the different beliefs people have about the Northern Lights.
    - Read the two poems by Joanna Irons. Have students stand and imitate how they would show the movement of the Northern Lights. How would they have to move their bodies to show twirling, swirling and whirling? How could they show this movement with lines on a piece of paper?
    - Show the Northern Lights slide show. Discuss with students the various colours of the lights. Also discuss that the lights are seen in many different patterns – up and down, sideways, swirling, etc.
    - Show students the sample Northern Lights made on cotton.
    - With all of the visual pictures make sure to note that all of the Northern Lights are different.
    - Set the slide show to run continuously.
    - Tell students that they are all going to be artists. Provide each student with their own artist canvas – cotton stretched over a piece of cardboard.
    - Using regular wax crayons – we found Crayola to be the best – have students create their own Northern Lights.
    - Make sure to emphasize that all Northern Lights are different so each student should create their own interpretation of them.

- When the pictures are finished glue a stand to the back so that the pictures can stand upright.

3. Inukshuks
    - The following resources are used:
        - ***"Dreamstones"*** by: Maxine Trottier
        - ***"The Lonely inukshuk"*** by Students of Inuglak School
        - ***"Make your own inuksuk"*** by: Mary Wallace.
        - Inukshuk slide show.
    - Read the stories to the students in the following order, ***Dreamstones,*** and ***The Lonely inukshuk.***
    - Have the students figure out what an inukshuk is. (This is evident in the stories).
    - Help them make a chart of the different uses of inukshuks.
    - Discuss what they are made of.
    - Read Mary Wallace's book, ***Make your Own Inukshuk.***
    - Discuss how she uses inukshuks
    - Show the Inukshuk slide show. While this is playing point out to the students that all of the inukshuks are different. They are different sizes, different shapes. They are made from different kinds of rocks.
    - To keep the idea that inukshuks are made from rock, have each student choose a beach rock from the basket. These are to be used to display the inukshuk they will make.
    - Before, determine how much modeling clay is needed to make an inukshuk. Divide your modeling clay into these amounts and make them into the shapes of balls.
    - Have students choose a ball of modeling clay (colours will vary).
    - Using that modeling clay they are to create an inukshuk and display it on their beach rock.
    - If they have any modeling clay left over it is to be placed back in the container for future use.

4. Digital Photographers

- Now it is time to put the Northern Lights and Inukshuks together.
- Using a piece of black material create a back drop so that you can place the Northern Lights and Inukshuks in front of to get a picture of them.
- Have students come to the resource center in groups of four.
- They have to collect their Northern Lights and Inukshuks that are displayed through out the room
- One at a time get them to place their creations in front of the black back drop.
- They should put their Northern Lights canvas down first and them position the inukshuk in front of it.
- Help students use the digital camera. Have them focus and take the picture.
- Move all of the pictures into a common file on the server.

5. Poets

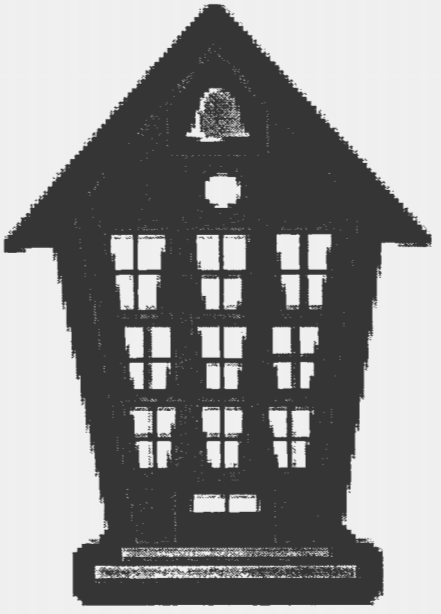
- Around the resource center display the various charts that were created earlier – The North (animals, people, land), The different uses of Inukshuks.
- With students brainstorm words that describe the Northern Lights and Inukshuks.
- Record this on a piece of chart paper.
- Make sure key words are indicated – colours, direction, move, point, dance, swirl, twirl, rocks, shape, different, etc.
- Before students begin to write their poems, read two of Joanna Irons' poems to them out loud. Also read a couple more examples of poetry that doesn't rhyme.
- Keep reminding the students that poems do not have to rhyme.
- Have students write a rough copy of a poem. Their poem can be about the North in general, the Northern Lights, and/or Inukshuks.
- Collect poems and edit their work.

- Find at least 8 elementary students to help in the computer lab.
- Have grade one students come to the lab in groups of 8. Each student will work with an elementary student who will help type the poem into Microsoft Word.
- The elementary students will format the poem so that each line is centered.
- Import the students picture of his/her inukshuk and place it on the lower part of the page.
- Save the work – use the student's name as the file name.

6. Final Step
    - Print each page – containing the poem and picture – out on the colour printer.
    - Place the pages into sheet protectors and put in a binder.
    - Display this book in the library for all students to see

7. Something Special
    - For something a little special I printed an extra copy of each student's poem and picture. I mounted these onto sheets of construction paper and laminated them. When the classes came into the resource center for the last period of this unit, I presented them with the laminated copy and they were able to bring it home with their Northern Lights and Inukshuk.

Grade Two



Grade 2 – Fairytales

This is a resource-based unit that was developed to be run in the school library. It consists of 6 different centers. At each center there is an instruction card and each student is given a booklet in which to complete their work.

Outcomes

- Give and follow instructions and respond to questions and directions
- Participate in conversation, small-group and whole-group discussion understanding when to speak and when to listen
- Use basic courtesies and conventions of conversation in group work
- Use printed text and other forms of visual representation as sources for new information
- Use a primary dictionary independently to aid meaning
- Identify main idea and supporting details in text
- Answer with assistance, their own questions and those of others by seeking out information using a variety of texts
- Use an increasing number of genres and know that different genres have different characteristics
- Experiment in imaginative writing and other ways of representing
- Create written and media texts using a variety of forms
- Use a range of prewriting, drafting, revising, editing and presentation strategies
- Use a variety of publishing/presenting techniques and modes
- Use technology in writing and other forms of representing.

Materials

- Books
    - "Jack and the Beanstalk"
    - "Jim and the Beanstalk"

    - "The Three Little Pigs"
    - "Rapunzel"
- dictionaries
- paper clips, blocks
- rulers (30cm)
- computers with word processor and Internet access
- modeling clay, construction paper, pipe cleaners, wiggly eyes
- digital camera
- pigs on pink construction paper (print the pig sheet and cut them out, enough for one per student).
- Chart paper
- Website – http://www.brementownmusicians.com/en/main

Advance Activity

→ Read to your students several fairytales and discuss the types of homes they have. Also discuss the different characters and what you may find in their homes.

→ Then have students look at real estate ads in the newspaper. Make a list on chart paper of the important characteristics.

→ Students are to choose a fairytale home and write a real estate add to try and sell it. Encourage them to be very creative. (This should be developed through the writing process).

→ Make sure that the students' copies are edited and revised before they begin the resource unit. These will be used at center 4.

Centre 1

Fractured Fairy Tales - A Comparison

At this center you will read two fairytales and then compare the giant. The stories you will read are, "Jack and the Beanstalk" and "Jim and the Beanstalk".

* Have a parent volunteer or a group member read the story, "Jack and the Beanstalk" to your group. Then, open up your booklet and fill-in the first column.

* Next have the reader read the story "Jim and the beanstalk" to the group and fill in the second column.

* Discuss how the tow giants are alike and different.

* For questions 3 & 4 make sure you use details from the story to support your answers.

* When drawing your picture be creative!

Centre 2

Using the Dictionary

At this center you will use the "Scholastic Children's Dictionary" to complete the activity.

* Read through the word list.
* In the chart in your booklet, write the words in alphabetical order.
* Look up each word in the dictionary and print its meaning in the space provided.
* After you have all of the definitions, illustrate each word.

magic

princess

witch

fairy

ugly

potion

Centre 3

Fairy Tale Math - *Rapunzel*

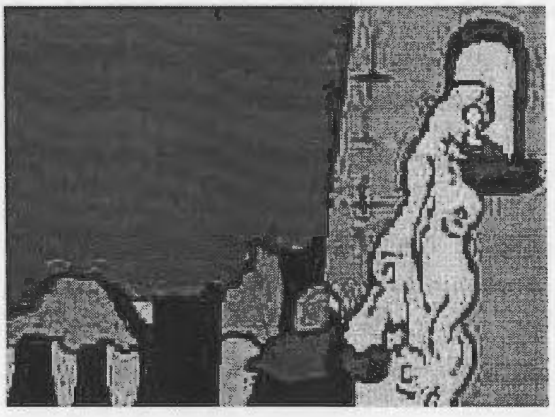
At this center you will read the story, "Rapunzel", a fairy tale that was written by the Brothers Grimm. Rapunzel has very long hair and you will use this to complete the activities.

* Read the story, "Rapunzel".

* Discuss Rapunzel's hair - how long and strong it must be.

* In groups of two, use the supplies at this center to answer questions 2, 3, and 4 in your booklet. Make sure you take turns measuring Rapunzel's braids.

* Get back in your larger group and discuss question 5 - why do we need standard measurement tools like rulers and metre sticks? Answer the question in complete sentences.



Centre 4

Fairy Tale Real Estate

At this center you will type up the final copy of your "Fairy Tale Real Estate" Ad. You will also add a graphic.

* At your computer open up the program, Microsoft Word - this is a word processor.

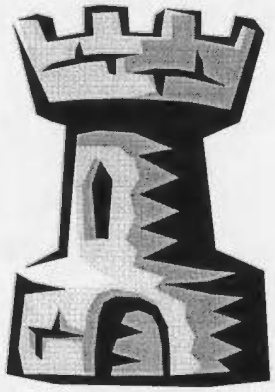
* Choose the style of font that you would like to use and the size of it.

* Type in your real estate ad. Make sure you use capital letters and correct punctuation.

* When you have it typed in save it in the class folder and title it your name.

* Now you are ready to add a picture to it. If you want to draw a picture, print the advertisement and begin your picture.

* There are two other ways to add a picture. You can search for an image on the Internet or you can draw a picture in the PAINT program and import it. The volunteer at this center will help you do this.



Centre 5
The Three Pigs

At this center you will do activities based on the story, "The Three Little Pigs".

* Have a volunteer or member of your group read "The Three Pigs" to the group.
* After reading the story, answer question 1 – Which of the three pigs do you like best? Why? (Make sure you support your answer.)
* Next, take a pig from the pile and print your name on it. Then glue it on to the chart paper above the name of the pig you liked the best. We are going to create a graph to see what the class chose.
* Now you are ready to make a diorama of your favorite pig.
* First, take a rectangular piece of construction paper and fold it as follows (across the dotted lines), This will allow the construction paper to stand up on the table.

* Print your name on the back of the paper. On the front side draw and colour a picture of your pig's home. It can be a picture of the outside or inside of it. But make sure you can tell what the house is made of – hay, sticks or bricks.
* Next, make a pig out of the supplies modeling clay, pipe cleaner, & wiggly eyes.
* Display your pig in front of his house.
* Take a picture of your creation using the digital camera. These will be kept to make a webpage at a later date.

Centre 6

The Brementown Musicians

This is a fun center. Here you get to listen to a story on the computer and then play different games based on various fairy tales.

* Get into groups of 2 or 3.
* In your group go to one of the computers that has a picture of a musical instrument taped to it.
* At this computer you will be listening to the story, "*The Brementown Musicians*" on the website, http://www.brementownmusicians.com/en/main
* This site is already loaded for you.
* Put on your headphones before you begin.
* You will have to use your mouse to click through the story.
* As each page is finished, click on the **PLAY** button next to the illustration. Each illustration in animated.
* When the story is finished use your mouse to click on **QUIT STORY**.
* On the next page, use your mouse and click on **PLAY A GAME**.
* Have fun playing this memory game!!
* If time permits play more games.

Grade 2 Resource Unit

Fairytales

Name: _____ Class: _____

****As you complete a centre colour it in below.**

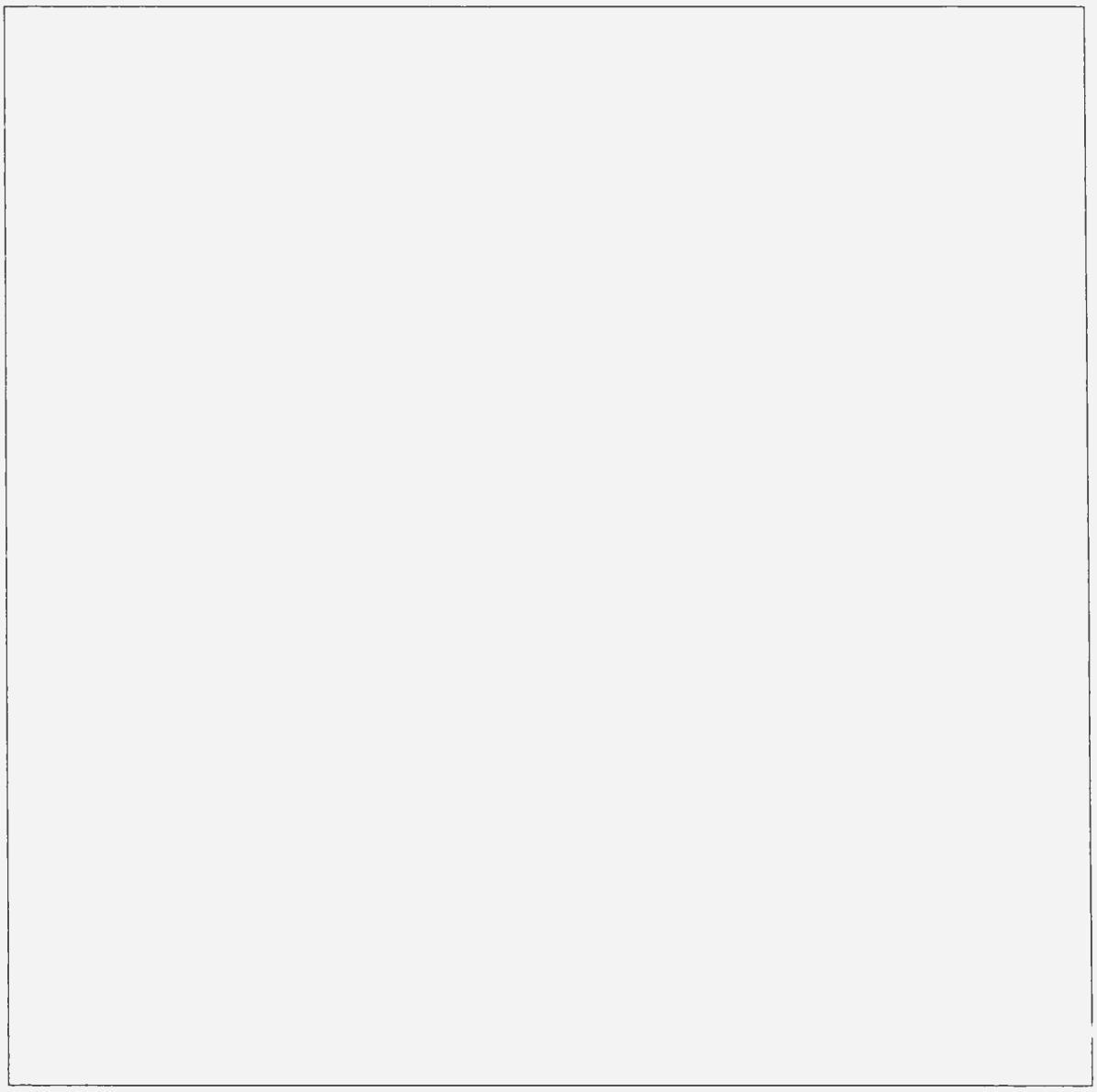
Centre 1
Fractured Fairy Tales - A Comparison

Jack and the Beanstalk	Jim and the Beanstalk
1. The two main characters are:	1. The two main characters are:
2. Describe the giant in this story.	2. Describe the giant in this story.

3. Which character is more like you? Why?

4. Which story do you like better? Tell why.

5. Draw and illustrate a scene or character from your favorite story.



Centre 2
Using the Dictionary

Word List: magic, princess, witch, fairy, ugly, potion

Instructions:

1. Read through the word list.
2. In the chart below write the words in alphabetical order.
3. Look up the meaning of each word in the dictionary and print it next to the word.
4. In the space provided, illustrate each word.

Word	Definition	Illustration
1._____		
2. _____		
3. _____		
4. _____		
5. _____		
6. _____		

Centre 3
Fairy Tale Math
Rapunzel

Read the fairy tale, ***Rapunzel.***

1. How long do you think Rapunzel's hair is? Why?

_____

_____

_____

_____

2. In groups of two, take one of the golden braids at this centre and measure it using one of the following: paper clips, fingers, feet, or blocks. How long is your braid? _____

3. In your group of two, measure your braid again using **another** unit of measurement from the list. How long is the braid? _____

4. Use a ruler (30cm) to measure the braid for the third time. How long is the braid? _____

5. Why do you think we need standard measurement tools like rulers and metre sticks?

_____

_____

Centre 4

Fairy Tale Real Estate

In class you have written a real estate ad for a fairy tale house. At this centre you will type up your real estate ad and print it off. You will be using the program Microsoft Word to type your advertisement.

You also have to draw a picture to go with your advertisements. You can use pencils and crayons, the computer program PAINT, or download a picture from the internet.

Centre 5

The Three Little Pigs

Read the story, ***The Three Little Pigs***.

1. Which of the three pigs did you like the best? Why?

_____

_____

_____

_____

_____

_____

_____

2. Take one of the pictures of the pig at the centre and print your name on it. Then on the class chart, glue your pig above the one you chose as your favorite.

3. On the construction paper provided draw a picture of your pig's house. Be creative and colourful. Print your name on the back of your picture. (Use the example as a guide.)

4. When you have your picture finished, make a model of your favorite pig from the play dough and other materials found at the centre.

5. Take a picture of your artwork using the digital camera.

Centre 6

Brementown Musicians

1. Get into groups of 2 or 3.
2. In your group go to one of the computers that has a picture of a musical instrument taped to it.
3. At this computer you will be listening to the story, "*The Brementown Musicians*" on the website, http://www.brementownmusicians.com/en/main.
4. This site is already loaded for you.
5. Put on your headphones before you begin.
6. You will have to use your mouse to click through the story.
7. As each page is finished, click on the **PLAY** button next to the illustration. Each illustration in animated.
8. When the story is finished use your mouse to click on **QUIT STORY**.
9. On the next page, use your mouse and click on **PLAY A GAME**.
10. Have fun playing this memory game!!

Pourquoi Tales

Pourquoi tales are old legends that were first created to explain why certain things happened. Most of these tales deal with animals. Students will learn the characteristics of pourquoi. To demonstrate their understanding, students will create their own pourquoi tales.

Outcomes

- Identify main idea and supporting details in text
- Use an increasing number of genres and know that different genres have different characteristics.
- Create written and media texts using a variety of forms.
- Use a range of prewriting, drafting, revising, editing and presentation strategies.
- Use technology in writing and other forms of representing.

Materials

- Examples of Pourquoi tales:
  - Why Mosquitoes Buzz in People's Ears
  - How the leopard got its spots
  - Why the sun and the moon live in the sky
- Computer with word processor and Internet connection.
- Kidspiration Software
- Chart paper

Method

→ Begin the unit/lesson by introducing students to the books. Hold up each book and read the titles. Have students discuss what they think the stories will be about.

→ Read the stories to the class. Discuss the common characteristics. Some possible questions for discussion are:

- What do you notice about these stories?
- Do they have anything in common?
- Why do you think they were written?

→ Have students brainstorm some questions they would like to answer. Record these on a chart or on the board.

→ Students will then choose a topic to write their own pourquoi tale. It is very important to plan the story.

→ Using Kidspirations, have students create a web to show the different elements of their tale. This should include: the question they will answer (title), setting, characters, main event, and any other things that are going to happen.

→ Using this web as a guide, have students write their tales using a word processor. (Develop this through the writing process.)

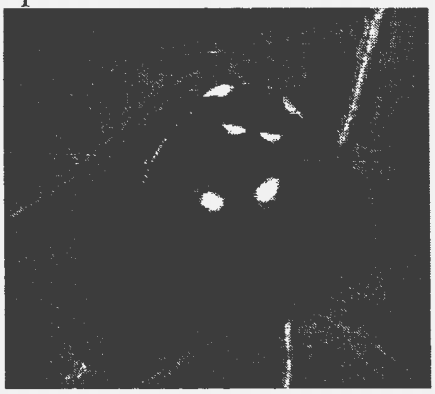
→ When the tales are finished have students find a picture of their animal and import it in to their story. (You can use Google Image Search at http://www.google.ca/imghp?hl=en&tab=wi&q=).

→ It is time to publish the work. You can either print the stories and bind them into a class book or you can save them as HTML files and create web pages.

Student Samples

how the ladybug got it's spots

once there was a ladybug. he wanted to go flying. So he did. He went so far when it started to rain he could not find his way home. It started to rain black. When he got home he washed his black off Only some of it didn't come off. Thats how the ladybug got it's spots.



by student 1

Why Snakes Have No Legs

One day snake was walking along. He was watching Where he was going but then a bear splashed him In his eyes. He couldn't see and then a tree fell on his legs! He pulled and pulled until his legs came off and that's why snakes have no legs.

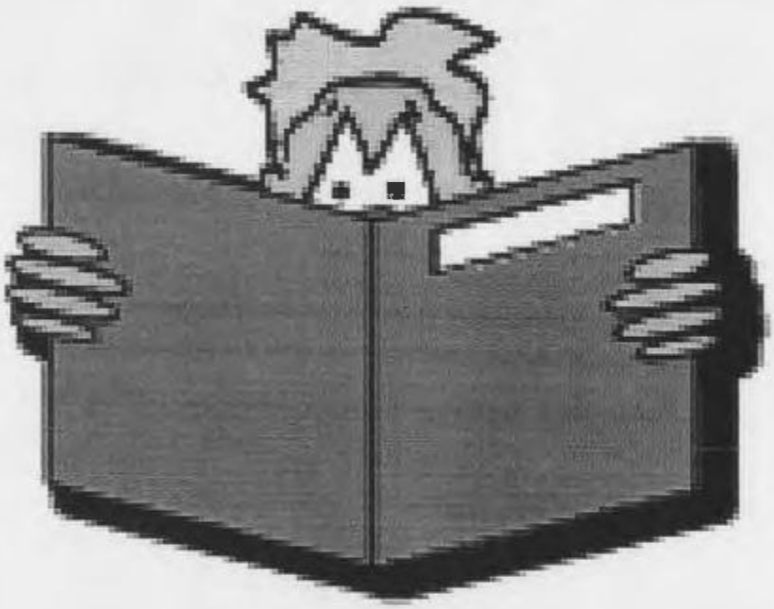
How the dalmatian got his spots

Once upon a time there was a dalmatian and he had no spots.

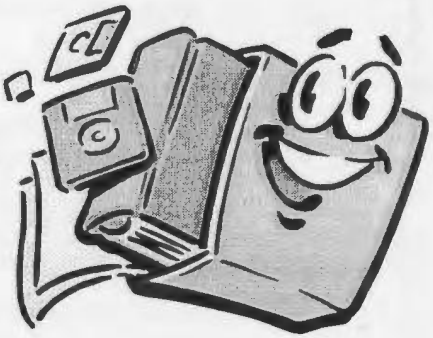
One day he found a can of black paint and he fell in to it.

When he got up and shook himself off he had spots all over him .
That is how the dalmation got his spots .

Grade Three



Media Mix



Publishing students' work is awesome. In this lesson have students create a class book of poetry and present it to the rest of the school.

Outcomes

- Use a simple word processing program to draft, revise, edit and publish.
- Use a drawing program (computer software).
- Use a variety of strategies for generating and organizing ideas for writing.
- Demonstrate pride and sense of ownership in writing/representing efforts.
- Create written and media texts using a variety of forms: experiment with a combination of writing with other media to increase the impact of their presentation.

Materials

- "The way I feel", by Janan Cain (ISBN 1-884734-71-5)
- "Dinorella", by Pamela Duncan Edwards (ISBN 0-590-635034)
- "Dinosaurs eye to eye" (ISBN 1-57755-340-3)
- Teacher's Guide 3 – Keepsakes and treasures
- Keepsakes and Treasures, student anthology

Method

→ Read and discuss, "*What do authors do?*" with your students. This describes what an author does to write a book.

→ Inform your class that they are going to work together to create a class poetry book. But before this can happen they have to look at some of the features used by authors.

→ Have students read and examine the following books – "The way I feel", by Janan Cain; "Dinorella", by Pamela Duncan Edwards; and "Dinosaurs eye to eye".

→ Discuss with students why authors use different styles of words.

→ Demonstrate to students that a word processor contains many fonts to choose from. Do this by either using the LCD projector or hooking up a computer to a t.v.

→ Put students in groups of two to experiment with the different fonts available. At first you may want to let them print their names in different fonts to see what they look like. Then have them create a poster, which they can print and put in their folder, that shows what 12 different fonts look like. They should choose fonts that they may use when typing their poems. (Hint – have them print the different fonts by typing the name of it. For example, Times New Roman, Beanie, Jokerman.)

→ Expose students to various forms of poetry – Acrostic, Cinquain, Haiku, Limerick, Shape, Free Verse, etc. Students should choose one form of poetry in which to write a poem of their own (following the writing process). With in the poems, students should use some of the techniques used by authors.

→ Have students write their poems using a word processor. They can use the different fonts to highlight words in their poems and to make it more effective. They can also change the colour of the font.

→ Design a cover for a class poetry book. Brainstorm ideas and record them on a chart to be displayed in class. You can then create the cover as a group or have students create covers and then choose one from them. Covers can be created in a drawing program such as PAINT where students can draw their own pictures and use clip art, or they can use a word processor, such as Microsoft Word, and import pictures or clip art. Once the cover has been chosen print it.

→ When the poems are completed, print and bind them into a poetry book.

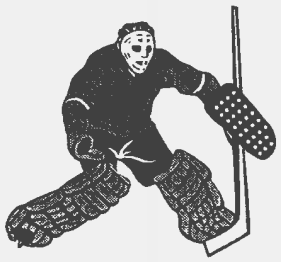
→ Once the book is completed schedule a "meet the author" day in your classroom (Teacher's Guide, p.189). In advance, have students create posters to invite other classes and teachers to visit your special event. These posters should include slogans that will attract people. Posters should also be made to welcome people to the class on the day of the event.

→ In advance of the "meet the author" day, students should practice what they are going to say. Someone should welcome the guests to the class, someone else should introduce the book, other students should be ready to share their poetry, etc.

→ On the day of the event, display welcoming posters and make the classroom feel very inviting. Present the book and have some of the students read their poetry.

→ Let the students take turns bringing the class book home to share with their parents. At the end of the year donate the book to the school library.

The Hockey Card



Most students enjoy sports. In this activity students will read the book, "*The hockey card*" by Jack Siemiatycki and Avi Slodovnick. They will then research their favorite hockey player and create a hockey card for him.

Outcomes

- Describe, share and discuss thoughts, feelings, and experiences and consider others' ideas
- Participate in conversation, small-group and whole-group discussion, understanding when to speak and when to listen.
- Use prereading/previewing strategies, such as: predicting what the text will be about based on its title and pictures, as well as their personal experiences with the topic.
- Use appropriate techniques for publishing/presenting.
- Engage in writing/representing activities for sustained periods of time.
- Demonstrate pride and sense of ownership in writing /representing efforts.
- Create written and media texts using a variety of forms: combine writing with other media to increase impact.

Materials

- *The Hockey Card*, written by Jack Siemiatycki and Avi Slodovnick, illustrated by Doris Barrette (ISBN 1894222806)
- Hockey cards (enough for one per group of 3-4 students).
- Chart paper, markers
- Computers with Internet access
- Colour printer and paper
- Cardboard or construction paper
- Glue

Method

→ Show students the book, *The Hockey Card*. Have them predict what they think the story will be about.

→ Read the story to them, stopping to discuss various parts of the story. Again get them to predict what is going to happen next.

→ When the story is complete, have students share how they think Uncle Jack felt when he won the game of odds and evens.

→ Next begin a class discussion about hockey – the teams in the various leagues, their favorite players, etc. (You can even survey the class to see who their favorite teams are and create a bar graph to show the result.)

→ Divide the class into groups of 3 or 4. Give each group a hockey card to examine. Tell them they have 5 minutes to record the different types of information you find on the card. (For example: a picture, their name and team, a team logo, statistics, etc)

→ After 5 minutes have the groups share what they found. Record their information on a piece of chart paper.

→ Next have students create a hockey card for their favorite hockey player. It should include the information that they found is usually on a card.

→ Students can use books, magazines, and Internet resources to find their information. The following are some web sites that they may find useful:

- http://www.nhl.com/ (The official web site of the NHL)
- http://sports.espn.go.com/nhl/players (ESPN)

- http://www.nhlpa.com/ (The official web site for the National Hockey League Players Association)

→ Have students print their cards and glue them together to make a two-sided card. (Put construction paper or cardboard between the layers).

→ Display their cards for all to see!!

Grade FOUR

And the message is ...

Media literacy is very important for today's students. This lesson helps students look critically at information that is presented to them. Not everything they see is real, and students need to be made aware of this.

Outcomes

- Describe, share and discuss their personal reactions to text.
- Use their background knowledge to question information presented in print and visual texts.
- Respond critically to texts.
- Create media texts in different modes
- Use technology with increasing proficiency in writing and other forms of representing.

Materials

- TV and Me Video. (For a complimentary TV&ME for Educators video, go to http://www.cca-kids.ca/tvandme/english/educators/index.html, and down load the order form.)
- TV and VCR
- Computers
- Pictures in file on computer – bowl of soup and bowl of fruit, and pictures of birds, camera, cat, cow, hippo, etc.
- Instructions for PAINT

And the Message is...

House Hippo

People are watching more and more television and spending more time on the computer. However, you need to realize that what you are watching has been constructed and a lot of thought has gone into making it. Very talented people have worked very hard making you, as a viewer, believe what you are watching. You need to critically view and think about what you see, hear and read.

Activity 1:

- ➔ Watch the commercial titled. "House Hippo".
- ➔ After watching the commercial answer the questions on your worksheet.

Activity 2:

- ➔ It's your turn to try and construct a unique picture.
- ➔ You are going to create a picture that looks real but is actually impossible to be true.
- ➔ You will use the PAINT program to combine two pictures.
- ➔ At this centre you will use a picture of a bowl of soup or a picture of fruit as your main picture and add a copy of another picture into it. Try to make this look as real as possible.
- ➔ Follow the directions on the page titled "Instructions for PAINT". This can be found at your centre.

And the Message is...

House Hippo

Activity 1:

→ Watch the commercial titled. "House Hippo" then answer the following questions.

1. What do you think is the purpose of this commercial?

_____

_____

_____

_____

_____

2. Why do you think it is important to ask questions when you see or hear something that doesn't seem possible?

_____

_____

_____

_____

_____

_____

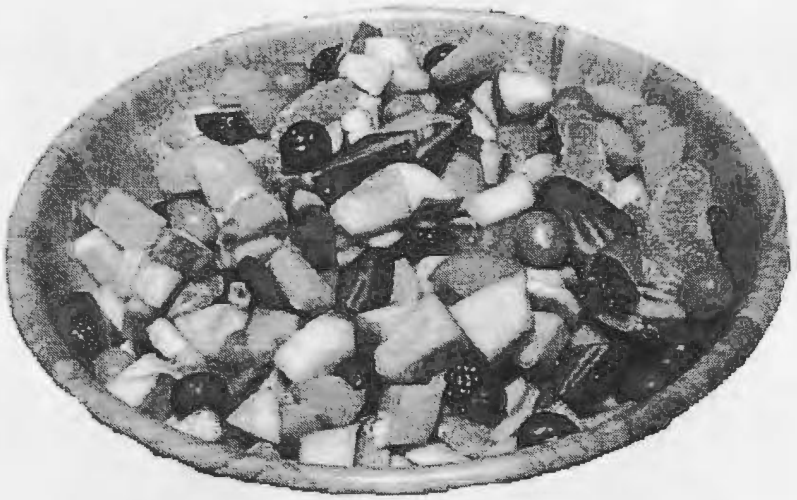
_____

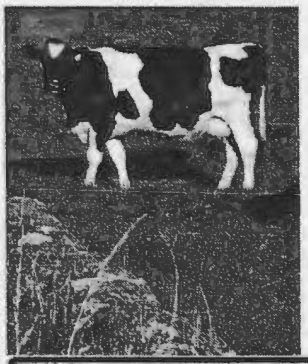
_____

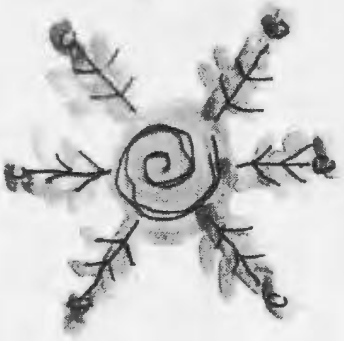
_____

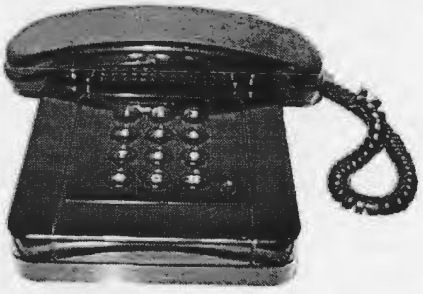
Activity 2:

- ➔ It's your turn to try and construct a unique picture. You are going to create a picture that looks real but is actually impossible to be true. You will use the PAINT program to combine two pictures.
- ➔ Follow the instructions that are posted in the Computer Room.

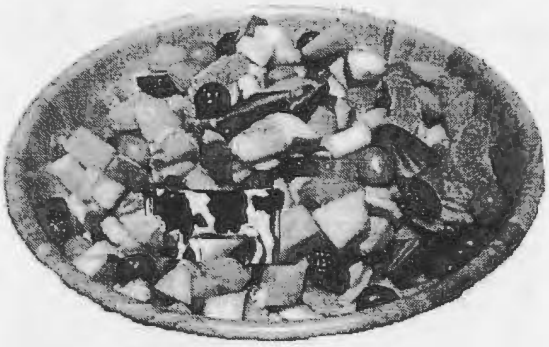


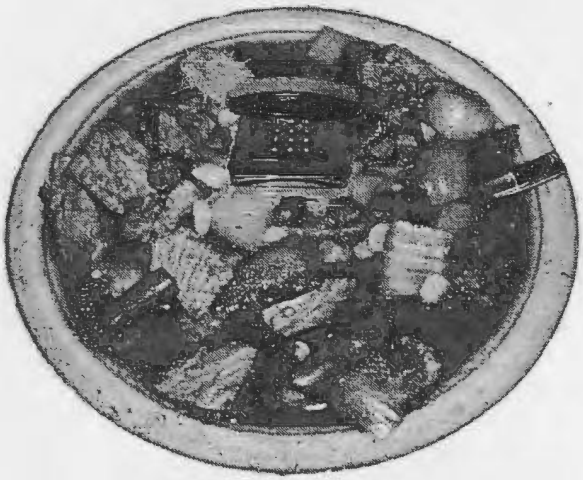


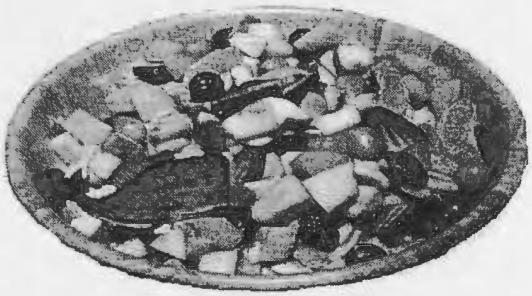




Student Samples





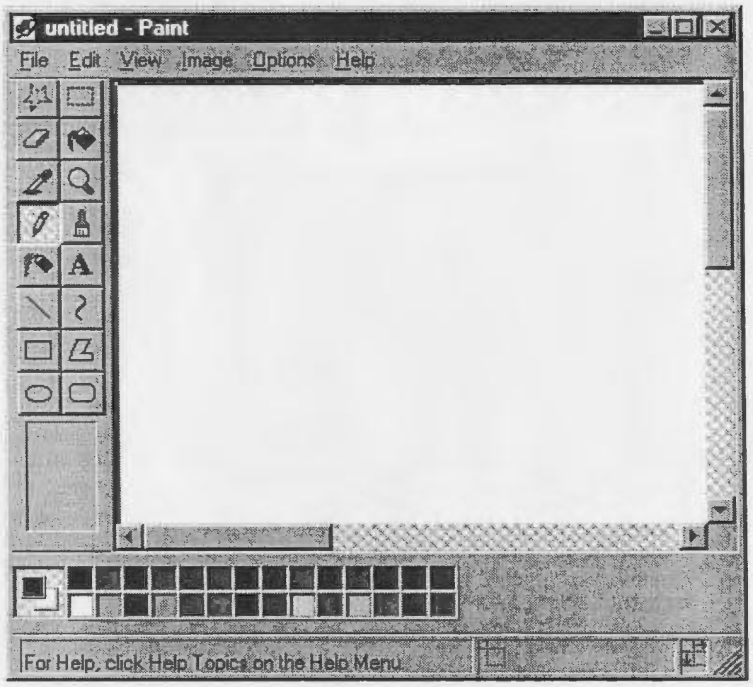


Instructions for PAINT

To Open Program:

➔ To open program click on the **START** menu, then **Programs**, then **Accessories** and finally **PAINT**

➔ You will see a screen similar to the following.

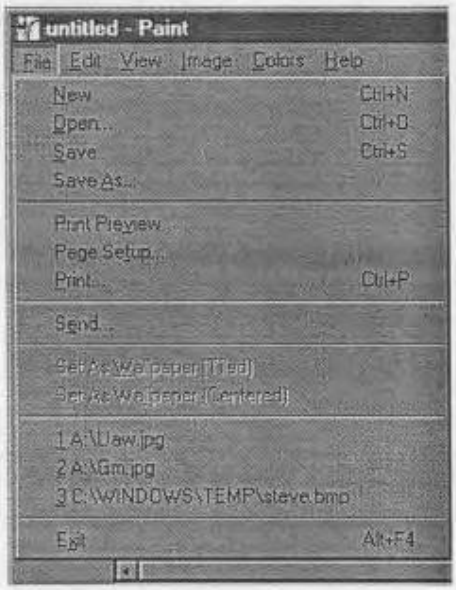


Opening Picture

➔ Choose a picture from the list of those at the centre that can be edited to add to the bowl of soup or the picture of fruit.
➔ Open the picture, by following these instructions.

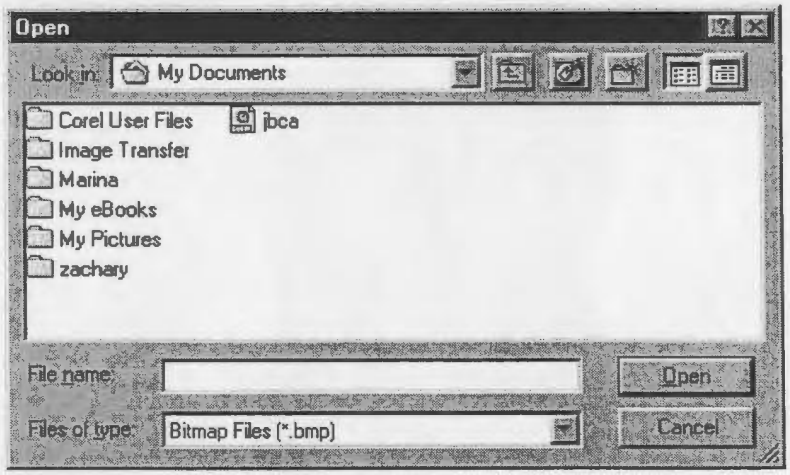
- On the toolbar, use your mouse and click on the word FILE.

- A pop-down menu will appear.



- Click on **Open.**

- In the File Name window(box), type in the file name of the picture you chose. Click on **Open.**

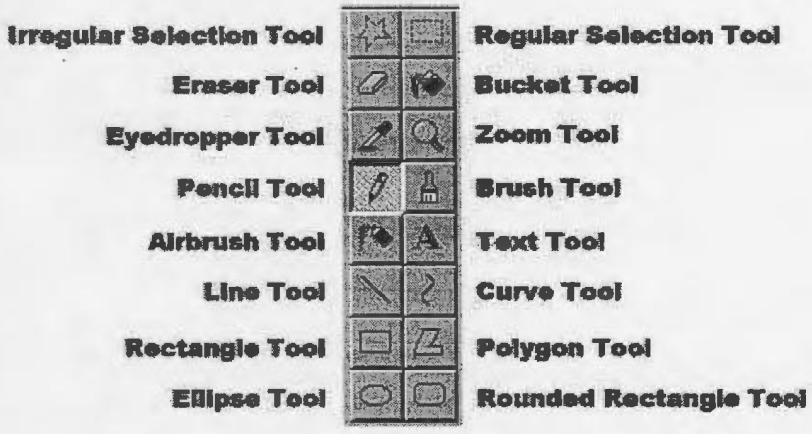


- The picture will now open in PAINT

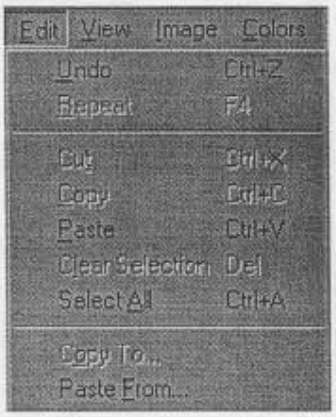
Editing the Picture

→ Once the picture has loaded click on the ***Irregular Selection Tool*** on the tool bar.

→ Click (



- Carefully trace the outline of the image. Make sure that the line touches at the end.
- When you have finished outlining the image, click on **EDIT** on the tool bar and then **copy**.



Open Image of Bowl of Soup or Fruit

- Open up the image of the bowl of soup or fruit. You do this by following the same steps as listed above.

Putting the two pictures together

- Once you have the picture of the bowl of soup or fruit open, click on **EDIT** on the tool bar and then **paste**.

- This will paste the picture of the image you cut out off of the other picture into the bowl of soup.

- Click on the Transparent button, to make the background of your image transparent.

→ Position the image where you want it to be located in the bowl of soup.

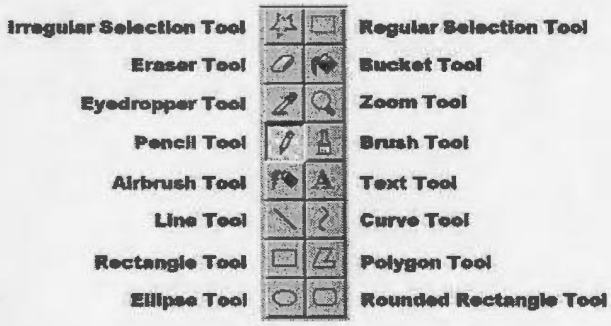
→ Save your picture. Click on File – Save As. Make sure you are saving to the P drive (p:). In the file name box type in your first and last name as the file name. (For example, john_doe). Then press enter

Editing the Combined Picture

→ Close to the image you will still have colors from the original picture - you will want to try to change the colors to blend in.

→ To do this follow these instructions;

- From the Tool Bar click on the ***Zoom Tool***. 



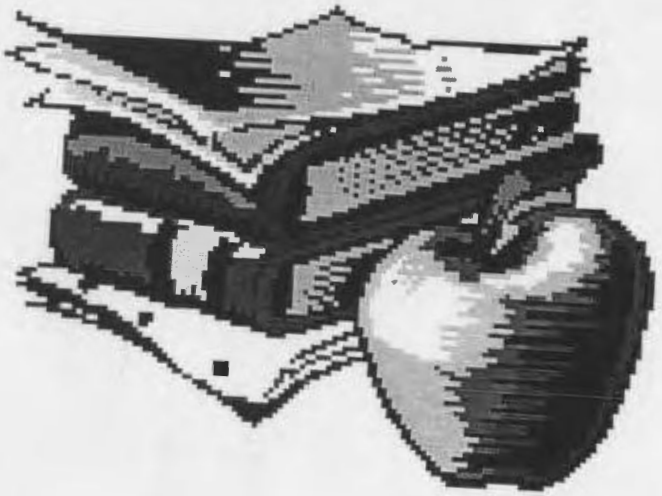
- Position the magnifying glass over the image you imported and click on your mouse.
- You will notice that the colors do not match.
- To get the colors to match you will have to use the eyedropper tool.
- Choose a color that you want to use.
- Click on the **Eyedropper Tool** on the Tool Bar. 
- Position the eyedropper over the color you want to "pick up". Click on your mouse.
- You are now ready to add this color around your imported image

- To color around the image you will want to use one of the following tools:
    - **Pencil Tool:** this is used to draw simple lines by guiding it with your mouse. 
    - **Paint Brush Tool:** This is used similar to the pencil but the shape and size of the Paint Brush can changed. You can use square, round, and slanted shaped brushes, of various sizes. It applies color evenly. 
    - **Air Brush Tool:** It applies color gradually. The color can be applied in three different sizes. 

- Choose which tool you want to use and color around the image.
- Each time you want to change the color you need to use the **eyedropper tool** and then select a **painting tool**.

- When you are finished save your picture by clicking on FILE, then SAVE.

Grade Five



Duncan's Way

Newfoundlanders have been faced with many hardships over the years. One is the cod moratorium. The book, "Duncan's way" by Ian Wallace, tells a story of a family that was affected by the moratorium. The following is a lesson that was created by both myself and Jackie Butler. Hopefully it can serve as an example.

Outcomes:

- explain why a particular text matters to them and demonstrate an increasing ability to make connections among texts
- reflect on and give reasons for their interpretations of an increasing variety of texts
- identify the conventions and structure of a variety of print and media texts and genres
- use a range of strategies in writing and other ways of representing
- create written and media texts using an increasing variety of forms
- demonstrate understanding that particular forms require the use of specific features, structures, and patterns
- use technology with increasing proficiency to create, revise, edit, and publish texts
- use technology with increasing proficiency to create, revise, edit, and publish texts.

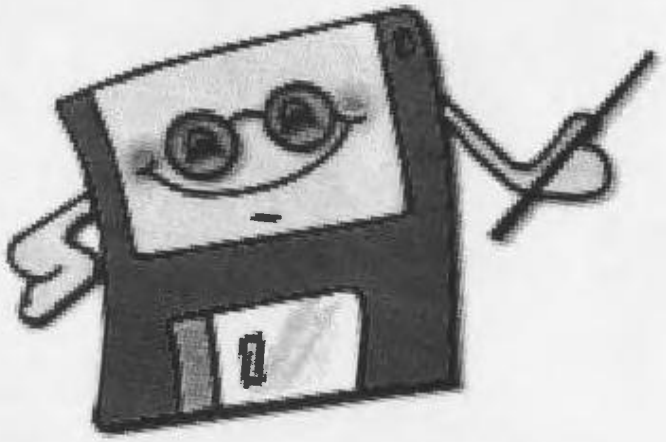
Materials:

- "Duncan's way" by Ian Wallace
- digital camera
- computer
- digital sound recorder
- computer program such as Macromedia Flash, Microsoft Word, etc

Method

- Read the story "Duncan's way' to the class. Discuss the story – the effects of the moratorium, how it effected the families, how Duncan felt, etc.
- There maybe students in your class that can share their own experiences with the topic.
- This story and topic lends itself to many activities. The following are samples of activities that students may choose to do after reading and discussing the story.
    - Represent the main ideas of the story. This can be done using Macromedia Flash.
    - Create a character sketch of one of the characters using Microsoft Paint.
    - Record sounds that are heard in the story and include some creative writing.
    - Visit a fishing community and take some digital photographs that show how it has been effect by the moratorium. Write captions for the pictures or write an essay to accompany them.
    - Research the moratorium and how it has affected our province. Record you results in a graph.

Grade Six



Helping to Preserve the Wildlands: A Photo -Essay

Have students create photo-essays that show how students and teachers in your school can help protect the wildlands of Newfoundland and Labrador.

Outcomes

- make informed choices of form, style and content for specific audiences and purposes
- respond critically to texts by applying a growing range of strategies to analyze and evaluate text.

Materials

- Student anthology, "Off the Page".
- Teacher Resource Book for "Off the Page"
- Blackline Master 7 – "Taking a photograph"
- Learning Strategy Card 42 – "Taking Photographs"
- Digital Camera, computer, color printer, word processor

Method

→ Read "Wildland Visions" by Dennis Minty (pages 22-26, in "*Off the Page*). Discuss with students the beauty and purpose of wildlands. Then explain how it is presented as a photo essay – photographs/images and minimal text. Make sure that the following key points are covered:

- "the topic is personal and important to the author
- the author has a purpose in creating the

selection

- the photos can be viewed in any order, but together for a diverse collection of photos about the topic
- the text adds a personal dimension to the photos" (p.41, Teacher's Resource Module for *Off the Page*)

→ Discuss with students that to help protect the wildlands of Newfoundland and Labrador, we need to start at home and at school. Part of this is taking care of our environment and practicing good conservation. This should be important to all students.

→ Brainstorm areas around the school that would be good examples of students practicing good conservation measures and examples of poor measures. Make a list of all possible things.

→ Divide your class into 5 groups. Each group will design a photo-essay that depicts how teachers and students are helping to protect the environment and what other things they can be doing. Their essays should include a picture for each member and include commentaries. These should be created using a word processor and digital photographs. The final products can be either printed and displayed on a poster board or students can design a webpage and place it on the school's webpage.

→ Before students can begin to take their pictures they have to learn how to use the digital camera. Demonstrate how to do this and how to load the pictures on to the computer. Review with students, Learning Strategy Card 42 - *Taking Photographs*.

→ Give each group copies of Blackline Master 7 - *Taking a photograph*. Have them use these sheets when planning what pictures to include in their essay. When they have figured out what pictures they are going to take, let them use a digital camera and go around the school to take their pictures. After the pictures are taken, have students load them on to the computer.

→ In a word processor, such as Microsoft Word, have student import their pictures and write commentaries. Each student should write one commentary.

→ The group should decide how they would like to present their essay - print or electronically. When a consensus in meet, have the group publish their photo-essay and present it to the class.

One Computer?

One Computer Classroom

What can you do with one computer in the classroom? Though this is not an ideal situation, there are many things teachers and students can do with just one computer.

Teacher Use:

Administrative Tool

- Writing and saving lesson plans.
- Researching content for lessons.
- Developing a data base of student names, addresses, phone numbers, etc
- Write correspondence to home.
- Write tests to print and save to be used again at another time.
- Develop certificates.
- Send and receive email.
- Record attendance and grades.
- Create your own rubrics for evaluation or access the many that are available online.

Presentation Tool

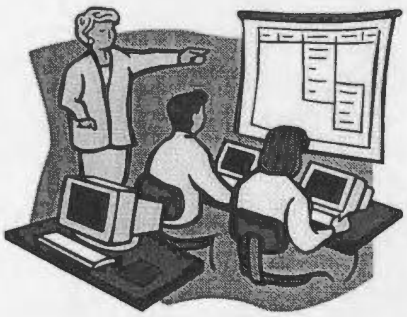
- Display class notes.
- Demonstrate class concepts, for example how to make a graph, a chart, etc
- Show video clips or real-time movie
- Create class projects – use the computer instead of chart paper
- Access various websites and use for instruction
- Use CD software as a means of instruction.
- Use graphic organizer software (e.g. Kidspirations) for visual mapping.

- Create slide shows, using programs such as Microsoft Powerpoint, of important points or concepts. (When viewing the show you can also use the POINTER feature to highlight important ideas, points, etc).
- Use different colours of font to highlight such things as parts of speech, rhyming words, etc.
- Display pictures to discuss visual literacy
- Take virtual tours.
- Involve your class in an online project.
- Reinforce concepts by playing online games.

Students:

- Publishing work – word processing, multimedia, web pages, etc.
- Conducting research.
- Problem solving
- Using software to reinforce what has been taught.
- Send and receive email.
- Keep a journal.
- Complete center work.
- Video conference
- Research
- Listen to audio files
- Group work

Some Ideas For Full-Class Instruction:



Teachers can use a computer as a mean of instruction instead of using a chalkboard, white board or overhead. (To be more effective the computer should be set up to a LCD projector or a TV, but it can still work just using the computer monitor.)

1. **This day history.**
    - Ever wonder what events happened on a certain date? The following is a great site that tells events that have happened. This can spark a great class discussion, offer ideas for journal writing, etc
    - http://www.historychannel.com/thisday/

2. **Word of the day**
    - Every day Merriam-Webster online offers a new word for the day. Some of these words are challenging, but the definition is given, as well as the part of speech. You can also hear how it is pronounced. In addition, the word is used in a sentence.
    - http://www.m-w.com/cgi-bin/mwwod.pl
    - Dictionary.com also offers a word for the day. All of the options of the first site are here as well, except for the pronunciation.
    - http://dictionary.reference.com/wordoftheday/

3. **Picture of the day**
    - There are many sites that offer pictures of the day. These pictures can be used as ideas for creative writing, etc. The following are some of the sites.
        - Kodak Camera – www.kodak.com

- Astronomy - http://antwrp.gsfc.nasa.gov/apod/astropix.html
- Earth Science - http://epod.usra.edu/
- Weather - http://www.weatherpictureoftheday.com/
- National Geographic - http://lava.nationalgeographic.com/pod
- CNN - http://www.cnn.com/resources/potd
- Japan - http://www.japantoday.com/e/?content=picture

4. **Science Songs and Lyrics**
   - This site contains songs and lyrics for various science concepts such as the water cycle, fossils, gravity and soil.
   - http://www.tomsnyder.com/products/productextras/SCISCI/songs.asp

5. **Dictionaries on-line**
   - Merriam Webster Online (Dictionary and Thesaurus)
   - http://www.m-w.com/netdict.htm
   - A Math Dictionary for kids
   - http://www.amathsdictionaryforkids.com
   - The Internet Picture Dictionary
   - http://www.pdictionary.com/

6. **Brain Teasers**
   - Each week Brain Teasers posts a new problem at three grade ranges: 3-4, 5-6, and 7-8. You can select one or all three and see if you can get the right answer. Then check back the following week when the solutions are posted, along with three new puzzles.
   - http://www.eduplace.com/math/brain/index.html

7. **Rainforest Sounds**
   - During a unit on the rainforest, have students research various animals that they would find there. Once they have the research complete, tie in a lesson with science. Use the following site to have students listen to various sounds of the

rainforest. Have them write down what they think the sound is. When completed, play the sounds again.

- http://www.christiananswers.net/kids/sounds.html

8. **Brain Pop**
    - This site contains animated movies for K-12. They demystify Math, English, Science, Health, Technology and Social Studies topics. In each category there are free movies, but in order to have access to all, there is a subscription fee.
    - http://www.brainpop.com/

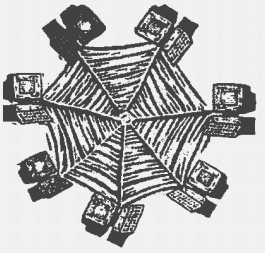
9. **Cities Under the Sea – Coral Reefs**
    - Introduce students to the coral reefs by showing them this interactive sites which includes videos to watch
    - http://www.oceanfutures.org/Nemo/index.html

10. **Using a Word Processor**
    - Compose a collaborative class story.
    - Create charts and complete (For example, a T-chart).
    - Have a passage typed in and edit it with student help.
    - You can also change the color of different words to highlight parts of speech.
    - Record observations for an experiment.
    - Model any kind of writing.
    - Import a clip art or picture and use it to write a descriptive paragraph.
    - Or import a picture or clip art and add a speech balloon using the Callout option.
    - Model note taking.

11. **Using Presentation Software (i.e. Microsoft Powerpoint)**
    - can be used to present many forms of information.

- Presentations can include text, art, animation, and audio and video elements.
- Create reviews for students in various course content.
- Create lecture notes and graphics. (You can also use the Pointer option to highlight your slides as they appear.)
- Create shows of student work to display at special functions and on the web.
- Develop a game to review material that has been taught. You can down load a blank **Multi-Q: A Question & Answer Review Game** presentation and instructions at http://www.esu5.org/techteacher/powerpoint.htm
- http://208.183.128.3/ce/ppt.htm offers many Powerpoint presentations that can be downloaded and used.
- Work collaboratively to create shows of points of interest.

WEB QUESTS



Web quests are inquiry-oriented activities that challenge students to explore the Internet for information. They are developed by teachers around a topic of interest to students. Web quests usually follow a certain layout – an introduction, a process, a task, a list of resources, a conclusion, and an evaluation. A sample web quest development form can be found at http://www.spa3.k12.sc.us/WebQuest%20Development.htm.

The following are some examples of webquests that you can use from the Internet or you can develop your own.

Eat Well – Feel Swell
http://www.swlauriersb.qc.ca/english/edservices/pedresources/webquest/nutrition/index.html

Ecoquest
http://www.swlauriersb.qc.ca/english/edservices/pedresources/webquest/ecoquest/index.html

Famous Canadians
http://www.swlauriersb.qc.ca/english/edservices/pedresources/webquest/famous_canadians/index.html

Get Civilized - An Interactive WebQuest about Ancient Greece
http://oncampus.richmond.edu/academics/education/projects/webquests/greece/

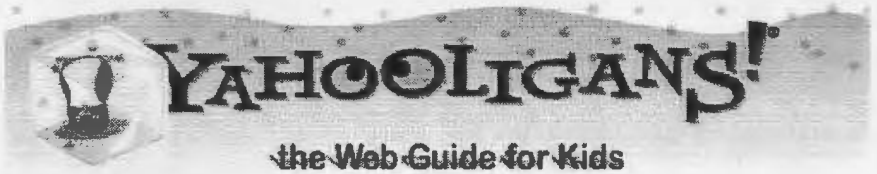
Adaptations Adventure
http://oncampus.richmond.edu/academics/education/projects/webquests/adaptations/

Butterflies
http://projects.edtech.sandi.net/lvelem/butterflies/

Other Points of Interest

Student Search Engines

The following are search engines that have been designed for kids.

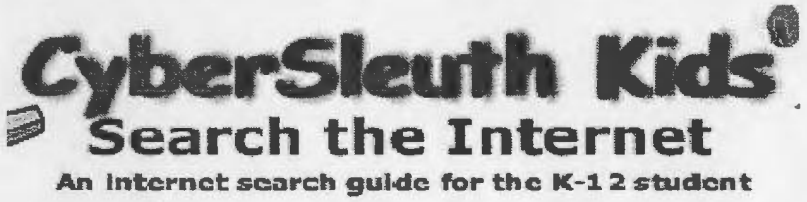


http://yahooligans.yahoo.com/

http://sunsite.berkeley.edu/KidsClick!/

http://www.ajkids.com/

http://www.factmonster.com/

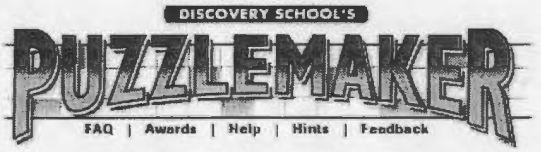


http://cybersleuth-kids.com/

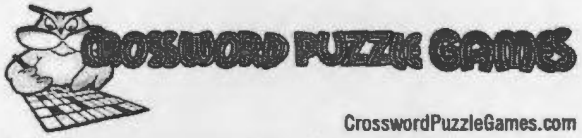
http://www.onekey.com/

Crossword Puzzles: Create and Print

http://www.edhelper.com/crossword.htm



http://puzzlemaker.school.discovery.com/



http://www.crosswordpuzzlegames.com/create.html

http://www.varietygames.com/CW/

Criteria for Evaluating Web Pages

Evaluating Web Pages: A WebQuest
http://mciunix.mciu.k12.pa.us/~spjvweb/evalwebteach.html

Five criteria for evaluating Web pages
http://www.library.cornell.edu/olinuris/ref/research/webcrit.html

Rubric for evaluating web sites
http://edtech.sandi.net/rubric/

Children's Magazines Online

National Geographic Kids
http://www.nationalgeographic.com/ngkids/

Time for Kids
http://www.timeforkids.com/TFK/

Sports Illustrated for Kids
http://www.sikids.com/

Stone Soup
http://www.stonesoup.com/index.html

YES Magazine
http://www.yesmag.bc.ca/

Chickadee
http://www.owlkids.com/chickadee/

Owl
http://www.owlkids.com/owl/

Chirp
http://www.owlkids.com/chirp/index.htm

Highlights
http://www.highlights.com/index.jsp

Scholastic News for Kids
http://teacher.scholastic.com/scholasticnews/

Odyssey
http://www.odysseymagazine.com/

Zoobooks
http://www.zoobooks.com/

Smithsonian Magazine - Kids Castle
http://www.kidscastle.si.edu/

Cyber Kids
http://www.cyberkids.com/

Some Links to Authors and Illustrators

Authors and Illustrators on the Web
http://www.ucalgary.ca/~dkbrown/authors.html

Author and Illustrator Personal WebPages
http://www.bookcentre.ca/authors/author_pages.shtml

A Celebration of Contemporary Canadian Illustrators
http://www.collectionscanada.ca/3/10/index-e.html

Internet Resources Related to Books For Children and Young Adult
http://www.acs.ucalgary.ca/~dkbrown/index.html

Scholastic Canada - Books and Authors
http://www.scholastic.ca/kids/booksandauthors/