A REPORT ON THE DEVELOPMENT OF AN INSTRUCTIONAL UNIT ENTITLED "ELLIOT LAKE, OUR COMMUNITY"

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A REPORT ON THE DEVELOPMENT OF AN INSTRUCTIONAL UNIT ENTITLED "ELLIOT LAKE, OUR COMMUNITY"

by

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ABSTRACT

The purpose of this project was to develop an instructional unit on the community of Elliot Lake, Ontario for use in the Grade Two environmental studies course in that community.

Filmstrips with an accompanying audiotape and teacher's guide were chosen as the media of presentation to the intended learners.

Various developmental stages were involved in the completion of the instructional package. At certain stages content and media experts and teachers were consulted informally and formally for the purpose of evaluating the content and technical qualities of the instructional materials. Based upon the recommendations of these evaluations, changes were made in the instructional package.

Two experimental groups were used in piloting the instructional package. Two Grade Two classes of environmental studies and their teachers took part in the study.

Statistical analyses of the pretest/posttest results showed that significant learning had taken place between the administration of the two tests. It was reasonable to conclude that this learning was brought about by the intervening use of the instructional package. A questionnaire was also used to evaluate the instructional unit. The Grade Two environmental studies

teachers and the chairman of the school board's committee on environmental studies who evaluated the instructional package, Elliot Lake, Our Community, highly recommended it for use in the Grade Two environmental studies course.

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CHAPTER I

INTRODUCTION

One of the important changes which has taken place in the field of education during the last few decade has been in the area of instructional design. Logical and systematic procedures for designing instruction have developed. Strong emphasis is now placed on the careful design of instructional programs. According to Wong & Raulerson (1974) "...a well-designed instructional program will allow learning to occur more rapidly and effectively" (p. vii).

There are variations in the systems which can be used to design instruction. An outline of the system used in this instructional development project follows.

The Instructional Development Process

The first step in the instructional development process is the identification of a need for certain instructional materials. In order to determine the area of greatest need the instructional developer carries out a needs assessment. This is followed by a task analysis which determines the specific objectives of the instruction. An analysis of the intended learners allows the instructional materials to be designed to meet their specific needs.

During the design process, consultation with a content expert and with educators who have experience with the intended grade level is helpful. When the process of design has been completed, the production of the instructional materials is carried out.

Once the instructional materials have been produced they are evaluated. The content is evaluated for accuracy by experts in the field, the materials are evaluated by educators for suitability, and the materials are evaluated for technical quality by media experts. The materials should be tested with samples of intended learners in order to ensure that the instructional objectives are being met. This testing can be carried out by administering a pretest prior to instruction, presenting the instruction, administering a posttest, and comparing the results of the two tests.

Following evaluation, modifications are made in the instructional materials, correcting any weaknesses which are identified.

The final step of the instructional development process is dissemination. At this stage the instructional materials are duplicated and distributed to as many potential users as possible.

This system of designing instructional materials is comparatively new. Following is a brief outline of its evolution.

The Evolution of Instructional Design

In order to be effective and efficient instruction should be planned systematically. The design of instruction is an important step in the teaching process. Wong & Raulerson (1974) defined teaching as follows:

> It is the skillful application of knowledge, experience, and scientific principles to the purpose of setting up an environment to facilitate learning ... teaching is a technology. (p. 3)

Rowntree (1974) in turn defined educational technology.

> It is concerned with the design and evaluation of curricula and learning experiences and with the problems of implementing and renovating them. (p. 1)

While curriculum design is used to determine what should be learned, instructional design is used to plan the most effective and efficient way to learn it.

Methods of instructional design which are in common use today were developed mainly during the 1960's and 1970's. According to Wildman (1981)

> ...instructional design as a process ought to be conducted by designers who have adopted a cohesive theory of learning to serve as the basis for making decisions within and among components. (p. 14)

In actuality, methods of instructional design have been based on theories of learning. Behaviorist learning theories which began during the early twentieth century and were developed mainly through the work of Skinner (1954) in the 1950's have had some effect on instructional

design. One of these behaviorist principles is the specification of objectives in terms of observable behavior. Another is that instruction must take into account the learner's existing skills and abilities rather than focusing solely on the behavior to be achieved.

Gagne (1963) identified a number of failures of behaviorist technology. Case & Bereiter (1984) state:

> ...although behaviorist technology made important contributions ... it proved ultimately to be irrelevant to the design of instruction. (p. 143)

It wasn't until the 1960's that systematic design processes began to emerge. These were often called systems approaches to instructional design. It was at this stage that the basic methodology of instructional design was formulated.

During this period Gagne (1963, 1968) made a major contribution to learning theory. Case (1984) describes some of Gagne's work as follows:

> ...he recognized a variety of types of learning, which included not only the learning of physical behaviors and simple stimulus-response connections but also the learning of concepts, rules, principles, intellectual skills, and cognitive strategies. (p. 144)

Gagne proposed that in learning intellectual skills the most important procedure was not reinforcement and practice but rather the systematic building of higher-level skills upon lower-level skills. Gagne proposed a hierarchical task analysis, a technology for identifying and sequencing intellectual skills so that instruction

could progress systematically to build higher-order skills on the basis of intellectual skills already possessed by the learner. Gagne played a major part in developing learning theory from behaviorism to a cognitive approach which case & Bereiter (1984) calls cognitive behaviorism.

During the 1960's much consideration was given to the setting of goals and the preparation of specific instructional objectives. Bloom (1956) wrote a taxonomy of educational objectives designed to assist in writing and classifying objectives and in preparing tests based on the objectives. Mager (1962), who did considerable work in this area, stated:

> An objective is an intent communicated by a statement describing a proposed change in a learner - a statement of what the learner is to be like when he has successfully completed a learning experience. (p. 3)

According to Sherman (1981) "During the 1970's, instructional design became a legitimate field of study." (p. 5). Kemp (1971) presented a plan for instructional design which would supply the answers to three basic questions:

> 1. What must be learned?
> 2. What procedures and materials will work best to reach the desired learning levels?
> 3. How will we know when the required learning has taken place? (p. 9)

Rowntree (1974) described an educational technology approach to instructional design which had four basic phases:

1. Identify objectives.
2. Design the learning experiences.
3. Evaluate effectiveness of those learning experiences in achieving the objectives.
4. Improve the learning experience, in light of evaluation, so as to better achieve the objectives. (p. 7)

During the 1970's learning theory adopted a more developmental approach. Gold (1981) stated "...a developmentally based theory of instruction would show how to maximize learning at each stage of a child's intellectual growth" (p. 6).

Case & Bereiter (1984) outline five components of instructional design based on developmental technology as follows:

1. Identify the task to be taught and develop a measure for assessing students' success or failure on it.
2. Develop a procedure for assessing the strategy subjects employ on the measure.
3. Use this procedure to assess the strategies used by children at a variety of ages, both those where success is not achieved by current methods, and those where it is.

4a. Devise an instructional sequence for "recapitulating development", i.e., for bringing students from one level to the next, in the course of instruction.

4b. Keep the working memory load at each step within reasonable limits.

5. Once children's performance at one level becomes relatively automatio, move on to the next. (p. 147)

This cognitive development learning theory evolved during the later 1970's and early 1980's. While cognitive behaviorism took into account the complexity of human

cognition, the cognitive development learning theory considers also the development of cognition.

There are many variations of instructional design models in use today. Dick (1981) lists ten typical instructional design activities as follows:

> ...needs assessment, learning outcomes, criterion referenced tests, task analysis and sequencing, learner attributes, instructional strategies, media selection, product development, formative evaluation, and installation and maintenance of programs. (p. 29)

During the 1980's the focus seems to be on perfecting the components of instructional design. Winn (1981) has presented an argument between two ways in which content can be organized, as follows:

> Either content can be organized to ensure as close a fit as possible between it and the way learners process and represent information internally; or learners can be helped to organize content for themselves. (p. 7)

Winn (1981) gives arguments to support each of these approaches. No doubt many other questions will arise as the components of instructional design are perfected and as the process of change in education continues.

In this project the instructional developer has attempted to use the best components from various models of instructional design. The approach adopted in this study began with a needs assessment, followed by a learner analysis, context analysis, and task analysis. Specific

learning objectives were then determined, and the choice of medium was made.

During production the instructional unit was frequently evaluated informally. After the initial production was complete formal evaluation of the instructional unit was carried out. Based upon the recommendations of the evaluation some changes were made in the instructional package. This revised package was then duplicated and distributed to the intended users.

CHAPTER II

NEEDS ASSESSMENT

Before determining which instructional materials to develop, the instructional designer may recognize many areas of the curriculum in which there is a need. These areas of need may be identified either through informal contact with educators or through formal requests. The area of greatest need can be determined by having the educators rank the identified needs in order of importance by means of a questionnaire. The process of determining a need to develop instructional materials is known as "needs assessment". Kaufman & English (1979) state:

> ...we define needs assessment as a formal process which determines the gaps between current outputs or outcomes and required or desired outcomes or outputs; places these gaps in priority order; and selects the most important for resolution. (p. 8)

Before developing new instructional materials a search for existing materials is carried out. If any are found which will satisfy the need, the instructional developer will make the potential users aware of these. Existing materials may be found which will meet the need after some modification. In this case the instructional developer will normally make the necessary modifications. If no materials are found to be satisfactory, with or without modification, the rationale exists for the development of new materials.

In the development of this project, the needs assessment as described above was carried out in the public school system of the North Shore Board of Education in Elliot Lake, Ontario.

Community Background

Elliot Lake is a northern Ontario mining town situated twenty kilometers north of Lake Huron, about half way between the cities of Sudbury and Sault Ste. Marie. Uranium was first discovered in the area in 1948, and construction of the town began in 1954. The uranium mines in the area are owned by two companies, Rio Algom Limited and Denison Mines Limited. About half of the workers in the town are employed directly by the uranium mining industry. The other workers are employed in support industries and service occupations. Uranium mining is the only major industry of the community. The schools in Elliot Lake belong to two boards, the North Shore District Roman Catholic Separate School Board, and the public board, the North Shore Board of Education.

Needs Assessment Procedure

Initially the primary and junior teachers and principals of the public school system were asked to suggest topics of a local nature for which there was a

need for instruotional materials. The suitable topics which they recommended were used as the basis for the needs assessment questionnaire (See Appendix A). The questionnaire was distributed to all Grade Two and Grade Three teachers of environmental studies with the school board, as most of the suggestions came from this group. Ten of the thirteen teachers responded to the questionnaire.

The respondents were asked to rank the topics according to their need for instructional materials. The results shown in Table 1 indicate that the topic having the greatest need for instructional materials is "Elliot Lake, Our Community". This topic was ranked as the topic of greatest need for instructional materials by fifty percent of the respondents. It was ranked as the topic having the second greatest need by another thirty percent.

The topic "Community Helpers in Elliot Lake" was ranked as the topic of greatest need by twenty percent of the respondents, and as the topic of second greatest need by another forty percent. This indicated that the topic having the second greatest need for instructional materials is "Community Helpers in Elliot Lake".

Discussion with teachers confirmed a need for instructional materials about the community of Elliot Lake.

Table 1

Ranking of Topics According to Need for Instructional Materials

Topic	Number of respondents			
	Greatest Need	Second Greatest Need	Third Greatest Need	Fourth Greatest Need
Community helpers in Elliot Lake	2	4	1	2
Animals north of Lake Huron	1	1	6	1
Elliot Lake Our Community	5	3	1	1
Three levels of government	1	2	1	3

Other topics suggested on questionnaire by respondents:

Seasonal changes				1
First Canadians	1			

The curriculum of the North Shore Board of Education is based on the curriculum guidelines of the Ontario Ministry of Education.

Instruction on the community is an integral part of the Ontario environmental studies program according to the guide Curriculum P1, J1, Interim Revision, Social Studies of the Ontario Ministry of Education (1970).

Grades

K-2	Phase One:	The neighbouring world The child and his neighbourhood The child and his community
3-4	Phase Two:	Life in other communities Living in Canadian communities Living in communities abroad (p. 3)

Since the publication of the curriculum guide mentioned above, the topic "The child and his community" has been included in the curriculum of the North Shore Board of Education at the Grade Two level.

A more recent Ontario Ministry of Education publication Community Study: Curriculum Ideas For Teachers (1977) gives suggestions for the study of the students' local community for Grades Two to Six.

In the primary and junior grades of the North Shore Board of Education the social and physical sciences are grouped together as one subject called environmental studies. The environmental studies core program of the North Shore Board of Education (1984) is entitled Experiences In Environmental Studies. In this core

program at the Grade Two level two units deal with the community, "Our Community, Its Characteristics", and "Our Community, A Network of Relationships". This indicates that the materials on the community of Elliot Lake are needed primarily for the Grade Two level. Such materials would be of some use in other grades as well.

Choice of Medium Survey

In the needs assessment questionnaire the respondents were asked to indicate their preference of medium. The results are given in Table 2. Some respondents did not number their choices as directed, but checked off the media they preferred. Checked media were tabulated as first choices. Media chosen in first choice combinations were also tabulated as first choices. This explains the tabulation of more than ten responses in some columns in Table 2.

The results of this survey, shown in Table 2, indicate a preference for a filmstrip with audiotape. A booklet was the second choice. Since a written script was requested by several teachers, and its production is a necessary step in the production of a filmstrip with audiotape, a written script could also be provided quite easily.

Table 2

Choice of Medium

Medium	Number of respondents		
	First Choice	Second Choice	Third Choice
Audio tape			
Slide set			
Slide set plus audio tape	2	1	1
Slide set plus written script			1
Silent filmstrip		1	1
Filmstrip plus audio tape	6	3	
Silent filmstrip plus written script	3	1	
Booklet	4	2	2
Set of overhead transparencies	1	2	4
Combinations suggested			
Filmstrip, audio tape, booklet and overhead transparencies	1		
Filmstrip, audio tape and booklet	1		
Slide set, audio tape and booklet	1		

* On the questionnaire some respondents numbered all media according to preference from 1 to 10. Some numbered only the few media which they would find of some use, while others checked off a few preferred media. Media checked off were tabulated at first choice.

During later stages of the instructional development process the choice of media can be made in the light of this survey and further information such as the learner analysis, in order to ensure production of the media which will best meet the instructional need.

Survey of Available Materials

The amount of information which is available about the community of Elliot Lake is limited. All of the materials which have been produced on the community are either not informative enough to be used as learning materials, or they have been written at an advanced level which is beyond the comprehension of Grade Two students. Some of these materials would be useful to the teacher as a source of background information. The best of these are listed in Appendix D of the teacher's guide of the instructional package (See Appendix G). These and other materials available about Elliot Lake are listed below and on the following pages.

Materials Available at the Elliot Lake Public Library

The following materials on the community of Elliot Lake are located in the reserve section of the Elliot Lake Public Library. These materials may be used inside the library only, as borrowing from the reserve section is not permitted. All of these materials have been written for

adults. The junior and children's sections of the public library have no materials about Elliot Lake.

A Community Profile of the Corporation of the Township of Elliot Lake, Ontario, Canada (no date) is an informative manual which provides descriptive and statistical information on many aspects of the community such as climate, recreation, and commerce. Produced by the Elliot Lake and District Chamber of Commerce in order to encourage and facilitate the development of industry and trade in the community, this manual is too difficult for use by Grade Two students, but it is a useful source of information for the teacher. No date of publication is given but this report was written before 1976 so it is likely that some of the information is now outdated.

Geology and Scenery, North Shore of Lake Huron Region by Robertson & Card (1972) is a study which gives the general geology of the entire region, area by area, and then lists various points which are of geological interest, including many areas in and around the town of Elliot Lake. It is not likely that teachers of Grade Two environmental studies would need such detailed scientific information.

Jewel in the Wilderness by Elliot Lake Secondary School (1980) is a collection of articles written by Grade Twelve English students in celebration of Elliot Lake's 25th anniversary. These articles describe the history of Elliot Lake from the discovery of uranium in the area of

1948 to the year of publication. While the reading level is too advanced for Grade Two students, some parts may be suitable for the teacher to read to the students. This volume includes many historical photographs of the early development of the town.

The Western Miner and Oil Review (1956) July issue has been bound and preserved by the Elliot Lake Public Library because the entire issue is a collection of articles which give an account of the early development of the Elliot Lake area and its mining industry. This issue is a useful primary source of information on the origin and early growth of the community and its industrial base.

The Algoma Story by Roberts (no date) is a brief history of the discovery of uranium in the Elliot Lake area, and the subsequent early development of the uranium mines. This short booklet is a useful source of information for teachers.

In 1973 concern arose over the growing number of uranium miners who contracted silicosis. A study of the problem was carried out on behalf of the Township of Elliot Lake, resulting in a report entitled A Brief On Behalf of the Township of Elliot Lake to Establish Secondary Industry and the Rehabilitation of Workers Affected by Industrial Disease (no date). This report recommends that workers who have been exposed to high levels of radiation and silica in the underground mining operation be given alternate employment, thus emphasizing

the need to secure secondary industry. This profile gives a good description of many aspects of the community such as location, history, transportation, recreation and community services. Some of this information about the community may be of use to teachers.

The Elliot Lake Public Library has in its reserve collection a number of books on mining in Canada which have sections on the uranium mining industry in Elliot Lake. Metals and Men by LeBourdais (1957) is an account of the discovery and development of mines across Canada. The final chapter describes the discovery and mining of uranium in Canada, with a section on the uranium finds in the Elliot Lake area. Canada and the Atomic Revolution also by LeBourdais (1959) is a history of the development of the uranium industry in Canada. Chapters 10 to 13 describe the discovery of uranium and the staking of claims in the Algoma region, while chapter 14 deals with the early development of the community of Elliot Lake. The Mine Finders by Lonn (1966) is a history of the lives and exploits of the Canadian prospectors who have made great mineral discoveries. Chapter 13 "Uranium for the nuclear age", is an account of the discovery and growth of uranium mining in Elliot Lake. Uranium in Canada by Garbutt (no date) was designed and compiled by the publisher, Eldorado Mining and Refining Limited. This book is a history of the discovery, mining, and milling of uranium throughout Canada. Written in the 1960's, it

gives very little information about the uranium industry in the Elliot Lake area. It concentrates mainly on the operations of Eldorado Mining and Refining Limited.

The Elliot Lake Public Library also has four binders filled with newspaper clippings, photographs, letters and pamphlets which are a primary source of information on the history of Elliot Lake.

Materials Located at the Elliot Lake Secondary School Library

The materials about the community of Elliot Lake which are located in the Elliot Lake Secondary School Library are all too advanced for use at the Grade Two level. Some of these materials are also available at the Elliot Lake Public Library. The others are listed below.

Elliot Lake, Ontario by Helling (1960) describes the geographical and economic background of Elliot Lake, and gives an analysis of the social structure of the population. Helling's book is too advanced for children but it may be of some use to teachers as background information on the population of the community around the year 1960.

Written shortly after Helling's book, New Industrial Towns on Canada's Resource Frontier by Robinson (1962) gives a description of the early development of Elliot Lake which may be of some use to the teacher as background information.

Ontario's Uranium Mining Industry: Past, Present and Future by Runnels (1981) is a report prepared for the Ontario Ministry of Natural Resources. It is not likely that teachers of environmental studies at the Grade Two level would need such detailed technical information on the uranium mining industry as is presented in this report.

Material Located at Villa Grancaise des Jeunes, the French Secondary School

Massicotte (1978) prepared a kit of instructional materials containing a slide set, script and booklet called Elliot Lake et la Rive Nord. Careful examination of the kit revealed that it could not be modified to meet the needs of the Grade Two environmental studies program because the concepts it teaches are too advanced for Grade Two students. Massicotte's instructional package involves advanced map reading skills, and goes into a great deal of detail about the uranium mining process. Much of the material is about the entire region north of Lake Huron rather than on the community of Elliot Lake. This kit was prepared in French at the intermediate level. The few slides which were on topics appropriate for Grade Two were not of good technical quality.

Material Located in the North Shore District Roman Catholic Separate School Board

Myre (1978) prepared a Kit of instructional materials on Elliot Lake consisting of a slide set with script and a booklet. These materials were prepared in French for Grades Four to Six. This kit could not be modified for use in Grade Two as it presents too many advanced map reading and graph reading skills. Very few of the slides in this kit would be useful for teaching the basics about the community which would be appropriate for the Grade Two level.

Material Located at the Town of Elliot Lake Municipal Office

The only material available at the Municipal office which could be used for instructional purposes is a 16mm film entitled Elliot Lake-Northern Lifestyle. This film was produced for the town by Crawley Films with the cooperation of Rio Algom Limited, for the purpose of projecting a good image of the town to prospective investors and workers. The film shows scenes of various aspects of life in Elliot Lake. The visuals are accompanied by music without narration. In actual fact this film has very little use as a learning tool, other than to give a feeling for the lifestyle of the people of the community. It would not satisfactorily meet the need for instructional materials for the Grade Two environmental studies program.

Material Located at the Elliot Lake Chamber of Commerce

The Elliot Lake Business Map produced by Milette (1984) gives the names and locations of businesses and roads throughout the town of Elliot Lake. This map would be a very useful aid to instruction on the community.

Most of the other materials located at the Chamber of Commerce are pamphlets designed to promote tourism. The only substantial publication which could be a useful instructional tool is the official information guide published by the Chamber of Commerce entitled Elliot Lake, Discover Us!. This seventy-two page booklet gives information about various aspects of the community, its facilities and its organizations. Written at an adult reading level, this booklet may be of some use to the Grade Two teacher as a source of background information.

Other Locations Searched

A search for existing materials on the community of Elliot Lake was carried out whenever such materials were likely to be found. The resource centre of the North Shore Board of Education has no learning materials about the local community. The libraries of the elementary schools of the North Shore Board of Education have only materials which are also available at the Elliot Lake Public Library. The Department of Tourism has only brochures designed to promote tourism. The Elliot Lake Nuclear Museum has brochures designed to promote tourism,

and technical pamphlets on the uranium mining industry. The public relations departments of the two uranium mining companies, Denison Mines Limited and Rio Algom Limited, both indicated that they have no materials which would be suitable for use at the Grade Two level. Rio Algom Limited indicated that it has many random slides of uranium mining which could be borrowed by teachers or used in the production of organized learning materials. Later in the development of the instructional package some of these slides were used as visuals in the production of a short slide show on uranium mining to be used as a follow-up activity to the instructional unit.

Conclusion

The needs assessment indicated that the area of the curriculum which had the greatest need for instructional materials was the topic "Elliot Lake, Our Community", which is studied in the environmental studies course, primarily at the Grade Two level.

Teachers who were surveyed indicated a preference for instructional materials in the filmstrip with audio-tape format. A survey of available materials showed that on the topic of Elliot Lake there are no existing materials which would be useful for instruction at the Grade Two level.

Based on the needs assessment the decision was made to prepare an instructional package on the topic "Elliot Lake, Our Community" to be used in the Grade Two environmental studies course.

Throughout the development of this project contact with the schools and with other community sources ensured the instructional developer that no other materials became available which would fulfill the instructional need indicated by the needs assessment. Contact with the schools at the time of completion of this instructional development project indicated also that the need suggested by the needs assessment still existed.

The next step of the instructional development process is the design of the instructional unit.

CHAPTER III

INSTRUCTIONAL DESIGN

Learner Analysis

Instructional materials should be designed to be as effective a learning tool as possible for the intended learners. The instructional developer analyzes the relevant characteristics of the intended learners in order to develop the most suitable learning materials for them. Kemp (1971) states:

> Whether you are interested in designing instruction for students on an independent study basis or in following a more traditional classroom procedure, it is essential that you become informed about the characteristics and capabilities of individual students and of the nature of the group...
>
> Student characteristics will affect your decisions concerning the selection of objectives, level at which to start a topic, depth of treatment, and variety and extent of learning activities to be planned. (p. 17)

Such learner variables as age, sex, ability, interests, attitudes, background experiences, and socio-economic background should all be taken into account when designing instruction.

Student Characteristics

This instructional unit was designed primarily for Grade Two classes of the public school system in Elliot Lake, Ontario, a uranium mining town with a population of about 19,000. These Grade Two students are usually seven

or eight years of age. Most of these classes are heterogeneous in sex, intelligence and learning ability. The students' reading ability within one Grade Two class often varies from the Grade One level to the Grade Five level.

Environmental Factors

About half of the working parents of these students are employed by the two uranium mining companies. These families of mining company employees are on the average more transient than the other families in Elliot Lake. Many of the children of mine workers have lived in Elliot Lake for only a short period of time, and have attended different schools in various communities. Their knowledge about the community of Elliot Lake and their interest in the community may not be as great as that of students who were born and raised in Elliot Lake. Also, their education has been more disjointed so that in many cases they may have a weaker educational background.

Elliot Lake is a one industry town in a sparsely populated area of northern Ontario. Working parents who are not employed directly by the mining industry are mainly employed in service occupations or industries which support the mining industry. The mining companies pay well, and the unemployment rate is lower in Elliot Lake

than it is is in most other Canadian communities, so most families in Elliot Lake live with adequate economic means.

Attitudes

The Grade Two teachers indicated that most of their students have a positive attitude toward school, and more specifically toward environmental studies. These teachers also stated that their students are interested in learning about topics which are already somewhat familiar to them. They projected that Grade Two students would be very interested in learning about their own community. These teachers also indicated that their students enjoy viewing audiovisual presentations.

The two Grade Two classes which were used as test groups in the evaluation of the instructional package are described in more detail in Chapter V of this report.

Context Analysis

The instructional developer carries out a context analysis in order to determine the learning conditions under which the instructional materials will be used. This step is necessary so that materials will be developed which best suit the specific learning conditions of the potential users.

The Learning Context

The needs assessment of this instructional development project indicated a need for learning materials on the community of Elliot Lake for the environmental studies program of the North Shore Board of Education in Elliot Lake, primarily at the Grade Two level. In the primary grades of the North Shore Board environmental studies is usually taught by the classroom teacher in the normal classroom situation, with a class size of from eighteen to thirty-five students. Class periods are usually thirty to forty minutes in length, and the number of environmental studies periods per week ranges from two to five, as it varies from school to school and class to class.

The classrooms are normally an adequate size for the number of students to view an audiovisual presentation comfortably. Each room is equipped with room-darkening window shades, a projection screen, a filmstrip projector, a cassette tape recorder/player, and a record player. Each school is also equipped with a radio, a 16 mm movie projector, a slide projector, individual filmstrip viewers, overhead projectors, listening stations, television monitors, a videocassette recorder, a fluid duplicator and a photocopy machine. Some schools also have an opaque projector and a dry mount press.

Each school has a fairly well stocked learning resource centre and a part-time learning resource teacher.

The school board does not have a district media centre but it does have a centralized videocassette tape collection.

Task Analysis

A task analysis assesses the present level of achievement of the intended learners. It outlines the learning which is to take place and describes the goals which will move the present level of achievement towards the intended learning outcomes, that is, the learning objectives. Wong & Raulerson (1974) state more simply, "Task analysis implies the classification of tasks and the specification of the learning conditions required" (p. 4).

Entry Behavior

In deciding at which point to begin a task analysis, one assumes that students have acquired certain basic skills. In this case it is assumed that students are able to study a projected still picture while listening to an accompanying audiotape. It is also assumed that they are able to read at or near the Grade Two level, and that they can follow short printed messages containing some new vocabulary as these are read to them.

As the intended learners are students who reside in the community of Elliot Lake, they already have some knowledge of the community, and a natural interest in it. As the learner analysis indicated, there is wide variation

among students as to the length of time they have lived in Elliot Lake, which may result in some variation in their knowledge of and interest in the community.

Discussion with Grade Two teachers of the North Shore Board of Education confirmed this assessment of their students.

Task Analysis

The goal of this instructional development project is to meet the need indicated by the needs assessment. The assessment showed a need for instructional materials on the community of Elliot Lake, primarily for the Grade Two environmental studies program. The environmental studies core program of the North Shore Board of Education (1984) is called Experience in Environmental Studies. The Grade Two curriculum guide for this core program outlines two units on the community, "Our Community: Its Characteristics", and "Our Community: A Network of Relationships". Some of the subsections of these units are not specific to the students' own community, in this case Elliot Lake, but are of a more general nature so that it is likely that many suitable instructional materials are readily available on these topics. Only those subsections which are specific to the students' own community, Elliot Lake, are covered by this instructional package.

In the core program unit "Our Community: A Network of Relationships" most of the subsections are topics which are not specific to the students' own community. The main area of this unit which is specific to the students' community is the section on occupations. The logical division of the instructional package being developed falls into two parts:

1. Elliot Lake, Our Community: Its Characteristics
2. Elliot Lake, Our Community: Its Workers

The needs assessment indicated that the topic of second greatest need is "community helpers". Students will learn about community helpers in the section "Elliot Lake, Our Community: Its Workers".

Based on the core program outline, the instructional goal is to increase the students' knowledge of their community in the following areas:

1. Our Community: Its Characteristics
   - Location
   - Physical geography
   - Climate
   - History
   - Population
   - Recreation
   - Special places
2. Our Community: Its Workers
   - Uranium mining
   - Service occupations
   - Volunteer workers
   - Relationships of occupations

Figure 1 outlines the hierarchy of the concepts to be learned.

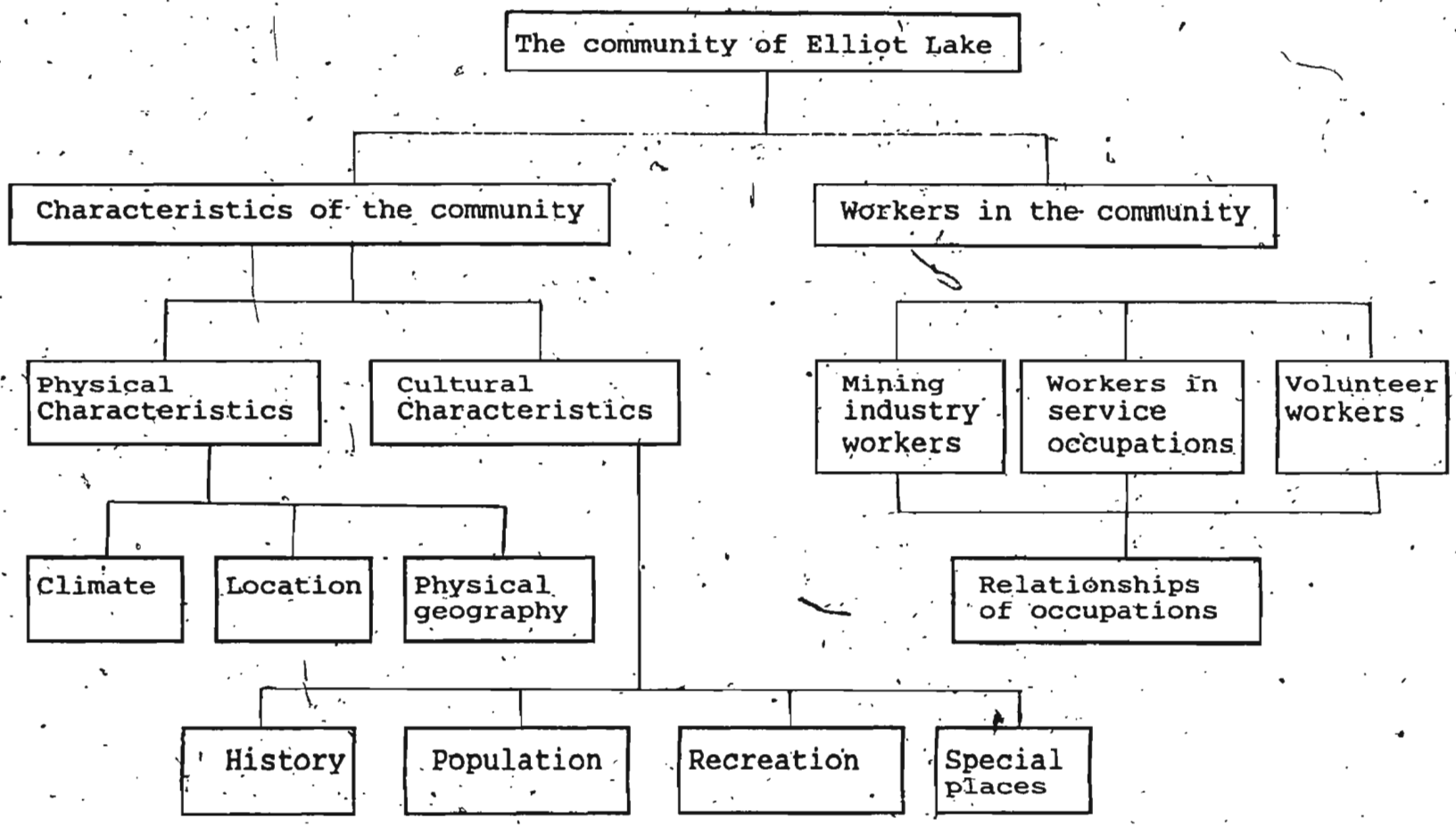

Figure 1. Concept Analysis

The information provided by the learner analysis, context analysis and task analysis is used in the preparation of the learning objectives.

Learning Objectives

The learning objectives of an instructional unit describe the performance expected of the intended learners at the close of instruction. The learning objectives are specific goals of the instruction. Mager (1962) stated, "Before you prepare instruction, before you choose material, machine or method, it is important to be able to state clearly what your goals are" (p. viii). A criterion for success of the instructional unit should be stated.

The criterion for success for this instructional unit will be determined to have been met if 80% or more of the posttest questions which were derived directly from the specific learning objectives are successfully completed by 80% or more of the Grade Two environmental studies students.

Due to the limited ability of Grade Two students in doing written tests, and the shortness of their attention span, only fifteen specific learning objectives are being tested for this instructional unit. These learning objectives were written in consultation with Grade Two teachers. The learning objectives stated that after viewing the slide-tape presentation, students should be

able to state correctly by choosing the correct answer from a choice of three answers:

1. the Great Lake which is nearest to the town of Elliot Lake.
2. the city which is nearest to Elliot Lake.
3. a means of travel to Elliot Lake.
4. the landform after which the town of Elliot Lake is named.
5. the shape of the land in Elliot Lake.
6. a language spoken by many people in Elliot Lake.
7. the most important industry in Elliot Lake.
8. one of the companies which owns mines near Elliot Lake.
9. who lived in the area before the town of Elliot Lake was built.
10. who built most of the houses in Elliot Lake.
11. the number of seasons Elliot Lake has in one year.
12. a place in Elliot Lake where many people go on a summer day.
13. which kind of mineral is mined in Elliot Lake.
14. which type of employer employs about half of the workers in Elliot Lake.
15. which name is given to workers who do things to help people in the community, but who are not paid for this work.

Choice of Medium

The choice of medium by which the desired learning can be best brought about is determined by a number of factors such as the nature of the task to be learned, and the nature of the learners themselves. Wong (1974) states:

> A medium is only the means of mechanism by which a message is communicated to one or more of the learner's senses.... The first choice of a medium should be the one that most effectively conveys the essential stimulus attributes to the learner. (p. 434)

In choosing the best medium the determining factors may vary according to the learning situation. However according to Reiser (1982) "Characteristics of learners, setting, and task are identified as factors to be given primary consideration in media selection" (p. 499).

In this instructional development project the media preference indicated by the teachers during the needs assessment was one of the factors used to determine the most effective medium.

In the needs assessment questionnaire respondents were asked to indicate their preference of medium. The results of this survey, shown in Table 2, indicate a preference for a filmstrip with audiotape. A booklet was the second choice.

A study of the task analysis shows that each of the learning objectives could be effectively achieved by viewing a filmstrip and audiotape presentation. The

characteristics of the still picture as a learning tool are appropriate because the learning objectives can be demonstrated by visuals accompanied by sound, and motion is not a necessary element. Dale (1969) examined the advantages of the various media commonly used in education. He stated, "When we use filmstrips, we can adjust the speed of our presentation to the child's speed of interpretation" (p. 145). This flexibility of pace would be an advantage in this case as the learner analysis showed that the ability and background of the intended learners varies widely, and the learning objectives could be better met if allowances were made to stop for discussion or further explanation whenever the need arises.

Discussion with Grade Two teachers revealed that the intended learners have had previous experience in viewing filmstrip presentations with accompanying audiotapes, and the teachers indicated that their students have a positive attitude toward such presentations. Analysis of the context showed that the needed instructional materials will be used in classrooms which are equipped with filmstrip projectors, audiocassette players, projection screens, and room darkening window shades.

Analysis of the intended learners, the setting, and the task indicated that materials in the form of filmstrips with accompanying audiotapes would be suitable

to meet the instructional need, so the decision was made to produce materials in these formats. In order to ensure that the audiovisual materials are used to the best advantage, and to ensure that the learning objectives are met, a teacher's guide was produced. This guide gives the teacher some background information and suggestions for presentation of the filmstrips. It also includes introductory and follow-up questions and activities.

Conclusion

During the instructional design and specific learning objectives were formulated based on an analysis of the learners, the context and the task. The best media for the instructional materials which will enable students to meet these objectives were determined. The media chosen were filmstrips with audiotapes accompanied by teacher's guides.

Once the instructional design was complete, the instructional designer was ready to produce the instructional materials.

CHAPTER IV

INFORMAL EVALUATION AND PRODUCTION PROCEDURES

Informal Evaluation

The evaluation of an instructional package takes place in two phases. The first phase of evaluation is an ongoing process which is carried out during the design and production of the package. This informal evaluation is followed by a formal evaluation which is carried out after the initial production has been completed.

During instructional design the instructional developer constantly evaluates his plans as he consults with content experts and learning specialists in order to ensure the design of accurate and effective learning materials. The process of evaluation continues during the production of the instructional materials, as learning specialists and, if applicable, media specialists are consulted.

In this instructional design project Grade Two teachers of environmental studies with the North Shore Board of Education in Elliot Lake were consulted several times during the design of the instructional package. They gave many suggestions and criticisms which were vital in the development of appropriate learning objectives and suitable instructional materials.

A content expert was consulted at various stages in order to ensure the accuracy of the information included

in the package. The content expert was also an elementary school administrator, and the chairman of the school board's committee on environmental studies. Thus he evaluated the instructional package from several points of view, and gave several useful suggestions and criticisms which were carefully considered.

During production of the instructional package Grade Two environmental studies teachers were consulted whenever it seemed necessary in order to ensure that the materials produced were appropriate for the intended learners. At this stage media specialists with the Division of Learning Resources at Memorial University of Newfoundland were also consulted for advice on various technical matters in the production of the graphic slides and the audiotape.

The instructional package initially consisted of a teacher's guide and two sets of slides with an accompanying audiocassette tape. Although the final instructional package was planned to include filmstrips instead of slide sets, slides were used during evaluation because they are the basic format which is normally produced before filmstrips are made, and it is more practical to make any necessary changes in the slide sets before the filmstrips are produced.

Production Procedures

The needs assessment indicated that the topic with the greatest need for instructional materials was the topic "Elliot Lake, Our Community". During the instructional design the specific learning objectives were determined, and the best format for the instructional materials was identified. A criterion test (See Appendix E) was prepared, relating directly to the specific learning objectives.

Script

Since the preferred medium for the instructional materials was a filmstrip with audiotape, the decision was made to prepare a script for a filmstrip and audiotape presentation which would be the learning tool used to achieve the specific learning objectives. As was stated in Chapter III of this report, the learning objectives were based on the Grade Two environmental studies curriculum of the North Shore Board of Education, on environmental studies curriculum guides of the Ministry of Education for the Province of Ontario, and on the recommendations of teachers. These three sources were once again consulted in the preparation of the script.

The instructional design indicated a natural division of the topic into two sections, as follows: 1. Elliot Lake, Our Community: Its Characteristics; and 2. Elliot Lake, Our Community: Its Workers. In view of

this, the decision was made to prepare scripts for two filmstrips, one on the characteristics of the community and the other on its workers (See Appendix G). The sound accompanying these two filmstrips was designed to be presented in two sections, each recorded separately on the two different sides of one audiocassette tape.

The script was prepared in two columns. In one column each visual was described, and on the original copy a rough sketch of the visual was drawn in order to assist with the photography. In the second column the narration which accompanied each visual was presented.

Teacher's Guide

The filmstrip was planned to be the core of the instructional unit. Once the script was written a teacher's guide was prepared to assist the teacher with effective presentation of the instructional unit (See Appendix G). A set of introductory questions and activities was included in order to prepare the students for the viewing of the filmstrip presentation. The use of these activities before the presentation would ensure that students would receive the necessary background information, skills, and interest stimulation to enable them to maximize learning from the audiovisual presentation.

In order to reinforce the learning that would take place during the filmstrip presentation a set of follow-up

questions and activities was written. Other sections included in the teacher's guide were background information on the community, suggestions for presentation of the audiovisual materials, an annotated list of references, and copies of the script and the criterion test.

Slides

In the preparation of the filmstrips the initial photography was produced in the form of slides. The slides were taken by the instructional developer, using the script as a guide. The photography was carried out over a wide time span, as scenes of the community during the different seasons of the year were needed. Some of the visuals took the form of graphics, and a few were photographed from still pictures. The copywork photography of the graphics and still pictures was carried out in the facilities of the Diyision of Learning Resources at Memorial University of Newfoundland.

Permission was obtained from people photographed on private property to use the photographs picturing them for educational purposes. Permission was also obtained from Rio Algom Limited to use copies of their slides of mining for educational purposes.

Sound

The narration for the audiotape was written in the script. The sound was recorded first on reel to reel tape in the sound studio of the Division of Learning Resources at Memorial University of Newfoundland. The voice of a professional narrator was used. Suitable music was chosen and added to the beginning and end of the narration. After the narration was duplicated onto cassette tape a special recorder was used to insert advance signals where needed. Audible advance signals were used because some schools are not equipped with sound filmstrip projectors with inaudible advance capabilities.

During the stages of instructional design and production research was carried out at the Elliot Lake Public Library by the instructional developer in order to ensure that the information used in the instructional package was complete and accurate.

Once the instructional package was produced it was evaluated formally in order to test its effectiveness and detect any weaknesses which needed correction. The next chapter describes this formal evaluation.

CHAPTER V

FORMAL EVALUATION

Formal evaluation is the process of measurement required to demonstrate that the stated learning objectives of an instructional unit have been transmitted or have not been transmitted successfully by the instructional unit to the intended learners. This testing is carried out in order to identify needed improvements in the instructional materials before the final draft is prepared.

The formal evaluation of this instructional unit was comprised of both classroom testing and evaluation by teachers and other specialists. Since the instructional unit was designed for use at the Grade Two level, and written tests are difficult to administer to this age group, the evaluation by teachers and other specialists was given careful consideration.

Classroom Testing

Overview

The classroom testing was conducted in two Grade Two classes in Elliot Lake, one in a school located in an area of housing rented by mining company employees, Group A, and the other in a school located in a housing area where a variety of occupations are represented, Group B. Both

groups were given a pretest, worked through the introductory questions and activities, viewed the slide-tape presentation, and were given a posttest.

Four types of analyses were used to examine the data: (a) the comparison of the posttest means of the two groups; (b) the comparison of the means of the pretest and the posttest; (c) the percentage of students with percentage of items correct on the posttest; and (d) an item analysis of the difference between the pretest and the posttest scores.

Comparison of posttest means. This analysis was carried out in order to determine whether there was a significant difference between the posttest scores of the two groups of students.

Comparison of pretest/posttest means. This analysis was used to determine whether or not significant learning took place between the administration of the pretest and the administration of the posttest.

Percentage of Students With Percentage of Items Correct. This analysis was conducted to determine the level of achievement obtained on the posttest.

Item analysis. The item analysis was intended to show the growth of learning or improvement in performance which had taken place for each pretest-posttest item; that is, the extent to which each objective was met as measured by the performance on each item.

Selection of Subjects

The two classes were existing Grade Two classes in two different schools of the North Shore Board of Education, the public school system in the town of Elliot Lake, Ontario. The testing was carried out on Grade Two classes in Elliot Lake because this is the group of students for whom the instructional materials were primarily designed.

The economy of Elliot Lake is based mainly on one industry, uranium mining. About half of the workers in the town are employed directly by this industry, and some housing areas where schools are located are comprised solely of homes built by the mining companies for their employees. On the average, these mining company employees have not resided in Elliot Lake as long as other workers, and have often led transient lives which may have had some effect on the education of their children. Based on this knowledge, one testing group, Group A, was chosen in a school located in a mining company housing area. The other testing group, Group B, was chosen in a school located in a housing area occupied by a variety of workers. It was hoped that testing with these two experimental groups would demonstrate that the instructional materials would cause significant learning to take place in both groups of students which are representative of the Grade Two students for whom the package was designed.

Both classes were heterogeneous in age, sex, and academic achievement. The only formal testing results which are available for both groups, and which provide some indication of level of achievement are the results of the Gates-Macginitie Reading Tests which had been administered to both groups about a month before the testing of the instructional package. The results of these tests, given as grade equivalent reading levels, are shown in Table 3. The makeup of the two groups by sex is compared in Table 4, and the ages of the students in the two groups are compared in Table 5.

Examination of this information shows that there is very little difference in the two experimental groups in either age or reading level. There is some difference in the makeup of the two groups by sex.

Instrumentation

The examination questions were written in a multiple choice format because of the young age of the testing groups. The pretest and posttest questions were derived from a set of specific learning objectives as shown in Table 6. These learning objectives had previously been approved by Grade Two teachers and other experts in education and instructional design. The posttest questions were the same as the pretest questions, but were arranged in a different sequence.

Table 3

Comparison of Testing Groups by Grade Equivalent Reading Level

	Lowest	Highest	Mean
Group 1	1.6	5.1	3.1
Group 2	1.7	5.3	3.1

Table 4

Comparison of Testing Groups by Sex

	Number	Male	Female
Group 1	17	7	10
Group 2	22	14	8

Table 5

Comparison of Testing Groups by Age

	Youngest			Oldest			Mean		
	Year	Month	Day	Year	Month	Day	Year	Month	Day
Group 1	77	12	11	76	03	08	77	04	04
Group 2	78	06	04	76	02	02	77	04	00

Table 6

Learning Objectives Matched With Items on the Pretest and the Posttest

Objective No	Pretest Item	Posttest Item
1	8	1
2	9	2
3	10	3
4	11	4
5	12	5
6	13	6
7	14	7
8	15	8
9	1	9
10	2	10
11	3	11
12	4	12
13	5	13
14	6	14
15	7	15

Procedure

The pretest, instructional unit, and posttest were administered by the classroom teachers of the testing groups. Both teachers received written instructions regarding this administration (See Appendix B). Further instructions accompanied the slide-tape presentation (See Appendix C).

As can be seen by the written directions, the teachers were given some flexibility in the number of sessions used to cover the instructional materials. This was due to the length of the materials and the young age of the students. The testing was not carried out

simultaneously in the two groups because only one copy of the slide-tape presentation was available. This was used first by Group A, and one week later by Group B. It was assumed that any significant learning indicated by the testing would be due to the use of the instructional materials in the case of both groups.

Each group was given the pretest, used the instructional materials, and then was given the posttest over a period of several days.

The results of the pretest and posttest were tabulated after the completion of the instructional unit and the administering of both tests in both groups.

Analysis of Results

Comparison of Posttest Means

The testing was carried out in two classes of students in case of a difference in results between these two classes which are from the two different types of housing areas. Comparison of the posttest means of the two groups as shown in Table 7 indicates that there is no significant difference in the results of the two groups. For this reason the other analyses are performed on the combined data for the two groups.

Table 7

Comparison of Posttest Means For Group A and Group B

Group	N	M	SD	t
A	17	13.06	1.35	1.02
B	22	13.59	1.27	

df = 37; p < .001

Comparison of Pretest and Posttest Means

The first indicator of the extent to which learning had taken place is the comparison of the posttest mean to the pretest mean. This comparison as shown in Table 8 indicated that there is a significant difference between the mean score on the pretest and the mean score on the posttest. As the only experience between the pretest and the posttest which was likely to cause this difference was the use of the instructional package, it is reasonable to conclude that the difference in the performance on the posttest scores can be attributed to the use of the instructional package.

Table 8

Comparison of Pretest and Posttest Means

Test	N	M	SD	t
Pretest	39	7.46	1.20	20.34
Posttest	39	13.36	1.33	

$df = 76$; $p < .001$

Percentage of Students With Percentage of Items Correct

The second indicator of the extent to which learning had taken place is the percentage of students who had obtained various percentages of items correct on the posttest. As shown in Table 9, 90% of the students achieved 80% or more of the items correct on the posttest, while all students obtained 66% or more of the items correct on the posttest. These figures show a high level of achievement and demonstrate an acceptable level of performance for the instructional unit.

Table 9

Percentage of Students With Percentage of Items Correct in the Posttest

% of Students	% of Items Correct
26	100
46	93 or more
77	87 or more
90	80 or more
97	73 or more
100	66 or more

Item Analysis

An item analysis was used on the pretest and posttest scores to show the difference in the number of successful students on each item in the pretest and the posttest. As shown in Table 10, there was a significant increase in learning by the students as demonstrated by the difference in the numbers of successful students on twelve of the fifteen pretest-posttest items. Eight of the items were significant at the $p < .05$ level, two items were significant at the $p < .01$ level, and two items were significant at the $p < .001$ level. There was no significant growth in three items.

Table 10

An Item Analysis of the Difference Between the Pretest and the Posttest Scores

Item	# of Successful Students Pretest/Posttest		% of Successful Students on Posttest	Differences Between Pretest and Posttest X^2
1	18	32	82	3.92*
2	12	35	90	11.26***
3	38	39	100	0.01
4	29	38	97	1.20
5	20	37	95	5.07*
6	20	32	82	10.25**
7	10	32	82	11.52***
8	10	27	69	7.80**
9	23	39	100	4.13*
10	22	38	97	4.27*
11	30	38	97	0.94
12	12	27	69	5.77*
13	20	36	92	4.57*
14	20	38	97	5.59*
15	16	33	85	5.90*

* $p < .05$

** $p < .01$

*** $p < .001$

Number of students = 39

Teacher Evaluation

The instructional package was evaluated by the two Grade Two environmental studies teachers who piloted the instructional unit and administered the tests. This evaluation was done both informally through verbal

discussions with the instructional designer, and formally through the use of a questionnaire (See Appendix D).

Both teachers indicated that the instructional unit would be an asset to the Grade Two environmental studies course. A suggestion for improvement was made by both teachers. They recommended that a series of seven questions presented on slides and on the audiotape in the second slide-tape presentation should be asked by the teacher only, and omitted from the slides and audiotape. This was the only weakness indicated by the teacher evaluation.

Evaluation by a Content Expert

Instructional materials should be evaluated for accuracy of content by an expert on the topic.

The content expert who evaluated this instructional package has been a resident of Elliot Lake for 21 years, and a resident of Northern Ontario for his entire life of 40 years. His qualifications include the degrees of Bachelor of Arts and Master of Education. He has been employed in the teaching profession for 21 years, and as a school administrator for 14 years. He is the chairman of the Environmental Studies K-6 committee of the North Shore Board of Education. He was chosen as the content expert because community studies is part of the environmental studies program, and because he has been a resident of

Elliot Lake for a relatively long time, and knows a great deal about the community. Since he is an educator he was able to evaluate the materials from the point of view of an educator also. For this reason he was given the same questionnaire as the teacher evaluators (See Appendix D).

The content expert was consulted at several stages during the development of the instructional package. He was first consulted as the learning objectives were being determined. He was then consulted to check the accuracy of content and the suitability of the proposed instructional materials prior to production. After the initial production he was again asked to check the entire package. It was at this stage that he was asked to answer the questionnaire.

The content expert concluded that the content of the instructional package was accurate, and clearly presented. From the point of view of an educator he concluded that the materials were suitable for Grade Two students, but he suggested that they could also be used at other Grade levels from Grade Three to Grade Six. He indicated that this instructional unit would be an asset to the Grade Two environmental studies course.

Evaluation by Media Specialists

Instructional materials in an audiovisual format should be evaluated by media specialists to ensure that a quality product has been produced.

The audiovisual materials of this instructional package consisted of the two slide sets which were later to be reproduced as filmstrips, and the accompanying audiotapes. Media specialists in the Division of Learning Resources of the Faculty of Education at Memorial University of Newfoundland were consulted for advice and criticism during the production of the graphic slides and the audiotape. When the production of the slides and audiotapes was completed they were then evaluated by the acting head of the Division of Learning Resources. This media expert suggested changes in a few of the slides, one for technical reasons, and the others for suitability. Apart from these suggested changes he indicated that the audiovisual materials were clear, and appropriate for the intended use.

Conclusion

The purpose of the formal evaluation was to determine whether or not the stated learning objectives of the instructional unit had been transmitted successfully by the instructional unit to the intended learners.

Analysis of the pretest and the posttest results showed that the learners had acquired the information presented at an acceptable level on the test items which had been previously matched with the specific learning objectives as shown in Table 6. Although learning was not significant for three of the test items, this was because most students already knew the answers to these three questions on the pretest. The decision was made to retain these items in the instructional package in order to review and emphasize this previously learned information.

The evaluation which was made by educators and content and media specialists indicated that the instructional package was accurate and adequate and would be useful in the Grade Two environmental studies course.

CHAPTER VI

CONCLUSION

Modification

As a result of the evaluation some minor changes were made in the instructional package. A series of seven questions was omitted from the sound track and graphic slides in the second slide set because the teachers felt it would be more effective if these questions were asked by the teacher only. Secondly, a note was inserted in the teacher's guide suggesting that these materials need not be limited to use at the Grade Two level. Also, a few of the slides were changed, as it was determined during evaluation that better pictures could be used either from a technical or aesthetic viewpoint or for effectiveness.

Conclusion

The instructional package entitled "Elliot Lake, Our Community" was determined to be very useful by the two Grade Two teachers of environmental studies who piloted it. They stated that it was a very good production which provided much needed materials on the community of Elliot Lake at the level of their students. They were anxious to have these materials permanently available for future use.

Other environmental studies teachers also expressed satisfaction that there would finally be materials

available at their students' level on the community of Elliot Lake.

The formal evaluation identified some minor weaknesses in the instructional package. Modifications were made to correct these weaknesses before the materials were duplicated, packaged and distributed.

Dissemination

Once the instructional package has been produced, evaluated and modified it is duplicated and packaged. To make its production most worthwhile it is distributed to as many potential users as possible. When substantial cost is involved the instructional developer will normally inform potential users of the existence and merits of the package in the hope that they will be willing to purchase it. Since the project began with a needs assessment which resulted in the production of needed materials, convincing the potential users to purchase the product should not be a problem.

The instructional package "Elliot Lake, Our Community" consisted of a teacher's guide and slides with audiotape during the evaluation stage. The needs assessment showed that the format preferred by teachers was filmstrips rather than slides. Filmstrips do have some advantages over slide sets, as they can be stored and

presented more conveniently. Slides have the disadvantage of being easily disarranged or lost from the rest.

During duplication of this instructional package it is planned that the slides will be reproduced by a commercial firm into the filmstrip format. Several copies of the filmstrips will be produced. The teacher's guide and audiotape will also be duplicated. These materials will be suitably packaged, and copies will then be distributed to each elementary school of the North Shore Board of Education in Elliot Lake. A copy will also be distributed to the North Shore District Roman Catholic Separate School Board for use in its Elliot Lake elementary schools.

Recommendations

It is recommended that teacher's guide of the instructional package be reviewed and updated periodically, possibly every two or three years.

Although the instructional package was designed to help students in Elliot Lake to learn about their own community, it could also be used by students in other places in order to learn about one Northern Ontario mining town. Some adjustments should be made in the package in order to adapt it for such use.

The environmental studies curriculum guidelines of the Ministry of Education for the Province of Ontario are

very broad in nature. A great deal of the curriculum planning is left up to individual teachers and school boards. The Ministry of Education guides, The Formative Years (1975) and Community Study (1977), both give suggestions for community studies at various stages in the primary and junior divisions. Thus instructional materials on the community of Elliot Lake could be produced which would be suited to grades other than Grade Two. Such materials could emphasize the skills and concepts which are recommended in the Ministry of Education curriculum guidelines for the various grade levels.

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APPENDICES

APPENDIX A

NEEDS ASSESSMENT QUESTIONNAIRE

NAME: _____

GRADE: _____

SCHOOL: _____

1. The topics listed below were suggested by teachers in your system as needing instructional materials. Would you indicate, by number, their priority in terms of your need of instructional materials for them. (Provision is made for you to include your own choice of topic(s) in addition to those suggested.)

_____ Community Helpers in Elliot Lake

_____ Animals North of Lake Huron

_____ Our Community: Elliot Lake

_____ Three Levels of Government

_____ Other Topic(s) (Please specify): _____

_____

_____

_____

2. The following are the media from which I may choose in the preparation of the unit. Would you indicate, by number, your preference of the media in which I should prepare the material" (Each medium would be accompanied by a teacher's guide.)

The possible media are:

_____ Audio tape

_____ Slide set

_____ Slide set plus audiotape

_____ Slide set plus written script

_____ Silent filmstrip

_____ Filmstrip plus audiotape

_____ Silent Filmstrip plus written script

_____ Booklet

_____ Set of overhead transparencies

_____ Combination of above media as follows:

_____

_____

3. Would you indicate below any instructional materials you are now using for the topics listed below? Would you also note the degree of your satisfaction with them; (excellent, fair, not good, but the best I can use, etc.).

Community Helpers in Elliot Lake

_____

_____

_____

Animals North of Lake Huron

_____

_____

_____

Elliot Lake, Our Community

Three Levels of Government

Other Topic(s) if any suggested on previous page

APPENDIX B

INSTRUCTIONS FOR TEACHERS TESTING THE INSTRUCTIONAL PACKAGE DURING FORMAL EVALUATION

Dear Lynn and Maureen,

Since you are testing my instructional package to see what needs to be changed before I produce the final product, I would appreciate it if you would read the teacher's guide and make note of anything you think should be changed or omitted. As I have never taught Grade Two I'm trusting you to keep me on the right track!

When you use my package with your class you will be testing its effectiveness, so please follow these directions.

1. Before teaching the unit, plan roughly how much of the material you hope to cover in each lesson.

2. Before you begin any teaching about Elliot Lake give the students the attached pretest to see how much they already know.

3. Do the preparation questions on pages 10 and 11 in the teacher's guide with the class before viewing the filmstrips.

4. After viewing the filmstrips give the class the posttest which can be found on page of the teacher's guide before you do any follow-up questions or activities. It is not necessary to do all of the follow-up questions and activities. Choose the ones you prefer.

5. When you have marked the tests and recorded the scores for your own records, please pass the completed tests over to me as I will need to study the results. I will mark the tests for you if you prefer.

6. When you have finished using this instructional package please complete the attached questionnaire.

When you use the Av materials please note that when a question is asked on the audiotape sufficient time is provided to answer briefly, or to turn off the audiotape for a more lengthy class discussion.

The slides will be reproduced as filmstrips after the testing has been completed and necessary changes have been made. For now you may need to change the focus for some of the slides during the presentation.

In Part 2 of the slide/tape presentation the audio should be turned off for slides 18 to 38 so that the class can discuss some of the following questions.

1. Where does this person work?
2. What is this person's job?
3. Does this worker do something which helps other people?
4. Does this worker need other people to help him or her?
5. Does this worker need any special equipment or materials?
6. Does this worker have any rules to follow?
7. Does this worker have a boss who decides what work he or she does?

I realize how busy you must be. I very much appreciate your help in this evaluation. Hopefully it will result in materials useful to all the Grade Two teachers.

Thanks.

Pat Lee
Phone: 848-8071

PRETEST

DIRECTIONS TO THE TEACHER

Administer the pretest before starting the unit.

Print the example on the blackboard before the class begins.

Distribute the tests and have students print their names in the space provided.

Do the example on the blackboard with the students, explaining that only one of the three answers is correct. Circle the correct answer.

Example

In the winter what do some people like to do outdoors in Elliot Lake?

A. play softball
B. play marbles
C. go skiing

Give the following direction orally to the students:

> "Look at question number one on your paper. I will read the question and the three possible answers to you. Then I want you to circle the correct answer. When you are finished a question, wait until I read the next question to you."

Proceed with the test, reading the questions and possible answers to the students as they select their answers.

NAME: _____

1. Before the town of Elliot Lake was built, who lived in the area?

   A. hunters
   B. salesmen
   C. nurses

2. Who built most of the houses in Elliot Lake?

   A. the government
   B. the people who live in the houses
   C. the mining companies

3. How many seasons does Elliot Lake have in one year?

   A. 4
   B. 2
   C. 1

4. Where do many people like to go in Elliot Lake on a summer day?

   A. to the beach
   B. to the circus
   C. to the zoo

5. What kind of mineral is mined in Elliot Lake?

   A. nickel
   B. uranium
   C. copper

6. Who do about half of the workers in Elliot Lake work for?

   A. the mining companies
   B. the government
   C. the stores

7. Some of the workers who do things to help people in our community are not paid for this work. What are they called?

   A. apprentices
   B. volunteers
   C. experts

8. Which Great Lake is nearest to the town of Elliot Lake?

   A. Lake Superior
   B. Lake Huron
   C. Lake Michigan

9. Which city is nearest to Elliot Lake?

   A. Sudbury
   B. London
   C. Toronto

10. How can you travel to Elliot Lake?

   A. by train
   B. by ship
   C. by car

11. What did the town of Elliot Lake get its name from?

   A. a mountain
   B. a river
   C. a lake

12. What is the land in Elliot Lake like?

   A. flat
   B. hilly
   C. good for farming

13. Which language do many people in Elliot Lake speak?

   A. French
   B. German
   C. Italian

14. What is the most important industry in Elliot Lake?

A. cutting trees
B. dairy farming
C. uranium mining

15. What is the name of a company which own mines near Elliot Lake?

A. Rio Algom Limited
B. Dominion Limited
C. General Company

APPENDIX C

DIRECTIONS ACCOMPANYING SLIDE-TAPE PRESENTATION DURING TESTING IN FORMAL EVALUATION

DIRECTIONS FOR SLIDE/TAPE PRESENTATION

ELLIOT LAKE, OUR COMMUNITY

Part 1: Elliot Lake, Our Community: Its Characteristics
Slides 1 - 53, audiotape side A.

Part 2: Elliot Lake, Our Community: Its Workers
Slides 1 - 46, in slots 61 to 106 on the slide tray, audiotape side B.

This carousel tray also contains the slides for follow-up activity number 24, "Mining at Rio Algom". There is an audiotape to accompany these slides, as well as a script. As there are no advance signals on the audiotape, you can use the script to see when to advance the slides. They are in slots 111 to 134 on the slide tray.

NOTE: The slides for Part 1 and Part 2 will be reproduced as filmstrips after the testing has been completed and necessary changes have been made. For now you may need to change the focus for some of the slides during the presentation.

For further directions see the teacher's guide.

APPENDIX D

EVALUATION QUESTIONNAIRE

Are the objectives clear and appropriate?

Are the directions clear?

Is the content accurate and suitable?

Is the content sequenced properly?

Are the questions and activities appropriate?

Are the pictures in the slide/tape presentation clear and suitable?

Is the audiotape clear?

Is the test suitable?

Is this instructional package likely to be a useful learning tool?

Please indicate below any specific parts to which your criticisms refer.

Please suggest any changes which could be made to improve this instructional package.

APPENDIX E

PRETEST

DIRECTIONS TO THE TEACHER

Administer the pretest before starting the unit.

Print the example on the blackboard before the class begins.

Distribute the tests and have students print their names in the space provided.

Do the example on the blackboard with the students, explaining that only one of the three answers is correct.

Example

In the winter what do some people like to do outdoors in Elliot Lake?

A. play softball
B. play marbles
C. go skiing

Give the following directions orally to the students:

> "Look at question number one on your paper. I will read the question and the three possible answers to you. Then I want you to circle the correct answer. When you are finished a question, wait until I read the next question to you."

Proceed with the test, reading the questions and possible answers to the students as they select their answers.

NAME: _____

1. Before the town of Elliot Lake was built, who lived in the area?

   A. hunters
   B. salesmen
   C. nurses

2. Who built most of the houses in Elliot Lake?

   A. the government
   B. the people who live in the houses
   C. the mining companies

3. How many seasons does Elliot Lake have in one year?

   A. 4
   B. 2
   C. 1

4. Where do many people like to go in Elliot Lake on a summer day?

   A. to the beach
   B. to the circus
   C. to the zoo

5. What kind of mineral is mined in Elliot Lake?

   A. nickel
   B. uranium
   C. copper

6. Who do about half of the workers in Elliot Lake work for?

   A. the mining companies
   B. the government
   C. the stores

7. Some of the workers who do things to help people in our community are not paid for this work. What are they called?

   A. apprentices
   B. volunteers
   C. experts

8. Which Great Lake is nearest to the town of Elliot Lake?

   A. Lake Superior
   B. Lake Huron
   C. Lake Michigan

9. Which city is nearest to Elliot Lake?

   A. Sudbury
   B. London
   C. Toronto

10. How can you travel to Elliot Lake?

   A. by train
   B. by ship
   C. by car

11. What did the town of Elliot Lake get its name from?

   A. a mountain
   B. a river
   C. a lake

12. What is the land in Elliot Lake like?

   A. flat
   B. hilly
   C. good for farming

13. Which language do many people in Elliot Lake speak?

   A. French
   B. German
   C. Italian

14. What is the most important industry in Elliot Lake?

A. cutting trees
B. dairy farming
C. uranium mining

15. What is the name of a company which own mines near Elliot Lake?

A. Rio Algom Limited
B. Dominion Limited
C. General Company

APPENDIX F

POSTTEST

DIRECTIONS TO THE TEACHER

Print the example on the blackboard before the class begins.

Distribute the tests and have students print their names in the space provided.

Do the example on the blackboard with the students, explaining that only one of the three answers is correct.

Example

How many people live in Elliot Lake?

A. 100,000
B. 19,000
C. 800

Give the following directions orally to the students:

> "Look at question number one on your paper. I will read the question and the three possible answers to you. Then I want you to circle the correct answer. When you are finished a question, wait until I read the next question to you."

Proceed with test, reading questions and possible answers to students, as they select their answers.

NAME: _____

1. Which Great Lake is nearest to the town of Elliot Lake?

   A. Lake Superior
   B. Lake Huron
   C. Lake Michigan

2. Which city is nearest to Elliot Lake?

   A. Sudbury
   B. London
   C. Toronto

3. How can you travel to Elliot Lake?

   A. by train
   B. by ship
   C. by car

4. What did the town of Elliot Lake get its name from?

   A. a mountain
   B. a river
   C. a lake

5. What is the land in Elliot Lake like?

   A. flat
   B. hilly
   C. good for farming

6. Which language do many people in Elliot Lake speak?

   A. French
   B. German
   C. Italian

7. What is the most important industry in Elliot Lake?

   A. cutting trees
   B. dairy farming
   C. uranium mining

8. What is the name of a company which owns mines near Elliot Lake?

   A. Rio Algom Limited
   B. Dominion Limited
   C. General Company

9. Before the town of Elliot Lake was built, who lived in the area?

   A. hunters
   B. salesmen
   C. nurses

10. Who built most of the houses in Elliot Lake?

   A. the government
   B. the people who live in the houses
   C. the mining companies

11. How many seasons does Elliot Lake have in one year?

   A. 4
   B. 2
   C. 1

12. Where do many people like to go in Elliot Lake on a summer day?

   A. to the beach
   B. to the circus
   C. to the zoo

13. What kind of mineral is mined in Elliot Lake?

   A. nickel
   B. uranium
   C. copper

14. Who do about half of the workers in Elliot Lake work for?

   A. the mining companies
   B. the government
   C. the stores

15. Some of the workers who do things to help people in our community are not paid for this work. What are they called?

A. apprentices
B. volunteers
C. experts

APPENDIX G

ELLIOT LAKE, OUR COMMUNITY: TEACHER'S GUIDE

ELLIOT LAKE, OUR COMMUNITY

TEACHER'S GUIDE

INTRODUCTION

This instructional package is intended primarily for use with the Grade Two environmental studies program of the North Shore Board of Education. It may be of some use in other grades as well. It has been designed to accompany two units in Experiences in Environmental Studies 2. These two units are "Our Community, Its Characteristics" and "Our Community, A Network of Relationships".

This instructional package consists of materials designed to assist in teaching students about the community of Elliot Lake. It was prepared because of the lack of instructional materials on Elliot Lake suitable for Grade Two students.

This package is not intended to be used in place of the units in the core program. Its purpose is to provide instructional materials which may be used with those parts of the core program which pertain directly to the community of Elliot Lake.

The contents of this instructional package are listed in the Table of Contents on the following pages.

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SUGGESTIONS FOR USE

In preparation for teaching the units on the community, the teacher should become familiar with the contents of the two units on the community in the core program outline Experience in Environmental Studies 2, and with the contents of this package. The teacher may also read the background information on the community of Elliot Lake provided on pages 2 to 9 of this package.

Before the filmstrips are presented, at least one lesson should be spent on the introductory questions and activities, as these will prepare students for the most effective viewing of the filmstrips. The filmstrips should not be viewed all in one lesson. The teacher should decide how much material should be covered in each lesson, as this will vary from class to class.

The posttest may be given either after the viewing of the filmstrips, or after the units on the community have been completed.

The teachers should choose the follow-up questions and activities which are most suitable for the class, or for individuals or groups of students. Students may require the teacher's guidance in seeking the answers to these questions, particularly when the answer is available only from sources outside the school.

BACKGROUND INFORMATION ON ELLIOT LAKE

Location

Elliot Lake is located in the Algoma District of Ontario, at approximately 46 N latitude and 83 W longitude. The Algoma District lies in the Pre-Cambrian Shield covering the north shores of the Georgian Bay of Lake Huron. The rugged landscape of the area is comprised of timberland, lakes, river, muskeg, and rock outcrops.

Although it is often said that Elliot Lake is located in northern Ontario, a look at the map of Ontario will show that the community is really located within the southern half of the province. It is because the population of Ontario is concentrated in the extreme southern region of the province that the area north of Lake Huron is usually spoken of as "northern Ontario". For weather forecasting purposes the area from Sault Ste. Marie to Sudbury is now often referred to as "central Ontario".

For children, location is usually described in relation to another well known landmark. Elliot Lake is located 20 kilometers north of Lake Huron. Location can also be given in relation to other communities or transportation routes. Elliot Lake is located on Highway 108, 160 kilometers from Sudbury by road, a drive which takes almost 2 hours (1 hour and 48 minutes at the legal speed limit).

History

The uranium in the Elliot Lake area was first discovered in 1948. According to Jewel in the Wilderness (1980) some samples of ore were lying on a desk in the recording office in Sault Ste. Marie when a prospector named Karl Gunterman and a hotel keeper named Aime Breton visited the office. Breton casually examined the samples with his geiger counter, and thus discovered the presence of uranium in an ore sample from Long Township, east of Blind River. These two prospectors went to Long Township and staked their claims. The assays of the samples from the area had only a small trace of uranium, so Gunterman and Breton were not able to find a buyer, and the claims were left undeveloped for some time.

In 1949 Gunterman told Franc Joubin about their find. Joubin, a mining consultant, suspected that the surface rocks were low in mineral content due to exposure to the elements. He believed that there were large uranium deposits below the surface, so he staked claims and started drilling operations in an area where there was a break between the old and new rocks. This break, roughly in the shape of a Z, later became known as the "Big Z". Joseph Hirshhorn provided financing for the drilling, and later for mining operations. Mr. Hirshhorn hired workers to stake claims throughout the Big Z area. The uranium find was kept a closely guarded secret until sufficient claims were staked. When news of the strike

finally broke in 1953, many prospectors rushed to the area to stake their claims.

Following the staking, more drilling and analysis was carried out. Then in 1954 construction began on a road to link the area to highway 17. This first road, although very rough, was used heavily by supply trucks and some passenger cars.

Pronto mine, a couple of miles east of Blind River, was built first as a test. It was officially opened in 1955. In 1956 Quirke Mine and Nordic Mine were opened. As the mining rapidly expanded, and thousands of people moved to the area around Elliot Lake, a community began to grow. It was expected that the population would escalate sharply, so community planning was undertaken in the spring of 1954 by Franc Joubin, R.C. Hart, W.H. Hutchison and several Ontario provincial departments. According to LeBourdais (1959), "...it was important that those who were developing the new mines should provide living conditions most likely to attract and retain a stable working force" (p. 124).

The planning committee decided it would be advantageous to build one central community. Joubin declined the suggestion that his own name be given to the new town, so the name "Elliot Lake" was chosen.

After much careful planning and preparation, the first subdivision was formed in March 1956, and residential lots were ready for purchase.

Lebourdais (1959) reports:"

> To serve the whole town, one large central commercial district was provided, as well as a municipal centre, a high school centre, and two districts for what might be termed heavy industry. (p. 126)

In 1958 the hospital was nearly completed, and two hotels were under construction. The Algoden Hotel had been built two years earlier. Also in 1958 the W.H. Collins Community Centre was officially opened. It was presented to the town as the personal contribution of Franc Joubin and Joseph Hirshhorn. This centre was named for the Geological Survey of Canada director whose map had been of great value to the stakers in 1953. The Strand Theatre opened in February 1959.

Bad news broke in November 1959 which was to have a drastic effect on Elliot Lake in the following decade. The Canadian Mining Journal (1978) described what happened.

> In November 1959 the United States Atomic Energy Commission announced that it would not exercise its option to purchase additional uranium from Canada's Elliot Lake uranium mines. There were no other customers and the 12 mines and 11 concentrators that had just been built began to close down. From a population peak of 25,000 Elliot Lake shrivelled to about 13,000 in 1960, and all that kept the remaining producers going was a Canadian government uranium oxide stock piling program. Elliot Lake gained a reputation as the North's most modern ghost town as houses and businesses were boarded up. (p. 63)

Throughout the early 1960's various groups of citizens tried to find solutions to the town's problems. Efforts were made to develop tourism. In 1963 the Nuclear

and Mining Museum was opened, and an extension of Highway 108 to the White River road connecting with Iron Bridge was started. A 90,000 acre park was opened seven miles north of Quirke Mine. It was named Frost Park after the Premier of Ontario.

New hope arose on August 19th, 1963 when the Member of Parliament for the District of Algoma, Lester B. Pearson, became Prime Minister of Canada.

Throughout the 1960's the companies managed to keep at least two uranium mines open. In some ways the town continued to improve. In 1964 a school for the mentally retarded was opened, and the construction of an arena was planned. The Elliot Lake Centre for Continuing Education was established. In 1965 citizens of Elliot Lake decided that the town should be governed by an elected body rather than an appointed one. On March 21, 1966 the first municipal election was held, electing a reeve and four councillors. On April 1, 1966 the Improvement District of Elliot Lake officially became the Corporation of the Township of Elliot Lake. In 1968 the airport was built. In 1969 ambulance service began, and A.R.C. Industries, a workshop for the mentally and physically handicapped opened. Construction began on a new building to house the Elliot Lake Clinic.

In the early 1970's the citizens of Elliot Lake felt renewed hope in the future of uranium as a major world energy source. In November 1973 a mill at Denison Mines

was in the process of expanding. By December, Denison received an order from Japan for the delivery of uranium commencing in 1984.

In 1973 concern arose over the growing number of miners with silicosis. Studies of the health of the workers resulted in improved health and safety conditions, and programs to assist workers suffering from the effects of industrial diseases.

By 1975 new houses were being built in Elliot Lake for the first time since the 1950's. In August 1975 the provincial government announced that it was going to spend 3.5 million dollars to improve Highway 108.

On January 1, 1976 the status of Elliot Lake changed once more, this time from a township to a town. Many new businesses opened that year. The two mining companies were expanding operations. In 1977 a 95-lot trailer park opened at Nordic Townsite, and construction began on a new French high school. In 1978 contracts were signed between Denison Mines Limited and Ontario Hydro. Construction began on the Oakes Hotel, and the Dieppe Plaza was completed.. The construction of the 10 million dollar Algo Centre shopping mall was proposed and accepted. Elliot Lake was once more a prosperous community.

Population

The town of Elliot Lake gets its most recent count of the total population of the community from election

enumerations. An enumeration in 1983 showed that the total population of Elliot Lake at that time was approximately 19,000.

The most recent census of Canada was taken in 1981. The following population statistics for the community of Elliot Lake are according to the 1981 census.

Population		16,723
Official language-	English only	10,415
	French only	750
	Both English and French	5,405
	Neither English nor French	15
Ethnic origin-	Single origins	14,630
	British	6,895
	French	5,575
	Other	2,160
	Multiple origins	1,955
Religion-	Catholic	9,505
	Protestant	6,155
	United Church	2,670
	Anglican	1,565
	Eastern Orthodox	50
	Jewish	--
	No religious preference	730
	Eastern Non-Christian	140
	Other	5
Population 15 years of age and over		11,750
Total labour force		8,235
Employed by the mining industry		4,150
Employed in trade		1,005
Employed in community, business and personal service industries		1,825

Climate

The following information was given by Helling (1960) for the Algoma District.

Mean January temperature	-13 C
Mean July temperature	18 C
Extreme January temperature	-44 C
Extreme July temperature	36 C
Total annual sunshine	1800 hours
Total annual precipitation	76 cm

INTRODUCTORY QUESTIONS AND ACTIVITIES

Before viewing the filmstrips use the following questions and activities as the basis for class discussion. Help the students to determine the correct answers to these questions. If students are not able to find the places on the maps and globe, show them.

Introducing the Topic

1. What is a community?
2. What community do you live in?
3. Is Elliot Lake a town or a city?
4. Tell something you know about Elliot Lake.
5. Tell something you would like to find out about Elliot Lake.

Location

6. How long does it take to drive from Elliot Lake to Sudbury?
7. How long does it take to drive from Elliot Lake to Sault Ste. Marie?
8. Elliot Lake is in the country of Canada. Find Canada on a globe and on a world map.
9. Elliot Lake is in the province of Ontario. Find Ontario on a globe and on a map of Canada.
10. Ontario is one of the ten provinces of Canada. Find the ten provinces and the two territories on a map of Canada.
11. On a road map of Ontario find Elliot Lake, Highway 108, Highway 17, Sudbury and Sault Ste. Marie. Discuss the compass directions (north, south, east or west) taken when travelling between these three communities.

13. Elliot Lake is north of Lake Huron. Look at the Great Lakes on a map of Canada, on a world map, and on a globe.

Occupations

14. The main industry of Elliot Lake is uranium mining. What does mining mean? What is uranium used for? Why is uranium worth a lot of money?

15. What is industry? What is an industrial park?

16. Do you know anyone who works for Denison Mines Limited or Rio Algom Limited? Who? What work do they do?

17. Name some people who work in Elliot Lake, but not at the mines. Tell what jobs these people do. How do their jobs help other people?

Rules

18. Do students have rules to follow in school?
What are they?
Why do we have these rules?
Who decides what the school rules are?
Who makes sure you carry them out?

19. Do the people of Elliot Lake have to follow any rules?
What are some of these rules?
Who makes up these rules?
What happens if people break the rules?
Who makes sure that people obey the rules?

20. Do people have any rules to follow at work?
What rules does a teacher have to follow?
What rules does a miner have to follow?

ANSWER KEY TO INTRODUCTORY QUESTIONS

1. A community is a group of people living in one area.

2. We live in the community of Elliot Lake.

3. Elliot Lake is a town.

4. Answers may very.

5. Answers may vary.

6. It takes almost two hours to drive from Elliot Lake to Sudbury (1 hour and 48 minutes at legal speed limits).

7. It takes a little more than two hours to drive from Elliot Lake to Sault Ste. Marie (2 hours and 15 minutes at legal speed limits).

11. Elliot Lake to Sudbury: south, then east.
Elliot Lake to Sault Ste. Marie: south, then west.
Sudbury to Elliot Lake: west, then north
Sault Ste. Marie to Elliot Lake: east, then north
Sault Ste. Marie to Sudbury: east
Sudbury to Sault Ste. Marie: west

12. Elliot Lake is further north than the part of Ontario where most of the people live. Look at Ontario on a map of Canada.

13. Mining means digging valuable minerals (rocks) from the ground.
Uranium is used as a fuel to make electrical power and it is used in atomic bombs.
Uranium is worth a lot of money because a small amount of uranium can make a large amount of electrical power.

15. Industry is making things to sell them. An industrial park is an area of buildings where things are made or repaired. Other kinds of businesses are often found in industrial parks too.

18. Answers will vary.
The school board, the principal, and the teachers decide what the school rules are.
The principal and teachers make sure that you carry out the rules.

19. Answers will vary.
The police and the town council make up these rules. If people break the rules they have to pay a fine, or sometimes go to jail.
The police make sure that people obey the rules.

20. People do have rules to follow at work.
A teacher has to get to school on time. A teacher has to teach the things he or she is told to teach.
(Other answers may be acceptable.)
A miner has to wear a safety helmet. A miner is not allowed to smoke at work.
(Other answers may be acceptable.)

SUGGESTIONS FOR PRESENTATION OF THE FILMSTRIPS

Prior to presentation of the filmstrips, one or two lessons should be spent on the introductory questions and activities on pages 10 and 11 of this guide, as this will prepare students for the concepts presented in the filmstrips.

The teacher should preview the filmstrips to decide how much material to cover in each lesson. A possible schedule would be as follows:

Lesson 1	Introduction and location. Use introductory questions 1-13 on pages 10 and 11.
Lesson 2	Introduction of occupations and rules. Use introductory questions 14-20 on page 11. (This lesson could be given before presentation of Filmstrip II if preferred.)
Lesson 3	Characteristics of the community of Elliot Lake. Present Filmstrip I, frames 1-16. (See script on pages 16-17.)
Lesson 4	Recreation in Elliot Lake. Present Filmstrip I, frame 17-32. (See script on pages 17-18.)
Lesson 5	Special places in Elliot Lake. Present Filmstrip I, frames 33-53. (See script on pages 19-20.)
Lesson 6	Workers in Elliot Lake. Present Filmstrip II, frames 1-23. (See script on pages 22-23.)

Lesson 7	Workers in Elliot Lake. Present Filmstrip II, frames 24-39. (See script on pages 24-25.) Administer posttest. (The posttest could be given after the follow-up questions and activities if preferred.)
Lessons 8 and 9	Follow-up questions and activities.

Whenever a question is asked on the audiotape, sufficient time is allowed to answer briefly or to turn off the tape player for a class discussion.

In the second filmstrips, frames 11 to 31 show workers in Elliot Lake. The audiotape should be turned off during the viewing of these frames so that the class can discuss some of the following questions.

1. Where does this person work?
2. What is this person's job?
3. Does this worker do something which helps other people?
4. Does this worker need other people to help him or her?
5. Does this worker need any special equipment or materials?
6. Does this worker have any rules to follow?
7. Does this worker have a boss who decides what work he or she does?

ELLIOT LAKE, OUR COMMUNITY

Filmstrip I
Its Characteristics

SCRIPT

	Picture	Sound
1.	FOCUS	
2.	Blank slide	
3.	Graphic: ELLIOTT LAKE, OUR COMMUNITY Filmstrip I Its Characteristics	(music/fade to low at end of slide
4.	Simple map of the Great Lakes and part of Ontario. Lakes are shaded blue. Ontario is shaded yellow. Labels on Great Lakes and Elliot Lake (the community).	The Town of Elliot Lake is located in Northern Ontario 20 kilometers north of Lake Huron.
5.	Simple map of the north part of Lake Huron showing Sault Ste. Marie, Sudbury, and the community of Elliot Lake. Shows the highways adjoining these communities with a black line.	The nearest cities to Elliot Lake are Sudbury and Sault Ste. Marie.
6.	Cars on Highway 108.	You can travel to Elliot Lake by road or by plane.
7.	Population sign on highway.	In 1983 about 19,000 people lived in Elliot Lake. Most of them speak either English or French.
8.	Picture of early buildings.	People started to build the town of Elliot Lake in the year 1956.
9.	A minesite.	The town was built because it is near the uranium mines of two companies, Denison Mines Limited and Rio Algom Limited.
10.	Worker in uranium mine.	Uranium mining is the most important industry of Elliot Lake.

11. An old picture of an Indian in the area before the 1950's.	Before the uranium mining started, the only people who lived in the area were hunters, fishermen, lumberjacks, prospectors, and Indians. What are lumberjacks and prospectors?
12. The lake in summer.	The town was built near a beautiful lake, Elliot Lake. The town's name comes from the name of this lake.
13. Hillside Drive and Horne Lake.	The land in Elliot Lake is very hilly. The town is surrounded by forests and lakes.
14. Ontario Avenue.	The business section of the town has a main street, two plazas, and a shopping mall. You probably go shopping there.
15. Farquhar's dairy in the industrial park.	On the edge of the town there are two industrial parks for small support industries like this dairy. What is a dairy?
16. Houses built by mining companies.	Elliot Lake has many housing areas. Most of the houses and apartments were built by the mining companies.
17. An autumn scene.	Every year Elliot Lake has four seasons. What are they?

18. People at Spine Beach summer.	The summer days are in often very warm. In the summer, people can go to the sandy beaches of Elliot Lake. At the beach, they can cool off by swimming.
19. Waterskiing on Elliot Lake.	Some people like to water-ski on the lake.
20. Wind surfing on Elliot Lake.	Others like sailing, canoeing, or wind surfing.
21. A sport fisherman fishing in Elliot Lake.	Summer is also a good time for fishing.
22. A hiker on trail.	There are beautiful hiking trails near the lake.
23. Westview Park.	Westview Park is a good place for a picnic.
24. Camping in Mississagi Park.	Many families enjoy camping in nearby Mississagi Park.
25. A softball park.	Elliot Lake has several special fields for softball or soccer. Perhaps you know where there is a softball park.
26. A hunter in autumn.	On nice autumn days, some people enjoy hunting, fishing or hiking.
27. Snowmobiling.	Winter is also a good time for many outdoor activities in Elliot Lake. Some people like snowmobiling.
28. A cross-country skier.	People can go skiing cross-country or downhill.
29. Ice fishing on Elliot Lake.	When the lakes freeze, some people like to go ice fishing.

30.	Children skating on an outdoor rink.	You can go skating on the lake, at an outdoor rink, or in an arena. Some young young people play hockey or ringette.
31.	Children tobogganing.	Other people enjoy snowshoeing, toboganning, or making snowmen. What do you like to do outdoors in the winter?
32.	Indoor view of pool.	Elliot Lake has a beautiful municipal swimming pool which is open for use all year round.
33.	Esten Park Public School.	There are many special buildings in Elliot Lake. There are many schools and churches.
34.	The municipal building.	This is the municipal building where the town council meets.
35.	Elliot Lake Police Station.	Next to the municipal building is the police station.
36.	The Algo Centre.	The Algo Centre is an indoor shopping mall.
37.	The water treatment plant.	At the water works, our drinking water is treated and tested.
38.	Inside the library.	Here is the Elliot Lake Public Library.
39.	The mine rescue station.	This is the mine rescue station. Why is this station important?
40.	The fire hall.	Here is the fire station.
41.	The airport.	Here is Elliot Lake Airport.

42.	St. Joseph's General Hospital.	Do you know what building this is?
43.	The uranium symbol sculpture.	Every community is different from other communities. Elliot Lake is special in many ways.
44.	Simple map showing Lake Huron, Elliot Lake, Sudbury and Sault Ste. Marie.	Can you find Elliot Lake on a map?
45.	A winter scene.	Can you tell what the weather is like in Elliot Lake during each season of the year?
46.	Boys playing hockey on outdoor rink.	Do you know what special things people do for fun out-of doors in Elliot Lake? These things are called recreational activities.
47.	Spruce Beach.	Can you name some special places in Elliot Lake? If you can answer these questions, you know a lot about your community. (music/fade in low music)

48. Produced by

    Patricia Lee

49. Narrated by

    Jennifer Guy

50. With the cooperation of

    The North Shore Board of Education

51. With the assistance of

Andrew Trussler
Colleen Pigozzo
Lynn Brown
Susan Young

52. Produced with the assistance of the

Centre for Audiovisual Education
Faculty of Education
Memorial University of Newfoundland

53. THE END

ELLIOT LAKE, OUR COMMUNITY

Filmstrip II
Its Workers

SCRIPT

	Picture	Sound
1.	FOCUS	
2.	Blank slide	
3.	ELLIOT LAKE, OUR COMMUNITY Filmstrip II Its Workers	(Music/fade to low end of slide)
4.	Uranium mining.	Uranium mining is the most important industry in Elliot Lake.
5.	Graphic: DENISON MINES LIMITED RIO ALGOM LIMITED	Two companies own the uranium mines near Elliot Lake. These are Denison Mines Limited and Rio Algom Limited.
6.	Workers in mine.	About half of the workers in Elliot Lake work for the two mining companies.
7.	A nurse at work.	Most of the other workers in Elliot Lake have jobs which serve the mining industry or the people of the community.
8.	A clerk in a story.	These jobs are usually with either government services or businesses.
9.	Graphic: WORKERS IN ELLIOT LAKE	In the next twenty pictures you will see people who work in Elliot Lake. As you look at each picture, your teacher will ask you some questions.
10.	Graphic: TURN OFF THE TAPE RECORDER	Turn off the tape recorder before you look at the next twenty pictures.
	(Frames 11 to 31 are pictures without accompanying sound on the audiotape)	
11.	A gas station attendant pumping gas.	
12.	A hairdresser at work.	

13. A typist at work.

14. A minister in pulpit.

15. A school bus driver.

16. A school janitor, cleaning.

17. A waitress at work.

18. A cashier at work in a supermarket.

19. A druggist at work.

20. A furniture salesman.

21. A maintenance man replacing a fluorescent tube.

22. A garbage collector.

23. A heavy equipment operator digging a road.

24. A doctor a work in a clinic.

25. A police officer standing by a patrol car.

26. A fireman standing by a fire truck.

27. A mail carrier.

28. An airport ticket agent serving a traveller. Suitcase in picture on scales.

29. A miner.

30. A teacher.

31. Graphic:
NOW TURN ON THE TAPE RECORDER
(advance signal on audiotape)

32.	A Cub leader with Cubs in uniform.	Some workers who do things to help people in our community are not paid for this work. They are called volunteers. This Cub leader is a volunteer worker.
33.	A miner and equipment underground.	Remember, many people in Elliot Lake work for the mining companies. It is because of the uranium mines that the town of Elliot Lake was built. (Music/fade in low)
34.	Produced by Patricia Lee	(Raise volume of music/55 seconds of music)
35.	Narrated by Jennifer Guy	
36.	With the cooperation of The North Shore Board of Education	
37.	With the assistance of Andrew Trussler Colleen Pigozzo Lynn Brown Susan Young	
38.	Produced with the assistance of the Centre for Audiovisual Education, Faculty of Education, Memorial University of Newfoundland	
39.	THE END.	

POSTTEST

DIRECTIONS TO THE TEACHER

Print the example on the blackboard before the class begins.

Distribute the tests and have students print their names in the space provided.

Do the example on the blackboard with the students, explaining that only one of the three answers is correct. Circle the correct answer.

Example

How many people live in Elliot Lake?

A. 100,000

B. 19,000

C. 800

Give the following direction orally to the students:

> "Look at question number one on your paper. I will read the question and the three possible answers to you. Then I want you to circle the correct answer. When you are finished a question, wait until I read the next question to you."

Proceed with test, reading questions and possible answers to students, as they select their answers.

NAME: _____

1. Which Great Lake is nearest to the town of Elliot Lake?

   A. Lake Superior
   B. Lake Huron
   C. Lake Michigan

2. Which city is nearest to Elliot Lake?

   A. Sudbury
   B. London
   C. Toronto

3. How can you travel to Elliot Lake?

   A. by train
   B. by ship
   C. by car

4. What did the town of Elliot get its name from?

   A. a mountain
   B. a river
   C. a lake

5. What is the land in Elliot Lake like?

   A. flat
   B. hilly
   C. good for farming

6. Which language do many people in Elliot Lake speak?

   A. French
   B. German
   C. Italian

7. What is the most important industry in Elliot Lake?

   A. cutting trees
   B. dairy farming
   C. uranium mining

8. What is the name of a company which owns mines near Elliot Lake?

   A. Rio Algom Limited
   B. Dominion Limited
   C. General Company

9. Before the town of Elliot Lake was built, who lived in the area?

   A. hunters
   B. salesmen
   C. nurses

10. Who built most of the houses in Elliot Lake?

   A. the government
   B. the people who live in the houses
   C. the mining companies

11. How many seasons does Elliot Lake have in one year?

   A. 4
   B. 2
   C. 1

12. Where do many people like to go in Elliot Lake on a summer day?

   A. to the beach
   B. to the circus
   C. to the zoo

13. What kind of mineral is mined in Elliot Lake?

   A. nickel
   B. uranium
   C. copper

14. Who do about half of the workers in Elliot Lake work for?

   A. the mining companies
   B. the government
   C. the stores

15. Some of the workers who do things to help people in our community are not paid for this work. What are they called?

A. apprentices
B. volunteers
C. experts

ANSWER KEY TO POSTTEST

Example:		19,000
1.	B,	Lake Huron
2.	A,	Sudbury
3.	C,	by car
4.	C,	a lake
5.	B,	hilly
6.	A,	French
7.	C,	uranium mining
8.	A,	Rio Algom Limited
9.	A,	hunters
10.	C,	the mining companies
11.	A,	4
12.	A,	to the beach
13.	B,	uranium
14.	A,	the mining companies
15.	B,	volunteers

FOLLOW-UP QUESTIONS AND ACTIVITIES

Suggested use: The teacher may choose the most suitable follow-up questions and activities for the class, or for individuals or groups of students. Students may require guidance from the teacher in seeking the answers to the questions, particularly where the answer is available only from sources outside the school.

Questions for discussion or research

1. People started to build the town of Elliot Lake in the year 1956. How old is Elliot Lake now?
2. What are lumberjacks? What is lumber used for?
3. What do prospectors do?
4. How warm does it get in Elliot Lake in the summer?
5. How cold does it get in Elliot Lake in the winter?
6. During which month does each season begin in Elliot Lake?
7. What is precipitation? Guess how much precipitation falls in one year in Elliot Lake. (After students make their guesses, give them the correct answer.)
8. What is recreation? What kinds of outdoor recreation do the people of Elliot Lake enjoy?
9. What special places in Elliot Lake do you visit?
10. What is a town council? What does it do? How are the members of the council chosen? Who is the major of Elliot Lake? Who are the councillors?
11. Who belongs to the community of Elliot Lake?
12. Why do you like living in Elliot Lake?
13. How can you or others make Elliot Lake a safer place to live?

14. How can you or others make Elliot Lake a more beautiful place to live?

Activities

15. On a map of Elliot Lake find your school and the street you live on.

16. The uranium mines in Elliot Lake are not the only mines in northern Ontario. Find our where there are others.

17. Name some wild animals and birds which are found in or near Elliot Lake?

18. Name some animals or birds which are hunted in the wilderness near Elliot Lake.

19. As a class, make up a paragraph about Elliot Lake. The teacher will write it on the blackboard.

20. Have students interview their working parents to find out about their jobs. Students could report on the interviews orally to the class, or they could record the interviews on audiotape and play them for the class.

21. Plan a dress-up day. Students come to school dressed as various workers in Elliot Lake. Each student can tell the class about the occupation he or she represents.

22. Draw a picture of one of your favourite places in Elliot Lake.

23. Have students make models of buildings in Elliot Lake by covering boxes such as shoe boxes or food boxes with plain paper, and then drawing and colouring or painting on the details. Set up these buildings to make a model town.

24. View the slide-tape presentation "Mining at Rio Algom" which is available from the North Shore Board of Education Resource Centre. The Training Department of Rio Algom Limited prepared this presentation to accompany this unit on Elliot Lake for Grade Two students. It describes a day in the life of a uranium miner. These slides will give your students a good idea of the underground uranium mining operation (length: 3 minutes).

ANSWER KEY TO FOLLOW-UP QUESTIONS

1. To find the answer subtract 1956 from the present year.

2. Lumberjacks are people whose work is cutting down trees. Lumber is used for building houses and furniture, making paper, and other things.

3. Prospectors are people who explore land looking for valuable minerals (rock) which could be mined and sold.

4. In the summer the temperature in the District of Algoma sometimes reaches 36 C. The mean July temperature is 18 C.

5. In the winter the temperature in the District of Algoma sometimes goes down to -44 C. The mean January temperature is -18 C.

6. Officially spring begins in March, summer in June, autumn in September, and winter in December. Considering the weather, other answers may also be acceptable.

7. Precipitation is rain, mist, snow, or hail that falls down from the clouds. In one year the Algoma District gets about 76 centimetres of precipitation.

8. Recreation is the things people do for fun or relaxation. Outdoor recreation in the Elliot Lake area includes skiing cross-country and downhill, skating, snowmobiling, snowshoeing, tobogganing, ice fishing, fishing, swimming, boating, canoeing, sailing, wind surfing, water-skiing, hiking, camping, hunting, playing softball, playing soccer, and others.

9. Answers may vary.

10. A town council is a group of people who meet to make decision and rules for the town. The members are elected by the people of the town.

11. All of the people who live in Elliot Lake belong to the community. In a broader sense, pets, wildlife, plant life, buildings, etc. also belong to the community.

12. Answers may vary.

13. If you see something dangerous, report it to an adult. Don't leave things where people can trip over them.

14. Put litter in garbage cans. Pick up litter you see. Don't damage public property. Plant trees, flowers or grass, and don't damage these.

16. According to the National Atlas of Canada (1974) mines are located at the following places in northern Ontario: Uchi Lake, Pickle Lake, Red Lake, Werner Lake, Kenora, Sturgeon Falls, Little Long Lac, Manitouwadge, Steep Rock, Shebandowan, Renabie, Michipicoten, Porcupine (Timmins), Kirkland Lake, Detour Lakes, Sudbury, Larder Lake, Matheson, Rush Lake, Gowganda, Cobalt, Batchewana, Agnew Lake, Temagami, and Elliot Lake. According to the Canadian Mines Handbook (1983) the following minerals were mined in Ontario in 1982: cobalt, copper, gold, iron ore, lead, nickel, silver, uranium and zinc.

17. See Appendix A.

18. See Appendix A.

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APPENDICES

APPENDIX A

Animals That Inhabit The Elliot Lake Area

The following check list of animals that inhabit the Elliot Lake area was prepared by the Ministry of Natural Resources.

KEY: * most common

+ hunted

Check Lists of Amphibians & Reptiles of Mississagi Provincial Park - 1978

Amphibians

Salamanders

Red Spotted Newt	Diemictylus viridescens viridescens
Red Backed Salamander	Plethodon cinereus cinereus
*Blue Spotted Salamander	Ambystoma laterale

Toads & Frogs

*American Toad	Bufo americanus
*Bullfrog	Rana catesbeiana
Woodfrog	Rana sylvatica
*Leopard Frog (Northern)	Rana pipiens pipiens
*Spring Peeper	Hyla crucifer
Gray Treefrog	Hyla versicolor
Mink Frog	Rana septentrionalis
Green Frog	Rana Clamitans melanota

Reptiles

Turtles

*Common Snapping Turtle	Chelydra serpentina
Midland Painted Turtle	Chrysemys picta marginata
Wood Turtle	Clemmys insculpta

Lizards

Snakes

*(Eastern) Common Garter Snake	Thamnophis sirtalis sirtalis
Eastern Smooth Green Snake	Opheodrys vernalis vernalis
(Northern) Red Bellied Snake	Storeria occipitomaculata
*(Northern) Ring Neck Snake	Diadophis punctatus edulardsi
Northern Water Snake	Natrix sipedon sipedon

Check List of Mammals of Mississagi Provincial Park - 1978

Pouched Mammals	order Marsupialia
Moles & Shrews	order Insectivora
Starnose Mole	Condylura cristata
Bats	
*Little Brown Myotis	Myotis lucifugus
Keen Myotis	Myotis Keeni
Big Brown Bat	Eptesicus fuscus
Hares & Rabbits	order Lagomorpha
+*Snowshoe Hare	Lepus americanus
Gnawing Mammals	order Rodentia
*Red Squirrel	Tamiasciurus hudsonicus
Woodchuck (groundhog)	Marmota monax
*Eastern Chipmunk	Tamias striatus
*Beaver	Castor canadensis
*Porcupine	Erithizon dorsatum

Flesh-Eating Mammals	order Carnivora
Brush Wolf (Coyote)	Canis latrans
*Timber Wolf	Canis lupus
*Red Fox	Vulpes fulva
*Raccoon	Procyon lotor
*Mink	Mustela vison
Marten	Martes americana
Fisher	Martes pennanti
*Skunk	Mephitis mephitis
+*Black Bear	Ursus americanus

Even-Toed Hoofed Mammals	order Artiodactyla
+*White-tailed Deer	Odocoileus virginianus
+*Moose	Alces alces

Common Butterflies in Mississagi Provincial Park - 1978

White Admiral

*Monarch

*Tiger Swallowtail

Sulphur

Silver-bordered Fritillary

Mourning Cloak

Tortoise Shell

Check List of Birds of Mississagi Provincial Park - 1978

Loons and Grebes

Family Gairidae

*Common Loon	Gaira Immer

Cormorants, Herons and Ibises

Family Ardeidae

*American Bittern	Botaurus lentiginosus
*Great Blue Heron	Ardea herodias

Swans, Geese and Ducks

Family Anatinae

+*Black Duck	Anas rubripes

Family Anserinae

Canada Goose	Branta canadensis

Family Aythyinae

Buffle-head	Glaucionetta albeola
Common Goldeneye	Bucephala clangula
*Ring-necked Duck	Aythya collaris

Family Merginae

*(American) Common Merganser	Mergus merganser americanus
Hooded Merganser	Lophodytes cucullatus

Vultures, Hawks and Eagles

Family Accipitridae	
(American) Rough-legged Hawk	Buteo lagopus s. johannis
*Broad-wing Hawk	Buteo platypterus
Goshawk	Accipiter gentilis
Red-tailed Hawk	Buteo jamaicensis
Sharp-shipped Hawk	Accipiter striatus
Family Cathartidae	
Turkey Culture	Cathartes aura
Family Falconidae	
*American Kestrel	Falco sparverius
Merlin	Falco columbarius
Family Pandionidae	
Osprey	Pandion haliaetus
Grouse, Turkeys and Cranes	
Family Tetraonidae	
+*Ruffed Grouse	Bonasa umbellus
Spruce Grouse	Canachites canadensis
Rails, Gallinules and Coots	
Shorebirds	
Family Charadriidae	
*Killdeer	Charadrius vociferous vociferous
Family Scolopacidae	
Spotted Sandpiper	Actitis macularia

Jaegers, Gulls and Terns

Family Larinae

Bonaparte's Gull	Larus philadelphia
*Herring Gull	Larus argentatus
Ring-billed Gull	Larus delawarensis

Family Sterninae

Common Tern	Sterna hirundo hirundo

Pigeons, Doves and Cuckoos

Owls

Family Strigidae

*Barred Owl	Strix varia

Goatsuckers, Swifts, Kingfishers and Hummingbirds

Family Alcedinidae

*Kingfisher	Megaceryle alcyon

Family Apodidae

*Chimney Swift	Chaetura pelagica

Family Caprimulgidae

Common Nighthawk	Chordeiles minor

Family Trochilidae

*Ruby-throated Hummingbird	Archilochus colubris

Woodpeckers

Family Picidae

Black-backed Three-toed Woodpecker	Picoides arcticus
*Downy Woodpecker	Dendrocopos pubescens
*Hairy Woodpecker	Dendrocopos villosus
Northern Three-toes Woodpecker	Picoides tridactylus
*Pileated Woodpecker	Dryocopus pileatus
Yellow-bellied Sapsucker	Sphyrapicus varius
*Yellow Shafted Flicker	Colaptes auratus

Tyrant Flycatchers

Family Tyrannidae

Eastern Kingbird	Tyrannus tyrannus
*Eastern Wood Pewee	Contopus virens
Great Crested Flycatcher	Myiarchus crinitus

Larks and Swallows

Family Hirundinidae

*Barn Swallow	Hirundo rustica
Cliff Swallow	Petrochelidon pyrrhonota
Rough Winged Swallow	Stelgidopteryx ruficollis
*Tree Swallow	Iridoprocne bicolour

Jays, Magpies and Crows

Family Corvidae

*Blue Jay	Cyanocitta cristata
*Common Crow	Corvus brachyrhynchos
*Common Raven	Corvus corax
Gray Jay	Perisoreus canadensis

Titmice, Nuthatches and Creepers

Family Certhiidae

Crown Creeper	Certhia familiaris

Family Paridae

*Black-capped Chickadee	Parus atricapillus

Family Sittidae

Red-breasted Nuthatch	Sitta cana densis
White-breasted Nuthatch	Sitta carolinensis

Mimids, Thrushes, Kinglets and Gnat Catchers

Family Mimidae

Brown Thrasher	Toxostoma cufum
Catbird	Dumetella carolinensis

Family Sylviidae

*Golden-Crowned Kinglet	Regulus satrapa

Family Turdidae

*American Robin	Turdus migratorius
Hermit Thrush	Hylocichla guttata
Swainsons Thrush	Hylocichla ustulata
*Veery	Hylocichla fuscescens

Pipits, Waxwings, Shrikes and Starlings

Family Bombycillidae

Cedar Waxwing	Bombycilla cedrorum

Wood Warblers

Family Parulidae

*American Redstart	Steophaga ruticilla
Bay-breasted Warbler	Dendroica castanca
Black and White Warbler	Mniotila varia
Blackburnian Warbler	Dendroica fusca
Blackpoll Warbler	Dendroica striata
Black-throated Blue Warbler	Dendroica coerulescens
Canada Warbler	Wilsonia canaden
*Chestnut-sided Warbler	Dendroica pensylvanica
Magnolia Warbler	Dendroica magnolia
*Myrtle Warbler	Dendroica coronata coronata
Nashville Warbler	Vermivora ruficapilla ruficapilla
*Oven-bird	Seiurus aurocapillus
Palm Warbler	Dendroica palmarum
Pine Warbler	Dendroica pinus
Tennessee Warbler	Vermivora peregrina
Yellow-throat	Geothlypis trichas

Weaver Finches

Meadowlarks, Blackbirds, Orioles and Tanagers

Family Icteridae

Baltimore Oriole	Icterus spurius
Bobolink	Dolichonyz oryzivorus
*Brown-headed Cowbird	Molothrus ater
*Common Grackle	Quiscalus quiscula
*Red-winged Blackbird	Agelaius phoeniceus

Family Thravpidae

Scarlet Tanager	Piranga olivacea

Grosbeaks, Finches, Sparrows and Buntings

Family Fringillidae

*Chipping Sparrow	Spizella passerina
Evening Grosbeak	Hesperiphona vespertina
Indigo Bunting	Passerina cyanea
Lincoln's Sparrow	Melospiza lincolnii
Pine Siskin	Spinus pinus
Purple Finch	Carpodacus pur pureus
*Rose-breasted Grosbeak	Pheucticus ludovicianus
Slate-coloured Junco	Junco hyemalis
Swamp Sparrow	Melospiza georgiana
White-crowned Sparrow	Zonotrichia leucophrys
*White-throated Sparrow	Zonotrichia albicollis

APPENDIX B

Field Trips

FIELD TRIPS

One or more of the following field trips may help students learn about their community.

1. Tour of the Town Hall and Nuclear Museum. If arranged well in advance Mayor Taylor tries to be there to meet students. To make arrangements contact the receptionist or Mr. Manual at the Municipal Office, phone 848-2287.

2. Elliot Lake Police Department. To arrange a visit call the Department at 848-6975.

3. Elliot Lake Fire Department. To arrange a visit call 848-3200.

* Field Trips 1, 2 and 3 could be combined in one outing.

4. Elliot Lake Public Library. Class visits should be arranged in advance by calling the library at 848-7454. Visits should be scheduled for 9:00 a.m. or shortly after, as the library is opened to the public at 10:00 a.m.

5. Hike between the beaches. In the spring or fall take the class on a hike along the trail from Spruce Beach to Spine Beach and back. This can be done comfortably in an afternoon. Add to the fun by scheduling races at Spine Beach or play time at Spruce Beach.

6. Mississagi Park. In late May or in June a guided nature walk or a nature talk can be arranged. Contact the Park Superintendent at 848-2806 to make arrangements. Top off the visit with a wiener roast or picnic!

7. Bus tour of Elliot Lake. With the teacher as tour guide hire a bus to take the class past various points of interest such as Mount Dufour Ski Area, the uranium symbol sculpture, the Elliot Lake Granite Club, the water tower, the Dieppe Arena, Elliot Lake Secondary School, Elliot Lake Swimming Pool, Lester B. Pearson Park, the War Memorial, the Upper Plaza, the Lower Plaza, Elliot Lake Public Library, Ontario Avenue, the Algo Centre, the Town Hall, the Nuclear Museum, Elliot Lake Police Department, Elliot Lake Fire Department, the Senior Citizens' Park, the Mine Rescue Station, Hillside Clinic, Collins Hall, St. Joseph's General Hospital, the Mining Research Laboratory, Spine Beach, Spruce Beach, the North Shore Board of Education, Spruce Clinic, Centennial Arena, Horne Lake, and Westview Park. Stop here for a picnic!

8. Visit the sugar bush. Mr. R. Wayne Wisniewski operates a sugar bush three miles north of Elliot Lake on top of T.V. Hill. He welcomes class visits on weekdays in the spring when the sap is running, usually in late March and early April. To make arrangements contact Mr. Wisniewski at 848-2804.

9. Arrange a field trip to a local business or industry which is of interest to the students.

APPENDIX C

Resource Persons

RESOURCE PERSONS

1. Mining industry employee. Ask a parent employed by Denison Mines Limited or Rio Algom Limited to give a talk about uranium mining.

2. Working parents. Ask a parent who has an interesting occupation to give a talk about his or her work.

3. Conservation officer, Ministry of Natural Resources. A conservation officer will come to the class to five a talk on wildlife and conservation. They prefer to do this during National Wildlife Week in April. To make arrangements contact the MNR Blind River Office, phone 1-356-2234.

4. Elliot Lake Police Officer. An officer will visit the class to give a talk appropriate for children. To make arrangements, contact the Elliot Lake Police Force, phone 848-6975.

APPENDIX D

Annotated List of References

ANNOTATED LIST OF REFERENCES

For further information about Elliot Lake the following sources from the Elliot Lake Public Library may be of use to the teacher. There are no materials available at a grade 2 reading level.

Elliot Lake and District Chamber of Commerce
A community profile of the Corporation of the Township of Elliot Lake, Ontario, Canada.
No publication information given.

Probably written in the 1970's in order to encourage and facilitate the development of industry and commerce in the community, this manual gives information on many aspects of the community of Elliot Lake such as climate and recreational facilities.

Elliot Lake Secondary School.
Jewel in the wilderness.
Elliot Lake, Ontario: Elliot Lake Secondary School, 1980.

Written by a grade 12 English class in celebration of Elliot Lake's 25th anniversary, this work is an interesting collection of articles on the history of the town from the discovery of uranium in the area in 1948 to the year of publication, 1980. Many old photographs add to the interest of this volume. Pages 47 to 113 give a clear overview of the history of Elliot Lake.

LeBourdais, D.
Canada and the atomic revolution.
Toronto: McClelland & Steward Limited, 1959.

A history of the development of the uranium industry in Canada. Chapters 10 to 13 describe the discovery of uranium and the staking of claims in the Algoma region. Chapter 14 deals with the early development of the community of Elliot Lake.

LeBourdais, D.
Metals and men: the story of Canadian mining.
Toronto: McClelland & Stewart Limited, 1957.

An account of the discovery and development of mines across Canada. The final chapter describes the discovery and mining of uranium in Canada. Pages 389-397 deal with the uranium finds in the Elliot Lake area which were being developed when this volume was published.

Lonn, G.
The mine finders.
Toronto: Pitt Publishing Company Limited, 1966.

A history of the lives and exploits of the Canadian prospectors who have made great mineral discoveries. Chapter 13, "Uranium for the nuclear age", is an interesting account of the discovery and growth of uranium mining in Elliot Lake. It gives a clear picture of the development of the mining companies in the area up to 1965.

Roberts, L.
The Algoma story: the birth of a billion dollar uranium camp.
No publication information given.

A brief history of the discovery of uranium in the Elliot Lake area, and the subsequent early development of the uranium mining industry during the early 1950's.

ELLIOT LAKE, OUR COMMUNITY

TEACHER'S GUIDE

Produced by Pat Lee

ELLIOT LAKE, OUR COMMUNITY

TEACHER'S GUIDE

INTRODUCTION

This instructional package is intended primarily for use with the Grade Two environmental studies program of the North Shore Board of Education. It may be of some use in other grades as well. It has been designed to accompany two units in Experiences in Environmental Studies 2. These two units are "Our Community, Its Characteristics" and "Our Community, A Network of Relationships".

This instructional package consists of materials designed to assist in teaching students about the community of Elliot Lake. It was prepared because of the lack of instructional materials on Elliot Lake suitable for Grade Two students.

This package is not intended to be used in place of the units in the core program. Its purpose is to provide instructional materials which may be used with those parts of the core program which pertain directly to the community of Elliot Lake.

The contents of this instructional package are listed in the Table of Contents on the following pages.

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SUGGESTIONS FOR USE

In preparation for teaching the units on the community, the teacher should become familiar with the contents of the two units on the community in the core program outline Experience in Environmental Studies 2, and with the contents of this package. The teacher may also read the background information on the community of Elliot Lake provided on pages 2 to 9 of this package.

Before the filmstrips are presented, at least one lesson should be spent on the introductory questions and activities, as these will prepare students for the most effective viewing of the filmstrips. The filmstrips should not be viewed all in one lesson. The teacher should decide how much material should be covered in each lesson, as this will vary from class to class.

The posttest may be given either after the viewing of the filmstrips, or after the units on the community have been completed.

The teachers should choose the follow-up questions and activities which are most suitable for the class, or for individuals or groups of students. Students may require the teacher's guidance in seeking the answers to these questions, particularly when the answer is available only from sources outside the school.

BACKGROUND INFORMATION ON ELLIOT LAKE

Location

Elliot Lake is located in the Algoma District of Ontario, at approximately 46 N latitude and 83 W longitude. The Algoma District lies in the Pre-Cambrian Shield covering the north shores of the Georgian Bay of Lake Huron. The rugged landscape of the area is comprised of timberland, lakes, river, muskeg, and rock outcrops.

Although it is often said that Elliot Lake is located in northern Ontario, a look at the map of Ontario will show that the community is really located within the southern half of the province. It is because the population of Ontario is concentrated in the extreme southern region of the province that the area north of Lake Huron is usually spoken of as "northern Ontario". For weather forecasting purposes the area from Sault Ste. Marie to Sudbury is now often referred to as "central Ontario".

For children, location is usually described in relation to another well known landmark. Elliot Lake is located 20 kilometers north of Lake Huron. Location can also be given in relation to other communities or transportation routes. Elliot Lake is located on Highway 108, 160 kilometers from Sudbury by road, a drive which takes almost 2 hours (1 hour and 48 minutes at the legal speed limit).

History

The uranium in the Elliot Lake area was first discovered in 1948. According to Jewel in the Wilderness (1980) some samples of ore were lying on a desk in the recording office in Sault Ste. Marie when a prospector named Karl Gunterman and a hotel keeper named Aime Breton visited the office. Breton casually examined the samples with his geiger counter, and thus discovered the presence of uranium in an ore sample from Long Township, east of Blind River. These two prospectors went to Long Township and staked their claims. The assays of the samples from the area had only a small trace of uranium, so Gunterman and Breton were not able to find a buyer, and the claims were left undeveloped for some time.

In 1949 Gunterman told Franc Joubin about their find. Joubin, a mining consultant, suspected that the surface rocks were low in mineral content due to exposure to the elements. He believed that there were large uranium deposits below the surface, so he staked claims and started drilling operations in an area where there was a break between the old and new rocks. This break, roughly in the shape of a Z, later became known as the "Big Z". Joseph Hirshhorn provided financing for the drilling, and later for mining operations. Mr. Hirshhorn hired workers to stake claims throughout the Big Z area. The uranium find was kept a closely guarded secret until sufficient claims were staked. When news of the strike

finally broke in 1953, many prospectors rushed to the area to stake their claims.

Following the staking, more drilling and analysis was carried out. Then in 1954 construction began on a road to link the area to highway 17. This first road, although very rough, was used heavily by supply trucks and some passenger cars.

Pronto mine, a couple of miles east of Blind River, was built first as a test. It was officially opened in 1955. In 1956 Quirke Mine and Nordic Mine were opened. As the mining rapidly expanded, and thousands of people moved to the area around Elliot Lake, a community began to grow. It was expected that the population would escalate sharply, so community planning was undertaken in the spring of 1954 by Franc Joubin, R.C. Hart, W.H. Hutchison and several Ontario provincial departments. According to LeBourdais (1959), "...it was important that those who were developing the new mines should provide living conditions most likely to attract and retain a stable working force" (p. 124).

The planning committee decided it would be advantageous to build one central community. Joubin declined the suggestion that his own name be given to the new town, so the name "Elliot Lake" was chosen.

After much careful planning and preparation, the first subdivision was formed in March 1956, and residential lots were ready for purchase.

Lebourdais (1959) reports:"

> To serve the whole town, one large central commercial district was provided, as well as a municipal centre, a high school centre, and two districts for what might be termed heavy industry. (p. 126)

In 1958 the hospital was nearly completed, and two hotels were under construction. The Algoden Hotel had been built two years earlier. Also in 1958 the W.H. Collins Community Centre was officially opened. It was presented to the town as the personal contribution of Franc Joubin and Joseph Hirshhorn. This centre was named for the Geological Survey of Canada director whose map had been of great value to the stakers in 1953. The Strand Theatre opened in February 1959.

Bad news broke in November 1959 which was to have a drastic effect on Elliot Lake in the following decade. The Canadian Mining Journal (1978) described what happened.

> In November 1959 the United States Atomic Energy Commission announced that it would not exercise its option to purchase additional uranium from Canada's Elliot Lake uranium mines. There were no other customers and the 12 mines and 11 concentrators that had just been built began to close down. From a population peak of 25,000 Elliot Lake shrivelled to about 13,000 in 1960, and all that kept the remaining producers going was a Canadian government uranium oxide stock piling program. Elliot Lake gained a reputation as the North's most modern ghost town as houses and businesses were boarded up. (p. 63)

Throughout the early 1960's various groups of citizens tried to find solutions to the town's problems. Efforts were made to develop tourism. In 1963 the Nuclear

and Mining Museum was opened, and an extension of Highway 108 to the White River road connecting with Iron Bridge was started. A 90,000 acre park was opened seven miles north of Quirke Mine. It was named Frost Park after the Premier of Ontario.

New hope arose on August 19th, 1963 when the Member of Parliament for the District of Algoma, Lester B. Pearson, became Prime Minister of Canada.

Throughout the 1960's the companies managed to keep at least two uranium mines open. In some ways the town continued to improve. In 1964 a school for the mentally retarded was opened, and the construction of an arena was planned. The Elliot Lake Centre for Continuing Education was established. In 1965 citizens of Elliot Lake decided that the town should be governed by an elected body rather than an appointed one. On March 21, 1966 the first municipal election was held, electing a reeve and four councillors. On April 1, 1966 the Improvement District of Elliot Lake officially became the Corporation of the Township of Elliot Lake. In 1968 the airport was built. In 1969 ambulance service began, and A.R.C. Industries, a workshop for the mentally and physically handicapped opened. Construction began on a new building to house the Elliot Lake Clinic.

In the early 1970's the citizens of Elliot Lake felt renewed hope in the future of uranium as a major world energy source. In November 1973 a mill at Denison Mines

was in the process of expanding. By December, Denison received an order from Japan for the delivery of uranium commencing in 1984.

In 1973 concern arose over the growing number of miners with silicosis. Studies of the health of the workers resulted in improved health and safety conditions, and programs to assist workers suffering from the effects of industrial diseases.

By 1975 new houses were being built in Elliot Lake for the first time since the 1950's. In August 1975 the provincial government announced that it was going to spend 3.5 million dollars to improve Highway 108.

On January 1, 1976 the status of Elliot Lake changed once more, this time from a township to a town. Many new businesses opened that year. The two mining companies were expanding operations. In 1977 a 95-lot trailer park opened at Nordic Townsite, and construction began on a new French high school. In 1978 contracts were signed between Denison Mines Limited and Ontario Hydro. Construction began on the Oakes Hotel, and the Dieppe Plaza was completed. The construction of the 10 million dollar Algo Centre shopping mall was proposed and accepted. Elliot Lake was once more a prosperous community.

Population

The town of Elliot Lake gets its most recent count of the total population of the community from election

enumerations. An enumeration in 1983 showed that the total population of Elliot Lake at that time was approximately 19,000.

The most recent census of Canada was taken in 1981. The following population statistics for the community of Elliot Lake are according to the 1981 census.

Population		16,723
Official language-	English only	10,415
	French only	750
	Both English and French	5,405
	Neither English nor French	15
Ethnic origin-	Single origins	14,630
	British	6,895
	French	5,575
	Other	2,160
	Multiple origins	1,955
Religion-	Catholic	9,505
	Protestant	6,155
	United Church	2,670
	Anglican	1,565
	Eastern Orthodox	50
	Jewish	--
	No religious preference	730
	Eastern Non-Christian	140
	Other	5
Population 15 years of age and over		11,750
Total labour force		8,235
Employed by the mining industry		4,150
Employed in trade		1,005
Employed in community, business and personal service industries		1,825

Climate

The following information was given by Helling (1960) for the Algoma District.

Mean January temperature	-13 C
Mean July temperature	18 C
Extreme January temperature	-44 C
Extreme July temperature	36 C
Total annual sunshine	1800 hours
Total annual precipitation	76 cm

INTRODUCTORY QUESTIONS AND ACTIVITIES

Before viewing the filmstrips use the following questions and activities as the basis for class discussion. Help the students to determine the correct answers to these questions. If students are not able to find the places on the maps and globe, show them.

Introducing the Topic

1. What is a community?
2. What community do you live in?
3. Is Elliot Lake a town or a city?
4. Tell something you know about Elliot Lake.
5. Tell something you would like to find out about Elliot Lake.

Location

6. How long does it take to drive from Elliot Lake to Sudbury?
7. How long does it take to drive from Elliot Lake to Sault Ste. Marie?
8. Elliot Lake is in the country of Canada. Find Canada on a globe and on a world map.
9. Elliot Lake is in the province of Ontario. Find Ontario on a globe and on a map of Canada.
10. Ontario is one of the ten provinces of Canada. Find the ten provinces and the two territories on a map of Canada.
11. On a road map of Ontario find Elliot Lake, Highway 108, Highway 17, Sudbury and Sault Ste. Marie. Discuss the compass directions (north, south, east or west) taken when travelling between these three communities.

13. Elliot Lake is north of Lake Huron. Look at the Great Lakes on a map of Canada, on a world map, and on a globe.

Occupations

14. The main industry of Elliot Lake is uranium mining. What does mining mean? What is uranium used for? Why is uranium worth a lot of money?

15. What is industry? What is an industrial park?

16. Do you know anyone who works for Denison Mines Limited or Rio Algom Limited? Who? What work do they do?

17. Name some people who work in Elliot Lake, but not at the mines. Tell what jobs these people do. How do their jobs help other people?

Rules

18. Do students have rules to follow in school?
What are they?
Why do we have these rules?
Who decides what the school rules are?
Who makes sure you carry them out?

19. Do the people of Elliot Lake have to follow any rules?
What are some of these rules?
Who makes up these rules?
What happens if people break the rules?
Who makes sure that people obey the rules?

20. Do people have any rules to follow at work?
What rules does a teacher have to follow?
What rules does a miner have to follow?

ANSWER KEY TO INTRODUCTORY QUESTIONS

1. A community is a group of people living in one area.

2. We live in the community of Elliot Lake.

3. Elliot Lake is a town.

4. Answers may very.

5. Answers may vary.

6. It takes almost two hours to drive from Elliot Lake to Sudbury (1 hour and 48 minutes at legal speed limits).

7. It takes a little more than two hours to drive from Elliot Lake to Sault Ste. Marie (2 hours and 15 minutes at legal speed limits).

11. Elliot Lake to Sudbury: south, then east.
Elliot Lake to Sault Ste. Marie: south, then west.
Sudbury to Elliot Lake: west, then north
Sault Ste. Marie to Elliot Lake: east, then north
Sault Ste. Marie to Sudbury: east
Sudbury to Sault Ste. Marie: west

12. Elliot Lake is further north than the part of Ontario where most of the people live. Look at Ontario on a map of Canada.

13. Mining means digging valuable minerals (rocks) from the ground.
Uranium is used as a fuel to make electrical power and it is used in atomic bombs.
Uranium is worth a lot of money because a small amount of uranium can make a large amount of electrical power.

15. Industry is making things to sell them. An industrial park is an area of buildings where things are made or repaired. Other kinds of businesses are often found in industrial parks too.

18. Answers will vary.
The school board, the principal, and the teachers decide what the school rules are.
The principal and teachers make sure that you carry out the rules.

19. Answers will vary.
The police and the town council make up these rules.
If people break the rules they have to pay a fine,
or sometimes go to jail.
The police make sure that people obey the rules.

20. People do have rules to follow at work.
A teacher has to get to school on time. A teacher has to teach the things he or she is told to teach.
(Other answers may be acceptable.)
A miner has to wear a safety helmet. A miner is not allowed to smoke at work.
(Other answers may be acceptable.)

SUGGESTIONS FOR PRESENTATION OF THE FILMSTRIPS

Prior to presentation of the filmstrips, one or two lessons should be spent on the introductory questions and activities on pages 10 and 11 of this guide, as this will prepare students for the concepts presented in the filmstrips.

The teacher should preview the filmstrips to decide how much material to cover in each lesson. A possible schedule would be as follows:

Lesson 1	Introduction and location. Use introductory questions 1-13 on pages 10 and 11.
Lesson 2	Introduction of occupations and rules. Use introductory questions 14-20 on page 11. (This lesson could be given before presentation of Filmstrip II if preferred.)
Lesson 3	Characteristics of the community of Elliot Lake. Present Filmstrip I, frames 1-16. (See script on pages 16-17.)
Lesson 4	Recreation in Elliot Lake. Present Filmstrip I, frame 17-32. (See script on pages 17-18.)
Lesson 5	Special places in Elliot Lake. Present Filmstrip I, frames 33-53. (See script on pages 19-20.)
Lesson 6	Workers in Elliot Lake. Present Filmstrip II, frames 1-23. (See script on pages 22-23.)

Lesson 7	Workers in Elliot Lake. Present Filmstrip II, frames 24-39. (See script on pages 24-25.) Administer posttest. (The posttest could be given after the follow-up questions and activities if preferred.)
Lessons 8 and 9	Follow-up questions and activities.

Whenever a question is asked on the audiotape, sufficient time is allowed to answer briefly or to turn off the tape player for a class discussion.

In the second filmstrips, frames 11 to 31 show workers in Elliot Lake. The audiotape should be turned off during the viewing of these frames so that the class can discuss some of the following questions.

1. Where does this person work?
2. What is this person's job?
3. Does this worker do something which helps other people?
4. Does this worker need other people to help him or her?
5. Does this worker need any special equipment or materials?
6. Does this worker have any rules to follow?
7. Does this worker have a boss who decides what work he or she does?

ELLIOT LAKE, OUR COMMUNITY

Filmstrip I
Its Characteristics

SCRIPT

	Picture	Sound
1.	FOCUS	
2.	Blank slide	
3.	Graphic: ELLIOTT LAKE, OUR COMMUNITY Filmstrip I. Its Characteristics	(music/fade to low at end of slide
4.	Simple map of the Great Lakes and part of Ontario. Lakes are shaded blue. Ontario is shaded yellow. Labels on Great Lakes and Elliot Lake (the community).	The Town of Elliot Lake is located in Northern Ontario 20 kilometers north of Lake Huron.
5.	Simple map of the north part of Lake Huron showing Sault Ste. Marie, Sudbury, and the community of Elliot Lake. Shows the highways adjoining these communities with a black line.	The nearest cities to Elliot Lake are Sudbury and Sault Ste. Marie.
6.	Cars on Highway 108.	You can travel to Elliot Lake by road or by plane.
7.	Population sign on highway.	In 1983 about 19,000 people lived in Elliot Lake. Most of them speak either English or French.
8.	Picture of early buildings.	People started to build the town of Elliot Lake in the year 1956.
9.	A minesite.	The town was built because it is near the uranium mines of two companies, Denison Mines Limited and Rio Algom Limited.
10.	Worker in uranium mine.	Uranium mining is the most important industry of Elliot Lake.

11.	An old picture of an Indian in the area before the 1950's.	Before the uranium mining started, the only people who lived in the area were hunters, fishermen, lumberjacks, prospectors, and Indians. What are lumberjacks and prospectors?
12.	The lake in summer.	The town was built near a beautiful lake, Elliot Lake. The town's name comes from the name of this lake.
13.	Hillside Drive and Horne Lake.	The land in Elliot Lake is very hilly. The town is surrounded by forests and lakes.
14.	Ontario Avenue.	The business section of the town has a main street, two plazas, and a shopping mall. You probably go shopping there.
15.	Farguhar's dairy in the industrial park.	On the edge of the town there are two industrial parks for small support industries like this dairy. What is a dairy?
16.	Houses built by mining companies.	Elliot Lake has many housing areas. Most of the houses and apartments were built by the mining companies.
17.	An autumn scene.	Every year Elliot Lake has four seasons. What are they?

18.	People at Spine Beach summer.	The summer days are in often very warm. In the summer, people can go to the sandy beaches of Elliot Lake. At the beach, they can cool off by swimming.
19.	Waterskiing on Elliot Lake.	Some people like to water-ski on the lake.
20.	Wind surfing on Elliot Lake.	Others like sailing, canoeing, or wind surfing.
21.	A sport fisherman fishing in Elliot Lake.	Summer is also a good time for fishing.
22.	A hiker on trail.	There are beautiful hiking trails near the lake.
23.	Westview Park.	Westview Park is a good place for a picnic.
24.	Camping in Mississagi Park.	Many families enjoy camping in nearby Mississagi Park.
25.	A softball park.	Elliot Lake has several special fields for softball or soccer. Perhaps you know where there is a softball park.
26.	A hunter in autumn.	On nice autumn days, some people enjoy hunting, fishing or hiking.
27.	Snowmobiling.	Winter is also a good time for many outdoor activities in Elliot Lake. Some people like snowmobiling.
28.	A cross-country skier.	People can go skiing cross-country or downhill.
29.	Ice fishing on Elliot Lake.	When the lakes freeze, some people like to go ice fishing.

30.	Children skating on an outdoor rink.	You can go skating on the lake, at an outdoor rink, or in an arena. Some young young people play hockey or ringette.
31.	Children tobogganing.	Other people enjoy snowshoeing, tobogganning, or making snowmen. What do you like to do outdoors in the winter?
32.	Indoor view of pool.	Elliot Lake has a beautiful municipal swimming pool which is open for use all year round.
33.	Esten Park Public School.	There are many special buildings in Elliot Lake. There are many schools and churches.
34.	The municipal building.	This is the municipal building where the town council meets.
35.	Elliot Lake Police Station.	Next to the municipal building is the police station.
36.	The Algo Centre.	The Algo Centre is an indoor shopping mall.
37.	The water treatment plant.	At the water works, our drinking water is treated and tested.
38.	Inside the library.	Here is the Elliot Lake Public Library.
39.	The mine rescue station.	This is the mine rescue station. Why is this station important?
40.	The fire hall.	Here is the fire station.
41.	The airport.	Here is Elliot Lake Airport.

42.	St. Joseph's General Hospital.	Do you know what building this is?
43.	The uranium symbol sculpture.	Every community is different from other communities. Elliot Lake is special in many ways.
44.	Simple map showing Lake Huron, Elliot Lake, Sudbury and Sault Ste. Marie.	Can you find Elliot Lake on a map?
45.	A winter scene.	Can you tell what the weather is like in Elliot Lake during each season of the year?
46.	Boys playing hockey on outdoor rink.	Do you know what special things people do for fun out-of doors in Elliot Lake? These things are called recreational activities.
47.	Spruce Beach.	Can you name some special places in Elliot Lake? If you can answer these questions, you know a lot about your community. (music/fade in low music)
48.	Produced by Patricia Lee	
49.	Narrated by Jennifer Guy	
50.	With the cooperation of The North Shore Board of Education	

51. With the assistance of

Andrew Trussler
Colleen Pigozzo
Lynn Brown
Susan Young

52. Produced with the assistance of the

Centre for Audiovisual Education
Faculty of Education
Memorial University of Newfoundland

53. THE END

ELLIOT LAKE, OUR COMMUNITY

Filmstrip II
Its Workers

SCRIPT

	Picture	Sound
1.	FOCUS	
2.	Blank slide	
3.	ELLIOT LAKE, OUR COMMUNITY Filmstrip II Its Workers	(Music/fade to low end of slide)
4.	Uranium mining.	Uranium mining is the most important industry in Elliot Lake.
5.	Graphic: DENISON MINES LIMITED RIO ALGOM LIMITED	Two companies own the uranium mines near Elliot Lake. These are Denison Mines Limited and Rio Algom Limited.
6.	Workers in mine.	About half of the workers in Elliot Lake work for the two mining companies.
7.	A nurse at work.	Most of the other workers in Elliot Lake have jobs which serve the mining industry or the people of the community.
8.	A clerk in a story.	These jobs are usually with either government services or businesses.
9.	Graphic: WORKERS IN ELLIOT LAKE	In the next twenty pictures you will see people who work in Elliot Lake. As you look at each picture, your teacher will ask you some questions.
10.	Graphic: TURN OFF THE TAPE RECORDER	Turn off the tape recorder before you look at the next twenty pictures.
	(Frames 11 to 31 are pictures without accompanying sound on the audiotape)	
11.	A gas station attendant pumping gas.	
12.	A hairdresser at work.	

13. A typist at work.

14. A minister in pulpit.

15. A school bus driver.

16. A school janitor, cleaning.

17. A waitress at work.

18. A cashier at work in a supermarket.

19. A druggist at work.

20. A furniture salesman.

21. A maintenance man, replacing a fluorescent tube.

22. A garbage collector.

23. A heavy equipment operator digging a road.

24. A doctor a work in a clinic.

25. A police officer standing by a patrol car.

26. A fireman standing by a fire truck.

27. A mail carrier.

28. An airport ticket agent serving a traveller. Suitcase in picture on scales.

29. A miner.

30. A teacher.

31. Graphic:
NOW TURN ON THE TAPE RECORDER
(advance signal on audiotape)

32. A Cub leader with Cubs in uniform.

Some workers who do things to help people in our community are not paid for this work. They are called volunteers. This Cub leader is a volunteer worker.

33. A miner and equipment underground.

Remember, many people in Elliot Lake work for the mining companies. It is because of the uranium mines that the town of Elliot Lake was built. (Music/fade in low)

34. Produced by
Patricia Lee

(Raise volume of music/55 seconds of music)

35. Narrated by
Jennifer Guy

36. With the cooperation of
The North Shore Board of Education

37. With the assistance of
Andrew Trussler
Colleen Pigozzo
Lynn Brown
Susan Young

38. Produced with the assistance of the Centre for Audiovisual Education, Faculty of Education, Memorial University of Newfoundland

39. THE END.

POSTTEST

DIRECTIONS TO THE TEACHER

Print the example on the blackboard before the class begins.

Distribute the tests and have students print their names in the space provided.

Do the example on the blackboard with the students, explaining that only one of the three answers is correct. Circle the correct answer.

Example

How many people live in Elliot Lake?

A. 100,000

B. 19,000

C. 800

Give the following direction orally to the students:

> "Look at question number one on your paper. I will read the question and the three possible answers to you. Then I want you to circle the correct answer. When you are finished a question, wait until I read the next question to you."

Proceed with test, reading questions and possible answers to students, as they select their answers.

NAME: _____

1. Which Great Lake is nearest to the town of Elliot Lake?

   A. Lake Superior
   B. Lake Huron
   C. Lake Michigan

2. Which city is nearest to Elliot Lake?

   A. Sudbury
   B. London
   C. Toronto

3. How can you travel to Elliot Lake?

   A. by train
   B. by ship
   C. by car

4. What did the town of Elliot get its name from?

   A. a mountain
   B. a river
   C. a lake

5. What is the land in Elliot Lake like?

   A. flat
   B. hilly
   C. good for farming

6. Which language do many people in Elliot Lake speak?

   A. French
   B. German
   C. Italian

7. What is the most important industry in Elliot Lake?

   A. cutting trees
   B. dairy farming
   C. uranium mining

8. What is the name of a company which owns mines near Elliot Lake?

   A. Rio Algom Limited
   B. Dominion Limited
   C. General Company

9. Before the town of Elliot Lake was built, who lived in the area?

   A. hunters
   B. salesmen
   C. nurses

10. Who built most of the houses in Elliot Lake?

   A. the government
   B. the people who live in the houses
   C. the mining companies

11. How many seasons does Elliot Lake have in one year?

   A. 4
   B. 2
   C. 1

12. Where do many people like to go in Elliot Lake on a summer day?

   A. to the beach
   B. to the circus
   C. to the zoo

13. What kind of mineral is mined in Elliot Lake?

   A. nickel
   B. uranium
   C. copper

14. Who do about half of the workers in Elliot Lake work for?

   A. the mining companies
   B. the government
   C. the stores

15. Some of the workers who do things to help people in our community are not paid for this work. What are they called?

A. apprentices
B. volunteers
C. experts

ANSWER KEY TO POSTTEST

Example:		19,000
1.	B,	Lake Huron
2.	A,	Sudbury
3.	C,	by car
4.	C,	a lake
5.	B,	hilly
6.	A,	French
7.	C,	uranium mining
8.	A,	Rio Algom Limited
9.	A,	hunters
10.	C,	the mining companies
11.	A,	4
12.	A,	to the beach
13.	B,	uranium
14.	A,	the mining companies
15.	B,	volunteers

FOLLOW-UP QUESTIONS AND ACTIVITIES

Suggested use: The teacher may choose the most suitable follow-up questions and activities for the class, or for individuals or groups of students. Students may require guidance from the teacher in seeking the answers to the questions, particularly where the answer is available only from sources outside the school.

Questions for discussion or research

1. People started to build the town of Elliot Lake in the year 1956. How old is Elliot Lake now?
2. What are lumberjacks? What is lumber used for?
3. What do prospectors do?
4. How warm does it get in Elliot Lake in the summer?
5. How cold does it get in Elliot Lake in the winter?
6. During which month does each season begin in Elliot Lake?
7. What is precipitation? Guess how much precipitation falls in one year in Elliot Lake. (After students make their guesses, give them the correct answer.)
8. What is recreation? What kinds of outdoor recreation do the people of Elliot Lake enjoy?
9. What special places in Elliot Lake do you visit?
10. What is a town council? What does it do? How are the members of the council chosen? Who is the major of Elliot Lake? Who are the councillors?
11. Who belongs to the community of Elliot Lake?
12. Why do you like living in Elliot Lake?
13. How can you or others make Elliot Lake a safer place to live?

14. How can you or others make Elliot Lake a more beautiful place to live?

Activities

15. On a map of Elliot Lake find your school and the street you live on.

16. The uranium mines in Elliot Lake are not the only mines in northern Ontario. Find our where there are others.

17. Name some wild animals and birds which are found in or near Elliot Lake?

18. Name some animals or birds which are hunted in the wilderness near Elliot Lake.

19. As a class, make up a paragraph about Elliot Lake. The teacher will write it on the blackboard.

20. Have students interview their working parents to find out about their jobs. Students could report on the interviews orally to the class, or they could record the interviews on audiotape and play them for the class.

21. Plan a dress-up day. Students come to school dressed as various workers in Elliot Lake. Each student can tell the class about the occupation he or she represents.

22. Draw a picture of one of your favourite places in Elliot Lake.

23. Have students make models of buildings in Elliot Lake by covering boxes such as shoe boxes or food boxes with plain paper, and then drawing and colouring or painting on the details. Set up these buildings to make a model town.

24. View the slide-tape presentation "Mining at Rio Algom" which is available from the North Shore Board of Education Resource Centre. The Training Department of Rio Algom Limited prepared this presentation to accompany this unit on Elliot Lake for Grade Two students. It describes a day in the life of a uranium miner. These slides will give your students a good idea of the underground uranium mining operation (length: 3 minutes).

ANSWER KEY TO FOLLOW-UP QUESTIONS

1. To find the answer subtract 1956 from the present year.

2. Lumberjacks are people whose work is cutting down trees. Lumber is used for building houses and furniture, making paper, and other things.

3. Prospectors are people who explore land looking for valuable minerals (rock) which could be mined and sold.

4. In the summer the temperature in the District of Algoma sometimes reaches 36 C. The mean July temperature is 18 C.

5. In the winter the temperature in the District of Algoma sometimes goes down to -44 C. The mean January temperature is -13 C.

6. Officially spring begins in March, summer in June, autumn in September, and winter in December. Considering the weather, other answers may also be acceptable.

7. Precipitation is rain, mist, snow, or hail that falls down from the clouds. In one year the Algoma District gets about 76 centimetres of precipitation.

8. Recreation is the things people do for fun or relaxation. Outdoor recreation in the Elliot Lake area includes skiing cross-country and downhill, skating, snowmobiling, snowshoeing, tobogganing, ice fishing, fishing, swimming, boating, canoeing, sailing, wind surfing, water-skiing, hiking, camping, hunting, playing softball, playing soccer, and others.

9. Answers may vary.

10. A town council is a group of people who meet to make decision and rules for the town. The members are elected by the people of the town.

11. All of the people who live in Elliot Lake belong to the community. In a broader sense, pets, wildlife, plant life, buildings, etc. also belong to the community.

12. Answers may vary.

13. If you see something dangerous, report it to an adult. Don't leave things where people can trip over them.

14. Put litter in garbage cans. Pick up litter you see. Don't damage public property. Plant trees, flowers or grass, and don't damage these.

16. According to the National Atlas of Canada (1974) mines are located at the following places in northern Ontario: Uchi Lake, Pickle Lake, Red Lake, Werner Lake, Kenora, Sturgeon Falls, Little Long Lac, Manitouwadge, Steep Rock, Shebandowan, Renabie, Michipicoten, Porcupine (Timmins), Kirkland Lake, Detour Lakes, Sudbury, Larder Lake, Matheson, Rush Lake, Gowganda, Cobalt, Batchewana, Agnew Lake, Temagami, and Elliot Lake. According to the Canadian Mines Handbook (1983) the following minerals were mined in Ontario in 1982: cobalt, copper, gold, iron ore, lead, nickel, silver, uranium and zinc.

17. See Appendix A.

18. See Appendix A.

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APPENDICES

APPENDIX A

Animals That Inhabit The Elliot Lake Area

The following check list of animals that inhabit the Elliot Lake area was prepared by the Ministry of Natural Resources.

KEY: * most common

+ hunted

Check Lists of Amphibians & Reptiles of Mississagi Provincial Park - 1978

Amphibians

Salamanders

Red Spotted Newt	Diemictylus viridescens viridescens
Red Backed Salamander	Plethodon cinereus cinereus
*Blue Spotted Salamander	Ambystoma laterale

Toads & Frogs

*American Toad	Bufo americanus
*Bullfrog	Rana catesbeiana
Woodfrog	Rana sylvatica
*Leopard Frog (Northern)	Rana pipiens pipiens
*Spring Peeper	Hyla crucifer
Gray Treefrog	Hyla versicolor
Mink Frog	Rana septentrionalis
Green Frog	Rana Clamitans melanota

Reptiles

Turtles

*Common Snapping Turtle	Chelydra serpentina
Midland Painted Turtle	Chrysemys picta marginata
Wood Turtle	Clemmys insculpta

Lizards

Snakes	
*(Eastern) Common Garter Snake	Thamnophis sirtalis sirtalis
Eastern Smooth Green Snake	Opheodrys vernalis vernalis
(Northern) Red Bellied Snake	Storeria occipitomaculata
*(Northern) Ring Neck Snake	Diadophis punctatus edulardsi
Northern Water Snake	Natrix sipedon sipedon

Check List of Mammals of Mississagi Provincial Park - 1978

Pouched Mammals	order Marsupialia
Moles & Shrews	order Insectivora
Starnose Mole	Condylura cristata
Bats	
*Little Brown Myotis	Myotis lucifugus
Keen Myotis	Myotis Keeni
Big Brown Bat	Eptesicus fuscus
Hares & Rabbits	order Lagomorpha
+*Snowshoe Hare	Lepus americanus
Gnawing Mammals	order Rodentia
*Red Squirrel	Tamiasciurus hudsonicus
Woodchuck (groundhog)	Marmota monax
*Eastern Chipmunk	Tamias striatus
*Beaver	Castor canadensis
*Porcupine	Erithizon dorsatum

Flesh-Eating Mammals	order Carnivora.
Brush Wolf (Coyote)	Canis latrans
*Timber Wolf	Canis lupus
*Red Fox	Vulpes fulva
*Raccoon	Procyon lotor.
*Mink	Mustela vison
Marten	Martes americana
Fisher	Martes pennanti
*Skunk	Mephitis mephitis
+*Black Bear	Ursus americanus
Even-Toed Hoofed Mammals	order Artiodactyla
+*White-tailed Deer	Odocoileus virginianus
+*Moose	Alces alces

Common Butterflies in Mississagi Provincial Park - 1978

White Admiral

*Monarch

*Tiger Swallowtail

Sulphur

Silver-bordered Fritillary

Mourning Cloak

Tortoise Shell

Check List of Birds of Mississagi Provincial Park - 1978

Loons and Grebes

Family Gairidae

*Common Loon	Gaira Immer

Cormorants, Herons and Ibises

Family Ardeidae

*American Bittern	Botaurus lentiginosus
*Great Blue Heron	Ardea herodias

Swans, Geese and Ducks

Family Anatinae

+*Black Duck	Anas rubripes

Family Anserinae

Canada Goose	Branta canadensis

Family Aythyinae

Buffle-head	Glaucionetta albeola
Common Goldeneye	Bucephala clangula
*Ring-necked Duck	Aythya collaris

Family Merginae

*(American) Common Merganser	Mergus merganser americanus
Hooded Merganser	Lophodytes cucullatus

Vultures, Hawks and Eagles

Family Accipitridae	
(American) Rough-legged Hawk	Buteo lagopus s. johannis
*Broad-wing Hawk	Buteo platypterus
Goshawk	Accipiter gentilis
Red-tailed Hawk	Buteo jamaicensis
Sharp-shipped Hawk	Accipiter striatus
Family Cathartidae	
Turkey Culture	Cathartes aura
Family Falconidae	
*American Kestrel	Falco sparverius
Merlin	Falco columbarius
Family Pandionidae	
Osprey	Pandion haliaetus
Grouse, Turkeys and Cranes	
Family Tetraonidae	
+*Ruffed Grouse	Bonasa umbellus
Spruce Grouse	Canachites canadensis
Rails, Gallinules and Coots	
Shorebirds	
Family Charadriidae	
*Killdeer	Charadrius vociferous vociferous
Family Scolopacidae	
Spotted Sandpiper	Actitis macularia

Jaegers, Gulls and Terns

Family Larinae

Bonaparte's Gull	Larus philadelphia
*Herring Gull	Larus argentatus
Ring-billed Gull	Larus delawarensis

Family Sterninae

Common Tern	Sterna hirundo hirundo

Pigeons, Doves and Cuckoos

Owls

Family Strigidae

*Barred Owl	Strix varia

Goatsuckers, Swifts, Kingfishers and Hummingbirds

Family Alcedinidae

*Kingfisher	Megaceryle alcyon

Family Apodidae

*Chimney Swift	Chaetura pelagica

Family Caprimulgidae

Common Nighthawk	Chordeiles minor

Family Trochilidae

*Ruby-throated Hummingbird	Archilochus colubris

Woodpeckers

Family Picidae

Black-backed Three-toed Woodpecker	Picoides arcticus
*Downy Woodpecker	Dendrocopos pubescens
*Hairy Woodpecker	Dendrocopos villosus
Northern Three-toes Woodpecker	Picoides tridactylus
*Pileated Woodpecker	Dryocopus pileatus
Yellow-bellied Sapsucker	Sphyrapicus varius
*Yellow Shafted Flicker	Colaptes auratus

Tyrant Flycatchers

Family Tyrannidae

Eastern Kingbird	Tyrannus tyrannus
*Eastern Wood Pewee	Contopus virens
Great Crested Flycatcher	Myiarchus crinitus

Larks and Swallows

Family Hirundinidae

*Barn Swallow	Hirundo rustica
Cliff Swallow	Petrochelidon pyrrhonota
Rough Winged Swallow	Stelgidopteryx ruficollis
*Tree Swallow	Iridoprocne bicolour

Jays, Magpies and Crows

Family Corvidae

*Blue Jay	Cyanocitta cristata
*Common Crow	Corvus brachyrhynchos
*Common Raven	Corvus corax
Gray Jay	Perisoreus canadensis

Titmice, Nuthatches and Creepers

Family Certhiidae

Crown Creeper	Certhia familiaris

Family Paridae

*Black-capped Chickadee	Parus atricapillus

Family Sittidae

Red-breasted Nuthatch	Sitta cana densis
White-breasted Nuthatch	Sitta carolinensis

Mimids, Thrushes, Kinglets and Gnat Catchers

Family Mimidae

Brown Thrasher	Toxostoma cufum
Catbird	Dumetella carolinensis

Family Sylviidae

*Golden-Crowned Kinglet	Regulus satrapa

Family Turdidae

*American Robin	Turdus migratorius
Hermit Thrush	Hylocichla guttata
Swainsons Thrush	Hylocichla ustulata
*Veery	Hylocichla fuscescens

Pipits, Waxwings, Shrikes and Starlings

Family Bombycillidae

Cedar Waxwing	Bombycilla cedrorum

Wood Warblers

Family Parulidae

*American Redstart	Steophaga ruticilla
Bay-breasted Warbler	Dendroica castanea
Black and White Warbler	Mniotila varia
Blackburnian Warbler	Dendroica fusca
Blackpoll Warbler	Dendroica striata
Black-throated Blue Warbler	Dendroica coerulescens
Canada Warbler	Wilsonia canaden
*Chestnut-sided Warbler	Dendroica pensylvanica
Magnolia Warbler	Dendroica magnolia
*Myrtle Warbler	Dendroica coronata coronata
Nashville Warbler	Vermivora ruficapilla ruficapilla
*Oven-bird	Seiurus aurocapillus
Palm Warbler	Dendroica palmarum
Pine Warbler	Dendroica pinus
Tennessee Warbler	Vermivora peregrina
Yellow-throat	Geothlypis trichas

Weaver Finches

Meadowlarks, Blackbirds, Orioles and Tanagers

Family Icteridae

Baltimore Oriole	Icterus spurius
Bobolink	Dolichonyx oryzivorus
*Brown-headed Cowbird	Molothrus ater
*Common Grackle	Quiscalus quiscula
*Red-winged Blackbird	Agelaius phoeniceus

Family Thravpidae

Scarlet Tanager	Piranga olivacea

Grosbeaks, Finches, Sparrows and Buntings

Family Fringillidae

*Chipping Sparrow	Spizella passerina
Evening Grosbeak	Hesperiphona vespertina
Indigo Bunting	Passerina cyanea
Lincoln's Sparrow	Melospiza lincolnii
Pine Siskin	Spinus pinus
Purple Finch	Carpodacus pur pureus
*Rose-breasted Grosbeak	Pheucticus ludovicianus
Slate-coloured Junco	Junco hyemalis
Swamp Sparrow	Melospiza georgiana
White-crowned Sparrow	Zonotrichia leucophrys
*White-throated Sparrow	Zonotrichia albicollis

APPENDIX B

Field Trips

FIELD TRIPS

One or more of the following field trips may help students learn about their community.

1. Tour of the Town Hall and Nuclear Museum. If arranged well in advance Mayor Taylor tries to be there to meet students. To make arrangements contact the receptionist or Mr. Manual at the Municipal Office, phone 848-2287.

2. Elliot Lake Police Department. To arrange a visit call the Department at 848-6975.

3. Elliot Lake Fire Department. To arrange a visit call 848-3200.

* Field Trips 1, 2 and 3 could be combined in one outing.

4. Elliot Lake Public Library. Class visits should be arranged in advance by calling the library at 848-7454. Visits should be scheduled for 9:00 a.m. or shortly after, as the library is opened to the public at 10:00 a.m.

5. Hike between the beaches. In the spring or fall take the class on a hike along the trail from Spruce Beach to Spine Beach and back. This can be done comfortably in an afternoon. Add to the fun by scheduling races at Spine Beach or play time at Spruce Beach.

6. Mississagi Park. In late May or in June a guided nature walk or a nature talk can be arranged. Contact the Park Superintendent at 848-2806 to make arrangements. Top off the visit with a wiener roast or picnic!

7. Bus tour of Elliot Lake. With the teacher as tour guide hire a bus to take the class past various points of interest such as Mount Dufour Ski Area, the uranium symbol sculpture, the Elliot Lake Granite Club, the water tower, the Dieppe Arena, Elliot Lake Secondary School, Elliot Lake Swimming Pool, Lester B. Pearson Park, the War Memorial, the Upper Plaza, the Lower Plaza, Elliot Lake Public Library, Ontario Avenue, the Algo Centre, the Town Hall, the Nuclear Museum, Elliot Lake Police Department, Elliot Lake Fire Department, the Senior Citizens' Park, the Mine Rescue Station, Hillside Clinic, Collins Hall, St. Joseph's General Hospital, the Mining Research Laboratory, Spine Beach, Spruce Beach, the North Shore Board of Education, Spruce Clinic, Centennial Arena, Horne Lake, and Westview Park. Stop here for a picnic!

8. Visit the sugar bush. Mr. R. Wayne Wisniewski operates a sugar bush three miles north of Elliot Lake on top of T.V. Hill. He welcomes class visits on weekdays in the spring when the sap is running, usually in late March and early April. To make arrangements contact Mr. Wisniewski at 848-2804.

9. Arrange a field trip to a local business or industry which is of interest to the students.

APPENDIX C

Resource Persons

RESOURCE PERSONS

1. Making industry employee. Ask a parent employed by Denison Mines Limited or Rio Algom Limited to give a talk about uranium mining.

2. Working parents. Ask a parent who has an interesting occupation to give a talk about his or her work.

3. Conservation officer, Ministry of Natural Resources. A conservation officer will come to the class to give a talk on wildlife and conservation. They prefer to do this during National Wildlife Week in April. To make arrangements contact the MNR Blind River Office, phone 1-356-2234.

4. Elliot Lake Police Officer. An officer will visit the class to give a talk appropriate for children. To make arrangements, contact the Elliot Lake Police Force, phone 848-6975.

APPENDIX D

Annotated List of References

ANNOTATED LIST OF REFERENCES

For further information about Elliot Lake the following sources from the Elliot Lake Public Library may be of use to the teacher. There are no materials available at a grade 2 reading level.

Elliot Lake and District Chamber of Commerce
A community profile of the Corporation of the Township of Elliot Lake, Ontario, Canada.
No publication information given.

Probably written in the 1970's in order to encourage and facilitate the development of industry and commerce in the community, this manual gives information on many aspects of the community of Elliot Lake such as climate and recreational facilities.

Elliot Lake Secondary School.
Jewel in the wilderness.
Elliot Lake, Ontario: Elliot Lake Secondary School, 1980.

Written by a grade 12 English class in celebration of Elliot Lake's 25th anniversary, this work is an interesting collection of articles on the history of the town from the discovery of uranium in the area in 1948 to the year of publication, 1980. Many old photographs add to the interest of this volume. Pages 47 to 113 give a clear overview of the history of Elliot Lake.

LeBourdais, D.
Canada and the atomic revolution.
Toronto: McClelland & Steward Limited, 1959.

A history of the development of the uranium industry in Canada. Chapters 10 to 13 describe the discovery of uranium and the staking of claims in the Algoma region. Chapter 14 deals with the early development of the community of Elliot Lake.

LeBourdais, D.
Metals and men: the story of Canadian mining.
Toronto: McClelland & Stewart Limited, 1957.

An account of the discovery and development of mines across Canada. The final chapter describes the discovery and mining of uranium in Canada. Pages 389-397 deal with the uranium finds in the Elliot Lake area which were being developed when this volume was published.

Lonn, G.
The mine finders.
Toronto: Pitt Publishing Company Limited, 1966.

A history of the lives and exploits of the Canadian prospectors who have made great mineral discoveries. Chapter 13, "Uranium for the nuclear age") is an interesting account of the discovery and growth of uranium mining in Elliot Lake. It gives a clear picture of the development of the mining companies in the area up to 1965.

Roberts, L.
The Algoma story: the birth of a billion dollar uranium camp.
No publication information given.

A brief history of the discovery of uranium in the Elliot Lake area, and the subsequent early development of the uranium mining industry during the early 1950's.