



Films for Change

A pedagogical template for
sustainability education



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Introduction



The following work results from a shared partnership among the National Film Board of Canada (NFB), the McGill University Centre for Educational Leadership (CEL) and the Leading English Education and Resource Network (LEARN).

Films for Change is a pedagogical template to guide students and teachers committed to environmental leadership and to effecting change in their communities. Aimed at secondary level students, it is designed as an interdisciplinary approach to integrating National Film Board (NFB) documentaries on environmental issues as teaching and learning resources in any classroom. These films can find a fit in every subject area and can be a significant enrichment tool to any curriculum.

For teachers there is a menu of five different activities to create a project around a selected film and to enhance current curriculum. Films for Change proposes three phases to environmental leadership: 1) creating an awareness of global environmental issues, 2) developing a deep understanding of environmental issues and 3) implementing environmental action projects in the classroom.

The National Film Board's Film For Change is profiled as a Feature Program on vancouver2010.com/EDU <<http://www.vancouver2010.com/EDU>> , the Canadian school portal for the Vancouver 2010 Olympic and Paralympic Winter Games. EDU Feature Programs are educational resources that are endorsed by Vancouver 2010 to promote the development of sport, culture and/or sustainability for future generations.

Films for Change is founded on the following goals anchored in responsible citizenship:

Developing media literacy:

Developing students' critical and creative thinking skills with regard to media is essential in the media-driven youth culture of today. Students must have opportunities to engage in the critical viewing of media in order to question, analyze and understand the messages they receive. Learning to examine media communication with respect to values, motives and targeted audiences will develop students' ability to make informed choices as consumers and citizens.

Developing environmental literacy:

Students must be engaged in meaningful and relevant environmental education projects in order to improve their awareness, knowledge, attitudes, skills and participation with regard to environmental issues. An understanding of the interconnectedness of global environmental issues and their creative solutions leads to empowerment, hope and authentic environmental action. Developing environmental literacy translates into individuals being conscious of the impact of their choices, as citizens and consumers, on the health of the planet and having the capacity to effect change for a sustainable future.

Creating opportunities for community involvement:

Students' commitment to their academic success is influenced by the quality of educational practices and the personal significance of their learning experiences. Educators have a responsibility to provide students with opportunities to become engaged in real-life environmental action with positive repercussions in the local and global community. Tapping into the energy, resolve and creativity of our youth is an essential component of the development of responsible citizenship, community engagement and environmental sustainability. It also ensures that upcoming generations are responsible as well as scientifically and environmentally literate.

"Every individual counts, every individual has a role to play and every individual makes a difference."

— Jane Goodall

Learning outcomes of Films for Change are compatible with curricula across Canada

Films for Change is designed to enrich existing curricula. As this pedagogical template and the accompanying films are diverse and interdisciplinary, a great variety of school subjects can be explored using this material. We suggest that teachers select the combination of film(s) and activity(ies) that best suit their learning goals to design their own learning situations. For a quick reference to curricula in provinces and territories across Canada, Appendix B lists the Web links to all ministries of education curricula documents. Appendix C presents the connections between Films for Change and the Quebec Education Program (QEP). As well, each activity presented in the section entitled “Films for Change in the classroom” (p. 8) provides teachers with options for assessment strategies and tools that were specifically designed based on the pertinent learning outcomes.

To assist teachers in creating connections with their current curriculum and discipline, the learning outcomes of Films for Change are outlined in a **KUD** (What do I want my students to **KNOW**, **UNDERSTAND** and **DO**?) (p. 6). This KUD is based on Carol Ann Tomlinson’s approach to planning and teaching a focused curriculum in a differentiated classroom (Tomlinson, 2003). This approach clarifies what the students should learn from the Films for Change activities. It also helps teachers incorporate this pedagogical template into their curriculum and teaching/assessment practices. From the learning outcomes listed in the KUD table, teachers can customize the learning goals of their project and engage their students in activities with clear learning outcomes.



Lords of the Arctic

The KNOW column in the KUD table contains facts, information and vocabulary **specific** to the film *Crapshoot: The Gamble With Our Wastes*. It is provided as a **model** for teachers since the facts, information and vocabulary that students will learn are specific to each film. While previewing their selected film, teachers prepare a list of facts, information and vocabulary to include in the KNOW column of their customized KUD. The UNDERSTAND and DO columns are **applicable to all films** and can be used in a customized KUD. Please note that the DO column is divided into three sections. Each section lists specific skills and processes that the students should develop when they are engaged in activities proposed in the three different phases of Films for Change (p. 11).

What do I want my students to:

KNOW*

(facts, information, vocabulary)

*Note:

The facts, information and vocabulary that students will learn are specific to each film. While previewing their selected film, teachers prepare a list of facts, information and vocabulary to include in the KNOW column of their KUD. To the right is an example of what students would be able to KNOW if they were to participate in a project based on the viewing of the NFB film *Crapshoot: The Gamble With Our Wastes*.

- * Sewers collect everything that is flushed down the drain.
- * Sewage is made up of residential and industrial waste.
- * We use water to move our waste.
- * Sewers were first built on a large scale 2,500 years ago in Rome.
- * By the early 20th century, sewers provided sanitation in cities all over the world.
- * The Ganges River in India is essential to local inhabitants for their spiritual practices.
- * The Ganges has pollution levels 340,000 times higher than what is considered safe.
- * Raw sewage is still dumped untreated into bodies of water.
- * Eighty percent of Canadian coastal communities dump their sewage into the ocean.
- * Millions of litres of sewage containing toxic waste are produced each day.
- * The sewage treatment process separates liquids and solids into reclaimed water and sludge.
- * Sewage treatment does not clean or purify products. The end result is very dangerous and contaminated with pathogens and chemical waste.
- * Fifty percent of sludge produced is disposed of on farmland as “soil conditioner.”
- * Many chemicals found in sludge are linked to cancer in humans.
- * The Netherlands and Belgium have banned the spreading of sludge on agricultural land because of concern about uptake of chemicals into food products.
- * The chemicals found in sludge come from our daily use of products that we dispose of in the sewer system.
- * Alternative sewer treatment methods include solar aquatic treatment plants and composting toilets.
- * As our vision of civilization evolves, a new generation of sustainable sanitation systems must evolve as well.

UNDERSTAND

(concepts, principles, big ideas based on the goals of this template)

- * Media messages must be viewed critically so that consumers and citizens can make informed choices.
- * As consumers and citizens of the planet, every choice we make has an impact on the health of the Earth and its inhabitants.
- * Individual participation in community action to help the environment is essential to a sustainable future.

DO

(skills and processes presented according to the three phases proposed in this template)

Phase 1: Creating an awareness of global environmental issues

- * Make meaningful contributions to a group discussion.
- * Express an opinion.
- * Infer based on information presented in the film.
- * Analyze and interpret media (documentary film).
- * Make links between different environmental issues.

Phase 2: Developing a deep understanding of environmental issues

- * Research different facets of an environmental issue effectively.
- * Consult a variety of resources.
- * Present clear, organized and coherent facts.
- * Follow the rules and procedures of a structured controversy debate.
- * Present well-reasoned justification for judgment or opinion.
- * Demonstrate an empathetic understanding of an environmental issue.

Phase 3: Implementing environmental action projects in the classroom

- * Observe and assess current reality in the context of a targeted environmental issue.
- * Define problem clearly and accurately.
- * Identify strategies to contribute to sustainability in the community.
- * Propose different relevant solutions/strategies.
- * Evaluate the feasibility of the possible solutions.
- * Develop a realistic action plan.
- * Apply chosen solution strategies effectively (implement action plan).
- * Evaluate the impact of the implemented action plan.
- * Self-evaluate according to identified learning goals.



Films for Change in the classroom

Films for Change is a collection of interdisciplinary activities that teachers can use to build an environmental leadership project in their existing curriculum. All the activities relate to the classroom presentation of a National Film Board documentary on environmental issues. The list of films is in Appendix D.

The activities are in three phases, meeting three different sets of learning outcomes (see KUD, p. 7). Students engaged in all three phases of learning will be involved in 1) *creating an awareness of global environmental issues*, 2) *developing a deep understanding of environmental issues* and 3) *implementing environmental action projects in the classroom*. These three phases lead to true environmental leadership as students act on the information they learn in the film and develop environmental action projects for the local or global community. Teachers should preview a film before showing it in class. Next, students are invited to participate in a range of activities chosen by the teacher from the Films for Change collection. Teachers are encouraged to use the activities presented in this pedagogical template as a springboard and a resource to construct their own project.



1. Before viewing the film

Previewing a film is essential. This step allows the teacher to a) prepare a film summary, b) draw up a vocabulary list and c) prepare questions for a post-viewing reflective discussion. Before students watch the film, they think about what they know about a certain topic and what they want to know (step d below). The details are as follows:

- a) **Film summary:** From the description on the DVD jacket and notes taken while previewing the film, the teacher prepares a summary.
- b) **Vocabulary list:** While previewing, the teacher prepares a vocabulary list to review with the class.
- c) **Questions for the reflective discussion:** A list of questions pertinent to all documentary films is provided (p. 15) to assist teachers in choosing questions to be given to pairs of students just before viewing the film. Students must find the answer to their question while watching the film and then participate in a post-viewing reflective discussion (see activity, p. 12). During previewing, the teacher can add questions specific to the chosen film, making note of the answers. The teacher must write these questions on index cards.
- d) **KWL** A KWL (Donna Ogle, 1986) is a table with three columns to record the students' ideas on 1) what they already KNOW about a topic prior to engaging in any learning activities, 2) what they WANT to know about it and 3) what they LEARNED after the project or some activities are completed. It is a great strategy to activate prior knowledge and encourage students to keep track of their learning. Originally designed as an instructional reading strategy, it helps students explore a topic and engage in a meta-cognitive process. The KWL gives teachers pertinent information to guide their choice of lesson designs and instructional strategies.

Recorded on poster boards or a flip chart, the KWL is displayed in the classroom for the duration of the project so students can refer to it to look for the answers to their questions, complete the last column as they learn as well as to identify and correct erroneous prior knowledge listed in the first column. It becomes an interactive record of the students' learning and a great prompt for discussions.

How do I lead a KWL?

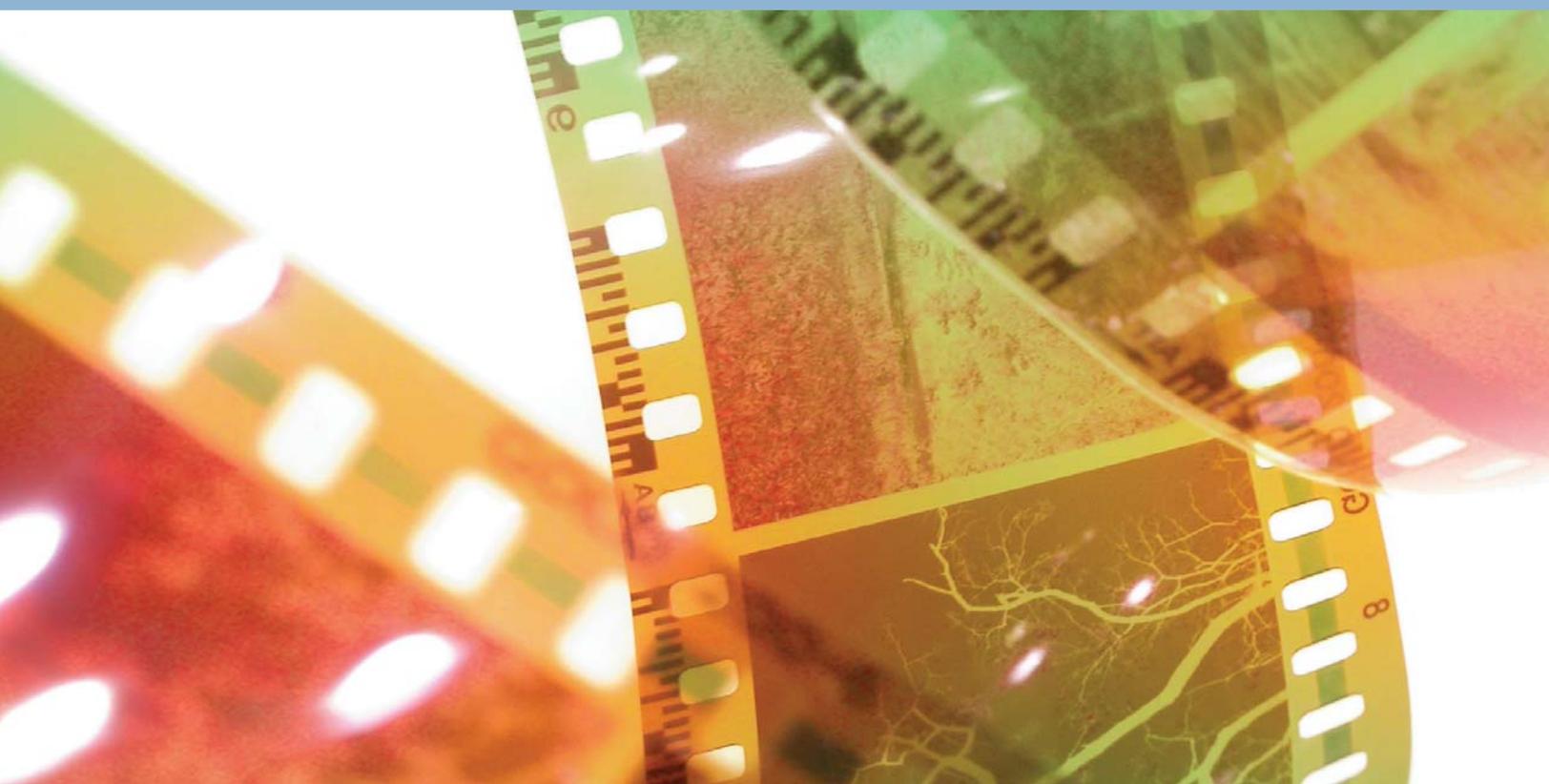
Links to Instructional Strategies Online:

<http://olc.spsd.sk.ca/DE/PD/instr/strats/kwl/>

There are two ways to lead a KWL:

1. Students fill out the first and second column of the KWL individually (see worksheet, p. 10) and then share their ideas during a class discussion. At that time, the teacher records their ideas on the master KWL, which will be posted throughout the project. Then, throughout the project and/or at the end of certain activities, the process is repeated to fill out the last column (what have we LEARNED).
2. The teacher leads class discussions to brainstorm ideas on filling in the K and W columns. Then, throughout the project and/or at the end of certain activities, the process is repeated to fill out the last column (what have we LEARNED).

In Films for Change, the KWL is launched **after** the students are introduced to the topic of the film with the summary and vocabulary list but **before** viewing the film. The last column is filled in **throughout** the project, as explained above.





Before viewing the film: KWL

Topic of film: _____

Name: _____

Date: _____

K | What I already **KNOW**

W | What I **WANT** to know

L | What I **LEARNED**

2. Activities

The five activities proposed in this template are linked to three phases of involvement in environmental education (see below). Although each activity stands on its own and can be used independently of others, this template offers a suggested progression. Using these phases as a guide, teachers and students can select activities according to interest and time available.



Phase 1: Creating an awareness of global environmental issues

The activities in Phase 1 are designed to be implemented during and following the viewing of the film. They allow students to refine their understanding of the environmental issue(s) presented and begin to develop an understanding of the interconnectedness with other current environmental problems.

The activities for this phase are: **1-** Focus on the Film, **2-** Making Connections.



Phase 2: Developing a deep understanding of environmental issues

The activities in Phase 2 are designed to be implemented after the viewing of the film. They promote the development of a deep understanding of environmental issues by involving students in learning situations where they must research, present and use organized information relating to an environmental issue. As well, the students are challenged to effectively argue and validate different points of view. Students are also called upon to solve problems and arrive at a consensus relating to environmental issues, therefore offering them the opportunity to use their deep knowledge and construct new related knowledge.

The activities for this phase are: **3-** Who's Responsible?, **4-** Stepping Into Someone Else's Shoes



Phase 3: Implementing environmental action projects in the classroom

The activity proposed in Phase 3 of Films for Change can take on many forms depending on the interest of the students and the resources and time available to them. This section of the pedagogical template offers a framework for environmental action in the classroom. Giving young people the opportunity and guidance necessary to participate in shaping a sustainable future translates into an authentic and meaningful school experience. It breaks down the walls of the classroom to include the community and makes learning relevant and real.

The activity for this phase is: **5-** Youth in Action: From Dreams to Reality.



Note:
To create a relevant context for learning, students must be introduced to the nature, purpose and value of the activities as well as their learning outcomes.



Focus on the Film

Phase 1: Creating an awareness of global environmental issues

Purpose: To relate to the information presented in the documentary film on a personal level and to participate in the promotion of the film.

Brief Outline: While watching the film, students work in pairs to find answers to one of the questions identified by the teacher during previewing. After seeing the film, they engage in a class reflective discussion based on the questions to share information, to capture the meaning and intent of the film. They are then offered a choice of three tasks differentiated based on learning styles (Sternberg, 1996): 1) design the film's graphics for the DVD jacket or publicity poster (creative learner), 2) write the summary of the film (practical learner) or 3) compose the critique (analytical learner). All three tasks and their products are related to promoting the film.

Material:

- * The film
- * Film summary
- * Vocabulary list
- * KWL worksheet for each student (p. 10) — optional
- * Index cards with reflective discussion questions (each question must be written on two cards)
- * DVD player and television or computer, LCD projector and screen
- * Art supplies (paper, markers, glue, collage material, etc.)

Teaching
Strategy:



Reflective discussion

Link to Instructional Strategies Online:

<http://olc.spsd.sk.ca/DE/PD/instr/strats/reflectivediscussion/index.html>

Activity:



45 min

Introduction, including KWL

- * Tell your class that you have just watched a fascinating documentary! Give the film title and read the summary.
- * Review and post the vocabulary list to ensure that all students can understand and use accurate scientific vocabulary.
- * Ask, “Does this (name environmental issue) concern you? If so, how? If not, why not?” Listen to the students’ answers and facilitate the exchanges.
- * Lead the KWL activity and record students’ ideas.
- * To find out if and how this environmental issue is relevant to their lives, the class will watch the documentary and participate in a post-viewing discussion.



Part 1 — Viewing the film

60 min or
two 30-min
sessions

- * Review with the class all the questions to be answered during the film.
- * Distribute the index cards to your students.
- * Show the film, stopping the film three or four times to encourage students to review their questions and make sure they are taking notes.

Instructional tip:

Pre-selecting the pairs of students sharing a specific question can be valuable to match the level of difficulty of the question with the appropriate pair, encouraging students to build on each other's strengths (effective grouping).



Part 2 — The reflective discussion

30 min

- * Have students with the same question pair up and discuss their findings. Lead the reflective discussion by asking students to share their answers with the class. Allow for a few comments from others.

Instructional tip:

*To encourage the participation of students who are less vocal in a class discussion, tell one or two students what the **next** question is going to be and that you would like them to share their opinion or idea on that topic. This will give these students a chance to think about what they would like to share with the group before being called on.*



Part 3 — Homework: Promoting the film

15 min
+ homework

- * Students should now know more about the environmental issue in the film. Suggest that they create the promotional package for this film to entice other teachers and classes to watch it. This material will be displayed around the school (staff room, student lounge, etc.). As a possible extension to this activity, the class could organize a presentation of the film and facilitate a discussion forum for its peers (see Phase 3 activity: Youth in Action, p. 29).

Promotional Film Package: Students choose one of the following:

- i. *Poster or DVD jacket design (creative learners):* Create a poster or DVD jacket for the film with the title, an accurate description (75 words) and a promotional slogan. Design a graphic component that captures the viewer's attention and reflects the environmental issue.
- ii. *Film summary (practical learners):* Write a summary of the film (400 words) clearly explaining the environmental issue(s) presented. Include facts and quotes. Describe the main questions and answers explored.
- iii. *Film critique (analytical learners):* Write a critique of the film (400 words) in which the basic idea and intent of the documentary is clearly explained. Express your opinion on the effectiveness or ineffectiveness of the film in reaching its audience with the intended message. Justify your arguments.



Organic Prophecies



Refugees of a Blue Planet



15 min

Part 4 — Closing activity

- * Review the KWL with the students. Were some of their questions answered? Can anything be added to the L column? Does anything need to be changed in the K column?
- * Ask the same question as in the activity launch: “Does this environmental issue concern you? If so, how? If not, why not?”



ICT OPPORTUNITIES:

- DVD jacket or poster can be created using an image manipulation program.
- DVD jacket or poster can be created with copyright-free images found on the Internet.
- Any text can be written using a word-processing program.
- The promotional film package can be designed as a Web site.
- The Canadian School portal for the Vancouver 2010 Olympic and Paralympic Winter Games invites teachers to share their educational project online.

VANCOUVER2010.COM /EDU

Canadian school portal for the Vancouver 2010 Olympic and Paralympic Winter Games

Assessment options:

(Please refer to learning outcome section, p. 5)

- > Exit card: At the end of this complex task, ask students to reflect on one of the three big ideas listed in the **Understand column of the KUD** (p. 6) and to express their opinion on it in the context of the film (100 to 150 words).
- > Collect anecdotes on students' participation and contributions.
- > Review individual KWL if applicable.
- > Before launching the promotional film package idea, develop a peer or self-evaluation tool. Select the excellence criteria with your students based on the targeted learning outcomes.
- > Evaluate products (peer, self and/or teacher evaluation).

Focus on the Film

Reflective Discussion Questions

1. What is the main issue presented in the film? Give details.
2. How is the issue presented in the film connected to you?
3. Name two specific problems (environmental/social/economic) outlined in the film.
4. What specific locations in the world are featured in this documentary? Can you locate them on a map?
5. Identify two questions asked in this film. What, if any, were the answers given to these questions?
6. List five scientific facts presented in the film.
7. List two questions you have after watching this film.
8. What solutions or recommendations are presented in the film?
9. Can you identify the type of work/career of two individuals interviewed as experts in the film? In your opinion, were they qualified to participate in this film? Why?
10. What was the intent of the filmmaker in creating this documentary?
11. What techniques or effects did the filmmaker use to convey the message?
12. What image from this film will stay with you? Why?
13. Identify one point made in the film you agree with and one point you disagree with. Explain why.
14. Would you recommend this film? To whom? Why?

Making Connections

Phase 1: Creating an awareness of global environmental issues

Purpose: To develop an understanding of the interconnectedness of different environmental issues.

Brief Outline: Students find a newspaper or magazine article connected to the environmental issue profiled in the film. In class, they must talk to other students and form groups based on common subjects presented in the articles. As a group, they discuss and prepare a two- to five-minute summary of their subject and its connectedness/relevance to the film. During the oral presentations, the teacher asks students to *think-pair-share* at appropriate moments. Students then create a *mind map* linking the original issue in the film to the connected subjects and ideas presented by their peers.

Material:

- * News article on a subject relating to the environmental issue presented in the film (example of such an article on climate change available at <http://expertvoices.nsd.org/polar/2008/11/06/the-arctic%e2%80%99s-ivory-gull-at-risk-from-climate-change-and-banned-chemicals/>)
- * Sample mind map (p. 19)

Teaching
Strategy: 

Think-pair-share and mind mapping

Links to Instructional Strategies Online:

<http://olc.spsd.sk.ca/DE/PD/instr/strats/think/index.html>

<http://olc.spsd.sk.ca/DE/PD/instr/strats/mindmap/index.html>

Activity:



20 min

Introduction

- * Share with your class an item from a newspaper or magazine related to the environmental issue presented in the film. Initiate a discussion about the connections made between the two subjects.
- * Explain that all environmental issues are interconnected as they all relate to the Earth's systems. Suggest that the class explore and develop an understanding of these connections by creating mind maps.

**Part 1 — Finding a news item or article**60 min
+ homework

- * As homework, challenge the students to find their own news item related to the environmental issue in the film. Review how to obtain such an article (online or paper copy). Students must read the text and highlight sentences or sections that are connected to the topic. They must be prepared to explain the link they have established between the two subjects.

**Part 2 — It's all interconnected!**

30 min

- * Invite students to network and form groups according to common subjects or themes of their articles. For example, if the issue in the film is climate change, some of the related topics may be Hurricane Katrina, heat waves in Europe, forest fires in California, environmental refugees in the Maldives, drought in the Canadian prairies, hybrid cars and energy conservation, a campaign to promote public transportation in the Montreal area, etc. It will most likely be a very animated activity. It is a good idea to let these discussions unfold for a little while as the students are challenged to identify and organize ideas relating to the central environmental issue presented in the film.
- * On the board, list the various topics the students have identified in the articles. Ask for ideas on how to create larger groupings or categories. With the students' input, construct a model of organization using a *mind map* with the main environmental issue in the centre of the web (see sample, p. 19). Ask the students to place themselves in groups according to this mind map.

**Part 3 — The presentations**

45 min

- * Give each group the task of preparing a two- to five-minute oral presentation explaining and giving examples of the common topic of its articles (e.g. natural disasters, energy conservation, alternative energies, endangered species, etc.) and justify the connection to the main environmental issue (e.g. climate change).
- * Invite each team to give its presentation. At appropriate times, ask students to think-pair-share and make notes on their peers' presentations. The students will use these personal notes to help them create their concept maps.

Instructional tip: 

For full participation and cooperation from all members in the groups, roles and responsibilities can be assigned for this part of the task. They can include:

Data collector: retrieves and verifies the information offered from all team members.

Summarizer: summarizes the information for the recorder.

Editor: organizes the information for the recorder and presenter.

Recorder: records information.

Timekeeper: ensures that team stays on task and on time.

Presenter: presents information to the class.



Part 4 — Homework: Mind mapping

15 min
+ homework

- * Present the example of a mind map (p. 19) to the students.
- * Explain the purpose of a mind map and how to create one (see link listed on page 16), referring to the sample and/or the model created during Part 2 of this activity.
- * Challenge your students to create a mind map connecting the main environmental issue presented in the film to other subjects or ideas presented by their peers. The notes made during the presentations should be referred to during their mind mapping.
- * Encourage students to be creative and include photos, drawings, key words, etc. A good suggestion for students is to put each of their ideas on individual post-it stickers in order to be able to move them around while organizing and constructing their ideas for the map.



Part 5 — Closing activity

15 min

- * Post all the mind maps or distribute the maps randomly to the teams and have students compare the connections with the main environmental issue in the film.
- * Ask: “Where and how do you fit in this map?”

Optional: Review the KWL with the students. Were some of their questions answered? Can anything be added to the L column? Is there anything that needs to be changed in the K column?



ICT OPPORTUNITIES:

- Mind-mapping software can be used (e.g. Kidspiration, Inspiration)
- News articles can be researched online
- The Canadian School portal for the Vancouver 2010 Olympic and Paralympic Winter Games invites teachers to share their educational project online.

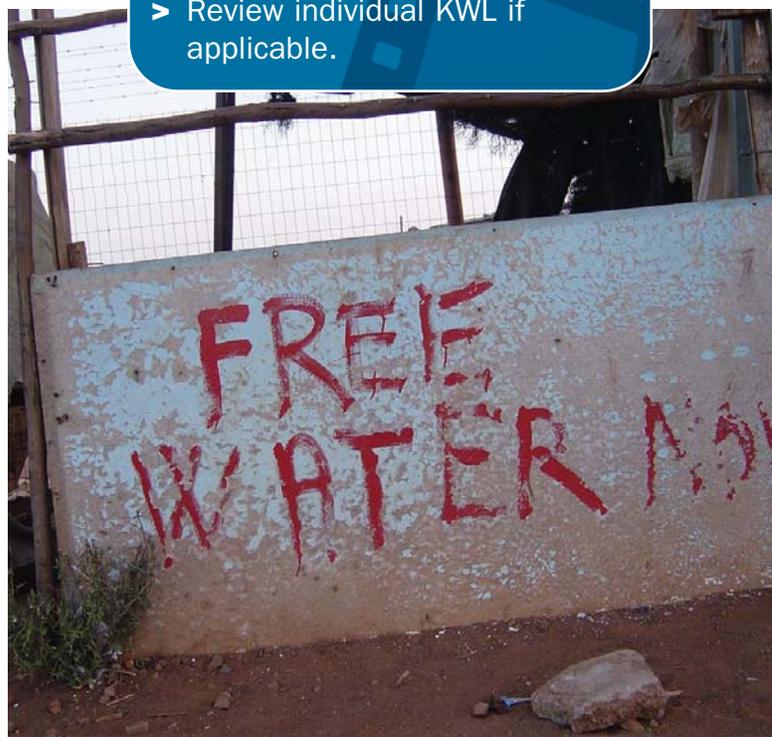
[VANCOUVER2010.COM /EDU](http://VANCOUVER2010.COM/EDU)

Canadian school portal for the Vancouver 2010 Olympic and Paralympic Winter Games

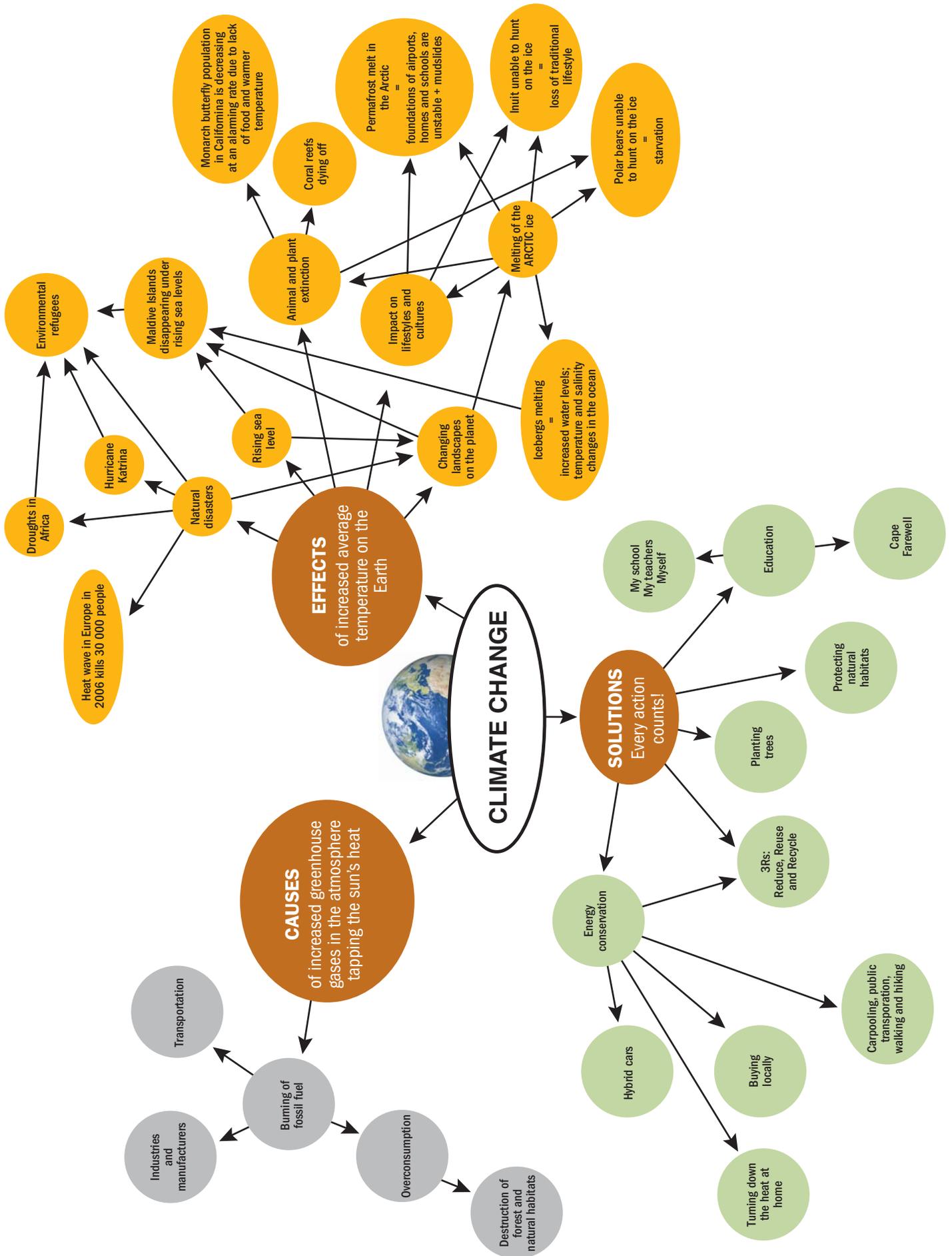
Assessment options:

(Please refer to learning outcome section, p. 5)

- Exit card: Ask students to identify actions they can personally take to have a positive impact on this issue (100 to 150 words).
- Collect anecdotes on students' participation and contributions.
- Before launching the mind map challenge, develop a peer or self-evaluation for the mind maps. Select the excellence criteria with your students based on the targeted learning outcomes.
- Evaluate mind maps (peer, self and/or teacher evaluation).
- Review individual KWL if applicable.



Dead in the Water



Who's Responsible?

Phase 2:

Developing a deep understanding of environmental issues

Purpose:

To debate a controversial statement in order to arrive at a compromise consistent with opposing views. The controversial statement deals with the responsibility for acting on an environmental issue.

Material:

- * Reference material and resources for student research on controversial issues (see Resources, p. 33)

Brief Outline:

Students participate in a *structured controversy* about the central environmental issue in the film. Working in groups of four, each dyad in a group researches one of two opposing positions on the statement: "*Students are NOT responsible for _____ (environmental issue).*" They debate opposing views of this statement in their team, reverse positions and then, seeing the issue from both sides, reach a consensus. This form of debate allows students to develop critical thinking.

Teaching Strategy:



Structured controversy

Link to Instructional Strategies Online:

<http://olc.spsd.sk.ca/DE/PD/instr/strats/structuredcon/index.html>

Activity:



20 min

Introduction

- * Present the following statement to your class: *Students are NOT responsible for _____ (environmental issue presented in the film)* (e.g. Students are NOT responsible for environmental refugees). Ask students to individually note one argument for the PRO side (yes, we are responsible) and one for the CON side (no, we are not responsible).
- * Bring the controversy to life by initiating a discussion while collecting students' arguments and listing them in a PROs and CONs table on the board. DO NOT allow the discussion to explore the arguments. Simply bring the controversy out in the open.



Manufactured Landscapes

Introuction (cont.)

* Students' arguments may include:

PROS (yes, we are responsible)	CONS (no, we are not responsible)
We have a moral and ethical responsibility to do something.	This mess was created by past generations, it's not our problem.
It's our future!	We don't vote.
Everyone is responsible because we are all consumers.	We have no money.
We care for and respect all life on Earth.	We do not make the decisions.
It is our only hope.	Adults don't care, why should we?
There are so many ways to make a difference.	We don't know what to do.



Part **1** — **Setting up the teams**

55 min
+ homework

- * Challenge your students to come up with a compromise answer to the question: "Who's responsible?" for the environmental issue presented in the film.
- * Place students in teams of four. Divide each team into two dyads. Assign a side of the controversial statement to each dyad.

- * Explain the process of a structured controversy:
 1. Each dyad does research to build arguments that will advocate and defend its point of view on the controversy.
 2. Opposing dyads present the arguments for their side of the controversy to the other pair of students in their team. The listening students take notes on the presentation without interrupting.
 3. All four students then engage in a respectful exchange to explore all sides of the issue.
 4. Each pair then reverses its position and argues the side of the opposite team with the help of that team's notes.
 5. All four students prepare a written report presenting a consensus with commentary for the controversial issue. The rules to respect during this activity are:
 - Be critical of ideas, not people.
 - Be open, and ask questions to understand all sides of the issue.
 - To confirm your understanding, paraphrase what you heard.
 - Remember that reaching a consensus is not about "winning" the argument; it is about finding the best solution.
- * Give students leads and reference material for their research. Let each pair brainstorm and begin its research.
- * Students continue their research and preparation for the controversy debate as homework. Check in on their progress regularly to guide their work.



Note:
The dyad responsible for researching the CONS may want to design a survey to get information from its peers in other classes. The focus of the survey should be to find answers to the problem of youth apathy with regard to environmental action.



Part 2 — The controversy

60 min

- * Proceed with the controversy (steps 2 to 5 listed on p. 21)

Instructional tip:

For full participation and cooperation from all members in the groups, roles and responsibilities can be given for step 5 of the task. They can include:

Data collector: retrieves and verifies the information offered from all team members.

Summarizer: summarizes the information for the recorder.

Editor: organizes the information for the recorder and presenter.

Recorder: records information for the report.

Timekeeper: ensures that team stays on task and on time.

Presenter: presents information to the class.



Part 3 — Presentations to the class

30 min
optional

- * Before the closing activity, allow each team to present its compromise report to the class.



Part 4 — Closing activity

15 min

- * State the controversial statement again: *Students are NOT responsible for _____ (environmental issue presented in the film).* Ask each team to present one of its commented statements to the group. Conclude by summarizing the students' reports and asking the question: "Who's responsible?"

Optional: Review the KWL with the students. Were some of their questions answered? Can anything be added to the L column? Is there anything that needs to be changed in K?



ICT OPPORTUNITIES:

- Research can be done online.
- Any text can be written using a word-processing program.
- The Canadian School portal for the Vancouver 2010 Olympic and Paralympic Winter Games invites teachers to share their educational project online.

[VANCOUVER2010.COM /EDU](http://VANCOUVER2010.COM/EDU)

Canadian school portal for the Vancouver 2010 Olympic and Paralympic Winter Games

Assessment options:

(Please refer to learning outcome section, p. 5)

- > Exit card: Ask students to answer the question: "Who do you think is responsible for the environmental issue presented in the film? Why?"
- > Collect anecdotes on students' participation and contributions.
- > Ask students to self-evaluate their contribution to the team.
- > Evaluate each team's report.
- > Review individual KWL if applicable.



Water Detectives

Stepping Into Someone Else's Shoes

Phase 2:

Developing a deep understanding of environmental issues

Purpose:

To engage in role-playing to develop an empathetic understanding of the needs and perspectives of different stakeholders regarding an environmental issue.

Brief Outline:

Following the reflective discussion (Focus on the Film, p. 12), students are presented with a clear problem situation outlined in the film and asked to research this issue. Teams are formed and each one is assigned the task of documenting one of the stakeholders' perspectives on the problem. In a jigsaw approach, new teams are created with a representative from each of the stakeholder groups. These new teams prepare a skit scenario in which the various sides of the problem are presented and characters representing their respective interests interact and arrive at a realistic compromise and solution.

Material:

- * W5 worksheet (p. 26)
- * Stakeholders' Perspectives worksheet (p. 27)
- * Finding a Solution & Skit Scenario worksheet (p. 28)
- * Variety of props

Teaching
Strategy:



Role-playing

Link to Instructional Strategies Online:

<http://olc.spsd.sk.ca/DE/PD/instr/strats/roleplaying/index.html>

Link to Science Education Resource Center at Carleton College:

<http://serc.carleton.edu/introgeo/roleplaying/>



Activity:



15 min

Introduction

- * Choose a school-related problem familiar to your students (e.g. the majority of recyclable papers end up in the garbage every day).
- * Ask the students to get into small groups and brainstorm a list of the different stakeholders in this problem situation (e.g. principal, teachers, students, custodian, office staff).
- * Ask: "What needs to be done to solve this problem?" Guide a class discussion so students arrive at the conclusion that many different perspectives must be considered in order to arrive at a possible solution (e.g. Are there enough recycling bins? Are they located where they can be useful? Who is responsible for obtaining and installing the bins? Do the students, teachers and staff know about the recycling program? Does the custodial staff know where and when to dispose of the paper to be recycled?).
- * Now that students are aware that every problem has many stakeholders, challenge the class to find and present a realistic solution to a problem presented in the film.



60 min

Part 1 — W5!

- * Following the viewing of the film and the reflective discussion (p. 12), identify a clear problem presented in the film. Also identify all of the stakeholders involved (this information will be used in part 2 of the activity).

Examples of problems:

- Caribou birthing grounds are threatened by the construction of a natural gas pipeline.
- Residential and industrial wastes are contaminating drinking water supplies.
- Citizens are being displaced and forced from their land, home and livelihood for the exploitation of natural resources.
- Complete communities are forced to move due to the rising ocean levels caused by a warming climate.
- * Present the problem statement to your students. Refer to and review parts of the reflective discussion or show a clip of the film to make sure students understand the problem.
- * In order to create a concise description of the problem, students work individually to document the facts related to the problem targeted using the note-taking worksheet (p. 26) to record their answers to: what? who? where? when? and why?
- * If necessary, show more clips of the film and give access to online research to help students find answers.
- * Lead a class discussion to merge all of the students' answers into a concise description of the problem. Before the next part of the activity, give each student the final description of the problem.



75 min

Part 2 — The stakeholders

- * As a class, ask the students to identify, based on the problem description, all the stakeholders.
- * Assign students to predetermined heterogeneous groups. There should be one group per stakeholder. Use the profile worksheet to document each stakeholder's perspective on the problem. All students are to write notes based on the discussion and research in their group regarding their respective stakeholder.

Note:

It may be necessary to make subgroups depending on the number of students in each of the stakeholder groups.



- * Facilitate the students' work as you rotate from group to group.
- * Lead a group discussion to review and finalize the profile of each stakeholder. Give each student a final profile of all stakeholders before the next part of the activity.



Part 3 — Preparing the skits

75 min
or homework

- * In a jigsaw manner, assign students to new teams with a representative from each of the stakeholder groups. For example, if there were four groups of seven students for the stakeholders' profile (part 2), there will be seven groups of four stakeholder representatives for the role-playing (part 3).
- * Using the problem-solving worksheet, students find a realistic solution to the problem, then create a short skit to present it. Each of the stakeholders must bring his/her expertise to the group. Each student must also be part of the performance and the verbal exchange.
- * Facilitate the rehearsal of the skits. Encourage the use of a few simple props.



Part 5 — Closing activity and homework

15 min

- * As homework, students write 250-300 words about their choice of preferred solution for the problem, based on the skits. These questions can guide them:
 - Based on all the skits, what is your choice of solution? Why?
 - Which stakeholder did you identify with the most? Why?
 - Considering your choice of solution, can you predict what the outcome may be in 10 days? 10 months? 10 years?

Optional: Review the KWL with the students. Were some of their questions answered? Can anything be added to the L column? Is there anything that needs to be changed in K?



ICT OPPORTUNITIES:

- Research can be done online.
- Any text can be written using a word-processing program.
- Skits can be filmed and reviewed to facilitate assessment.
- The Canadian School portal for the Vancouver 2010 Olympic and Paralympic Winter Games invites teachers to share their educational project online.

VANCOUVER2010.COM /EDU

Canadian school portal for the Vancouver 2010
Olympic and Paralympic Winter Games



Part 4 — The performances

60 min

- * Each team presents its skit to the class.

Instructional tip:

This is a great opportunity for peer evaluation. Involve the students in designing a rubric based on targeted outcome (see learning outcomes, p. 5). This rubric should be given to the students before they begin planning their skits.

Assessment options:

(Please refer to learning outcome section, p. 5)

- > Collect anecdotes on students' participation and contributions.
- > Ask students to self-evaluate their contribution to the teams.
- > Evaluate each team's solution and performance (peer and/or teacher evaluation).
- > Evaluate students' final response to the skits (see closing activity).
- > Review individual KWL if applicable.



Stepping Into Someone Else's Shoes

W5 Research

Name: _____

Problem statement: _____

What?

Who?

Where?

When?

Why?



Stepping Into Someone Else's Shoes

Stakeholders' Perspectives

Name: _____

Problem statement: _____

Stakeholder: _____

My stakeholder is a:

- Business
- Community
- Government (federal, provincial, municipal)
- Individual
- Non-governmental group

What does this stakeholder want?

What is the benefit for this stakeholder?



Stepping Into Someone Else's Shoes

Finding a Solution & Skit Scenario

Name: _____

Problem statement: _____

How can this issue be resolved? Consider the VOICE, POWER and INFLUENCE of all the stakeholders. With the members of your group, discuss and find a realistic compromise to this problem.

Solution to problem

Skit scenario (All stakeholders must participate in the skit presentation. Simple props can be used.)

Youth in Action: From Dreams to Reality

Phase 3: Implementing environmental action projects in the classroom

Purpose: To effect positive change in one's community by identifying an issue and planning, implementing and evaluating an action project.

Brief Outline: Students are guided through an environmental action project for the local and/or global community. The film is used as a springboard to have students participate in a *problem-solving* process and to develop an action plan of their choice for sustainable living. These projects can include: campaigns for change, displays, filmmaking and presentations to peers, podcasts, surveys, mentorship programs, eco-management projects, etc.

Material:

- * TakingITGlobal Action Guide (one copy per student)
www.tigweb.org/action/guide/

Teaching
Strategy:



Problem solving, brainstorming

Link to Instructional Strategies Online:

<http://olc.spsd.sk.ca/DE/PD/instr/strats/psolving/index.html>

<http://olc.spsd.sk.ca/DE/PD/instr/strats/brainstorming/index.html>



Activity:



35 min

Introduction

- * Ask the class: “Can you think of some things you would like to change or improve to help solve the problem of _____ (environmental issue in the film)?”
- * Have students get into groups and *brainstorm* what they would like to change or improve to help solve the environmental issue. Encourage them to think on many levels: about themselves, the school, the community, the country and the world. Tally and post a list of ideas from all the teams.
- * To guide your students in tackling their own action project—to go from Dream to Reality—they can use the TakingITGlobal Action Guide (see link above under “Material”). This guide to action was created by young people who have worked to achieve their goals and initiate positive change in the world. TakingItGlobal.org is an online community that connects youth to find inspiration, access information, get involved and take action. It's the world's most popular online community for young people interested in making a difference, with hundreds of thousands of visitors each month. TIG's highly interactive Web site links thousands of young people around the world and provides a platform for expression, connection to opportunities and support for action!
- * Distribute the TakingITGlobal Action Guide to your students. Review the **process overview** to taking action presented on page 2 of the guide. Make sure students understand each of the steps.
- * Give students some time to get familiar with the document.



60 min

Part 1 — Get inspired!

- * Read Ryan's story from the Ryan's Well Foundation Web site: www.ryanswell.ca/story/index.html and then review some of Ryan's accomplishments: www.ryanswell.ca/story/accomplishments.html

OR

- * Show Hannah's Story, a 30-minute NFB film about an 11-year-old girl who started the Ladybug Foundation (www.ladybugfoundation.ca) to help homeless people in Canada. Ask students to share stories of people who have inspired them and why. Discuss the importance of inspiration and finding role models in the creative process of solving problems.

10 min
+ homework**Part 2 — Identify your passions, get informed and lead your project to success**

- * Review the “Identify Your Passions,” “Get Informed” and “Lead Your Project to Success” sections of the Action Guide (pp. 6 to 10) with the class.
- * In the context of planning a class environmental action project, assign the exercises outlined in those sections as homework.





Part 3 — Develop a team

75 min
or homework

- * Using the information from part 2 in the Action Guide, your class explores how each student can best contribute to the teamwork for this project.
- * Place students in heterogeneous teams of approximately four or five students. Ask them to discuss their response to the three sections of the guide completed as homework and to use their respective answers to fill out a table like the one presented in the “Develop a Team” section of the Action Guide (page 11).
- * Collect all the worksheets and highlight the range of skills and interests that different individuals bring to the group. Stress the importance of having a variety of strengths and passions in shared leadership work. Keep worksheets for future reference.



Part 5 — Plan and get moving

60 min

- * Ask the teams to use the list on page 14 of the Action Guide to brainstorm possible goals and actions related to the environmental issue targeted by the action project.
- * Lead a class discussion to review ideas and make a master list of possible goals and actions. Post the list in the classroom for ongoing reference.



Part 6 — Create a group plan

75 min

- * The class is ready to plan the project’s mission or goals and the specific actions that will be taken to achieve this mission. Lead a class discussion to democratically decide on the goals and actions that will make up your project. Being realistic and considering time, money and resources will help the decision-making process by assessing the feasibility of different ideas for action.
- * As each class will develop its own version of an action project, it is recommended at this point to use the information in the “Create a Group Project Plan” section of the Action Guide (page 17) to create a plan that best suits the needs of your class and its environmental action project.



Part 4 — Networking

15 min
+ homework

- * Review “The Importance of Networking” and “Map Your Networks” sections of the Action Guide (pp. 12 to 13) with your class.
- * Ask each student to fill out the “Map Your Network” section.
- * In the next class, collect network maps and keep for future reference.

Note:
The “**Develop Your Personal Action Guide**” section of the Action Guide (page 16) is **not used** in this project.

Strategic tip:

Creating teams and dividing the tasks to be accomplished for the action project is a great idea. This is the time to use all the information recorded concerning the students’ interests, strengths, skills, networks and ideas for action. Taking into account all this information will ensure that the teams are well equipped to do their work and that students are involved in a facet of the project that they really care about.



variable

Part 7 — Implement and have a lasting impact!

- * Guide your students in implementing their action plan.
- * Make sure each team member is aware of his/her responsibilities, time line and available resources.
- * Implementing the action plan means moving ahead, tackling unforeseen challenges, troubleshooting, persevering and having fun!
- * Refer to “Having a Lasting Impact” on p. 19 of the Action Guide to monitor the project throughout its implementation and to evaluate the students’ achievements.



75 min

Part 8 — Closing activity

- * Review the introduction and the questions presented in “Evaluate Your Progress” (p. 20).
- * Ask each student to use the questions to write individual reflections on his/her work (400 words). Be available to answer questions.



ICT OPPORTUNITIES:

- Research can be done online.
- Any text can be written using a word-processing program.
- Podcast, films and PowerPoint presentations can be used.
- Networking with other young people involved in environmental action can be done through the TakingITGlobal Web site: www.takingitglobal.org
- The Canadian School portal for the Vancouver 2010 Olympic and Paralympic Winter Games invites teachers to share their educational project online.

vancouver2010.com /EDU

Canadian school portal for the Vancouver 2010 Olympic and Paralympic Winter Games

Assessment options:

(Please refer to learning outcome section, p. 5)

- > Collect anecdotes on students’ participation and contributions.
- > Ask students to self-evaluate their contribution to the teams.
- > Evaluate each team’s work (process and final product).
- > Evaluate students’ individual reflection (see closing activity).



Resources

National Film Board of Canada (also see Appendix D)

NFB Education
www.nfb.ca/education/en

Educational Resources
www3.nfb.ca/sections/educational-resources

Documentary Lens (Science, Environment and Health)
www.nfb.ca/objectifdocumentaire/index.php?mode=theme&theme=5&language=english

NFB: Arctic Mission Cyberdocumentary
www.nfb.ca/missionarctique/index3.php?lg=en

Resources for Rethinking

http://www.lsf-1st.ca/en/resource_database/index.php
 Created by Learning for a Sustainable Future (LSF-<http://www.lsf-1st.ca>) online database of excellent, peer-reviewed curriculum resources relates to education for sustainable development. This is not a directory of resources, rather it is a database for teachers. A resource is anything (print, multimedia) developed for use in the formal education system (K-12) and must come with instructions and materials.

Environment Canada

www.ec.gc.ca/education

Earth Day Network: Ecological Footprint

www.earthday.net/footprint/info.asp

Green Street

www.green-street.ca/en

Global Footprints

<http://www.globalfootprints.org/issues/footprint/councquiz1.htm>

CBC News: Interactive Map on Climate Change

<http://www.cbc.ca/news/interactives/gmaps/climate-change/>

International Polar Year-Cape Farewell

http://www.ipy.org/index.php?/ipy/detail/cape_farewell/

TakingITGlobal

<http://www.takingitglobal.org/>

References

Media Awareness Network

www.media-awareness.ca/english/teachers/media_literacy/what_is_media_literacy.cfm

British Film Institute (BFI)

www.bfi.org.uk/education/

Environmental Education and Training Partnership

www.eetap.org/html/environmental_literacy.php

North American Association for Environmental Education

www.naaee.org/npeee/materials_guidelines/intro.html

Institute for Global Environmental Strategies

www.iges.or.jp/en/pub/eLearning/ee/introduction_goals.htm

Canadian International Development Agency

www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/JUD-111814837-QFY

Global Youth Service Day

www.gysd.net/home/index.html?width=1024

Quebec Education Program, Secondary School Education, Cycle One

www.mels.gouv.qc.ca/DGFJ/dp/programme_de_formation/secondaire/qepsecfirstcycle.htm

Indiana University, Advanced Study of the Teaching of Secondary School Reading (KWL)

www.indiana.edu/~I517/KWL.htm

Teaching Expertise

www.teachingexpertise.com/articles/robert-sternbergs-educational-theories-1679

Instructional Strategies Online

<http://olc.spsd.sk.ca/DE/PD/instr/index.html>

National Center for Case Study Teaching in Science, University at Buffalo, State University of New York

<http://ublib.buffalo.edu/libraries/projects/cases/teaching/controversy.html>

UNESCO: Values Clarification

www.unesco.org/education/tlsf/TLSF/theme_d/mod20/uncom20t03s01.htm

Science Education Resource Center at Carleton College (Minnesota): Role-playing

<http://serc.carleton.edu/introgeo/roleplaying/>

Tomlinson, Carol Ann. *Fulfilling the Promise of the Differentiated Classroom*. Alexandria, VA: Association for Supervision and Curriculum Development, 2003. (ISBN: 0-87120-812-1)

Appendix A

Examples of validated projects using Films for Change

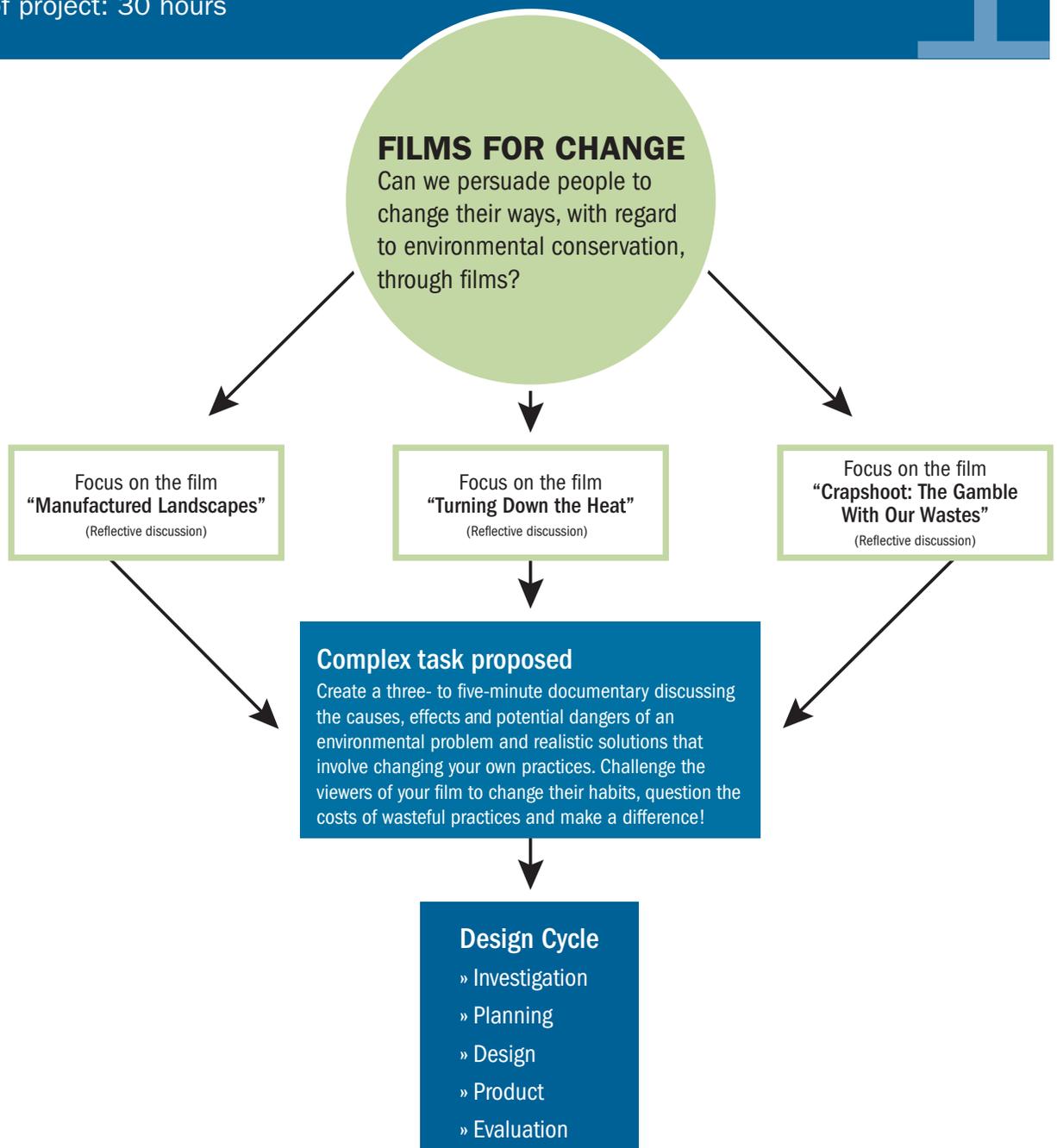
The Films for Change pedagogical template was validated by teachers in grade 7 classes. The following presents two models of projects that made use of Films for Change.

FILMS FOR CHANGE

Technology: Grade 7

Conceptual map of the main elements of the project.

Duration of project: 30 hours



- TITLE:** Films for Change: can we persuade people to change their ways?
- DURATION:** Thirty hours over eight weeks
- QUESTION:** Can we persuade people to change their ways, with regard to environmental conservation, through films?
- CONTEXT:** We enjoy a high standard of living but we often don't think of the environmental costs associated with these changes. We will watch videos on these issues to understand the issues and also learn the codes, conventions and techniques of a persuasive documentary.
- CHALLENGE:** You will create a three- to five-minute documentary discussing the causes, effects and potential dangers of AN ENVIRONMENTAL PROBLEM AND REALISTIC SOLUTIONS that involve changing your own practices. You are to challenge the viewers of your movie to change their habits, question the costs of wasteful practices and make a difference. Once the videos have been peer and teacher reviewed, you will post them on YouTube. Respect of copyright is essential! You may NOT "borrow" images from other sources without first obtaining permission.

Design Cycle

INVESTIGATION

- * Research for an understanding of the ecosystem and how every action leads to another.
- * Learn about the social consequences of human's effects on the ecosystem.
- * Critically view a series of NFB videos on global environmental issues.
- * Learn how to build an effective documentary using stills.
- * Discuss the social significance of your topic.
- * Field trip to the National Film Board's cinérobotèque.
- * Hand in Bibliography (not annotated).

PLAN

- * Identify and discuss the problem.
- * Compare and contrast the alternative programs for making a video.
- * Plan around available time in labs.

DESIGN

- * Draw possible storyboards BEFORE beginning.
- * Choose one and explain reasons for your choices.
- * Create a storyboard BEFORE starting your project.

PRODUCT

- * Create a three- to five-minute video to be published on the World Wide Web explaining your environmental issue: 20 different images (minimum); effective, well-thought-out pans and zooms; two different music clips; your own narration; titling at beginning, end and during when necessary to clarify the image. (Images must be taken by you or be PUBLIC DOMAIN, i.e. pre-1929)

* Possible Topics

- How we dispose of old technology: computers and their effect on ecosystem
- Battery disposal and effect on ecosystem
- Snow removal and dumping
- Disposal of oil from oil changes
- Use and disposal of anti-freeze, windshield fluids
- Disposal of old clothing (too old to pass down)
- Disposal of old paints, varnishes, etc.
- How laundry and dishwashing detergents affect the ecosystem

EVALUATION

- * You must judge the QUALITY and EFFECTIVENESS of the product as compared to the need.
- * Suggest ways to improve the product.
- * Assess the efficiency of the process.
- * Suggest ways to improve the process.
- * Reflect on the social significance of the product.

OBJECTIVES:

At the end of this unit, you should be able to:

- * Research facts about environmental issues.
- * Research various digital software.
- * Consider which computer software programs are the best for making presentations to one's peers.
- * Consider how to structure a persuasive argument using video.
- * Post a video on the Internet.

QEP Competencies

CROSS-CURRICULAR COMPETENCIES

- * Exercises critical judgment
- * Communicates appropriately
- * Uses information

SCIENCE AND TECHNOLOGY COMPETENCY

- * Communicates in the languages used in science and technology

ESSENTIAL KNOWLEDGE: THE LIVING WORLD

- * Diversity of life forms
 - Habitat
 - Ecological niche
 - Population

Areas of Interaction (International Baccalaureate Organization)

APPROACHES TO LEARNING

- * Categorizing and organizing information, teaching others using multimedia software.

ENVIRONMENT

- * Developing an awareness of people's interdependence with the environment.
- * Taking responsibility for maintaining an environment fit for the future.
- * Understanding local and global environmental issues.
- * Making decisions on environmental situations.
- * Seeing links between economical, political, cultural, environmental and social issues.
- * Developing responsible and positive attitudes and actions.

Assessment Criteria

- * Standard IBO Technology assessment criteria for Middle Years Program

- * Evaluation criteria as presented in the Quebec Education Program for each of the targeted competencies



Technology: Grade 7 — Evaluation Criteria

Films for Change: can we persuade people to change their ways?

INVESTIGATION

The student states the problem. The student investigates the problem, collecting information from sources. The student lists some specifications.

PLAN

The student produces a plan that contains a number of logical steps that include resources and time.

PRODUCT	Incomplete	Developing	Acceptable	Accomplished	Elaborated
Titling	On one slide only – default font used.	Default font used or changed font for no particular reason. Titling may be inappropriate.	Used more than one time. Font choices show some thought. Occasionally, title obscured by panning.	Font type, colour and <i>placement</i> are deliberately chosen for a desired effect. Placement of titling is deliberate and well thought out.	Font choices are artistic and add to the comprehension of the video.
Voice-over	Video uses voice-over inappropriately. There are some technical problems (volume too high / too low).	Voice-over may distract from rather than enhance the video quality. It is obvious that the script is not rehearsed.	Video uses voice on at least three separate occasions with no technical problems, though music or voice-over may override the other.	Voice-over is used appropriately throughout the video. Script is well thought out and obviously rehearsed.	Voice-over is polished and adds a great deal to the product. Student used more than one voice (e.g. interviews others as well).
Music	Music used inappropriately (songs do not match images). Some technical problems (volume too high / too low).	Video uses one music file with no technical problems, though music may distract from rather than enhance the video quality.	With minor exceptions, all elements contribute to rather than distract from the video's overall effectiveness.	Video uses two or more music files as well as voice effectively. Music is well chosen and adds to the mood of the product.	Music is used in creative and effective ways that exploit the particular strength of the video. All elements make a contribution.
Image Quality	Poor quality (pixilated).	Some pictures are of poor quality or have little to do with the story. Variance in image quality is distracting.	All images are of reasonable size and are appropriate. Red eye or other problems are not corrected.	Images are of high quality and are well chosen to convey the author's message.	Images are of extremely high quality so all pans and zoom-ins seem professional.
Image Choice	Choice of images is haphazard, with little thought to conveying message.	Image choice is generally appropriate, but more than one image seems an afterthought.	All images add to the message of the product.	Every image is essential to the message.	Images are powerful and thought provoking.
Effects	Uses pan or zoom ineffectively.	Uses pans and zooms effectively on occasion.	Consistently uses pans and zooms effectively.	Pans and zooms are well thought out and add to message and/or mood.	Use of pans and zooms is near professional.
Communication	Message is vague or unclear.	Message is obvious but cliché. There is little regard for codes and conventions.	Communication is effective, but emotive elements are overdone.	Message is clear and original.	Message is clear and original. There is effective use of codes and conventions of video ads.

DESIGN

The student generates a few designs, justifying the choice of one design and fully evaluating this against the design specification.

Evaluation

The student evaluates the product/solution and his or her own performance and suggests ways in which these could be improved. The student tests the product/solution to evaluate it.

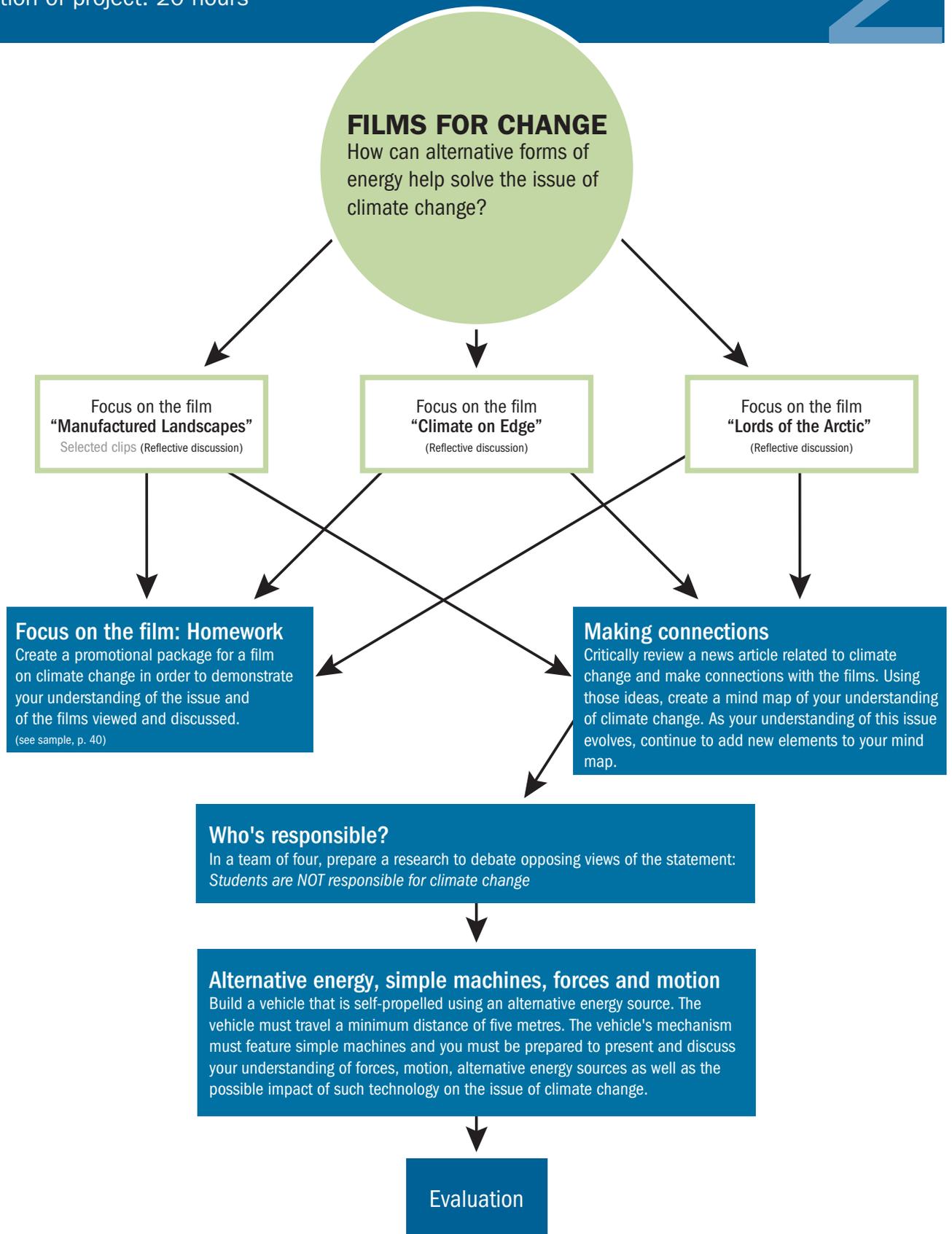
2

FILMS FOR CHANGE

Science and Technology: Grade 8

Conceptual map of the main elements of the project.

Duration of project: 20 hours



TITLE: Films for Change: Climate change and alternative energy

DURATION: Twenty hours over eight weeks

QUESTION: Can technology help solve the issue of climate change?

CONTEXT: Climate change is a consequence of over-consumerism and our dependence on and excessive use of fossil energy. Can new technology such as alternative energy offer solutions to this complex and global problem?

QEP Competencies

CROSS-CURRICULAR COMPETENCIES

- * Exercises critical judgment
- * Communicates appropriately
- * Uses information

SCIENCE AND TECHNOLOGY COMPETENCY

- * Make the most of his/her knowledge of science and technology
- * Communicates in the languages used in science and technology

ESSENTIAL KNOWLEDGE:

THE TECHNOLOGICAL WORLD

- * Engineering
 - Design plans
- * Technological systems
 - Energy transformation
- * Forces and motions
 - Simple machines

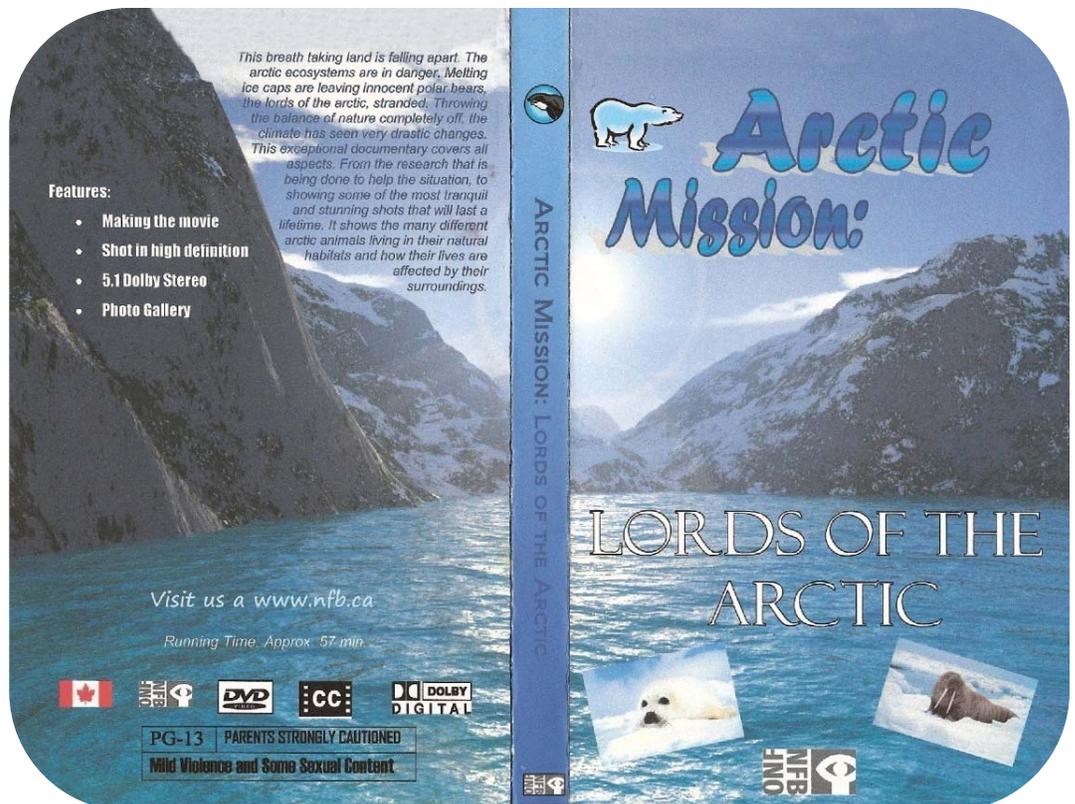
EARTH AND SPACE

- * Geological and geophysical phenomena
 - Renewable and non-renewable energy sources

Science and Technology: Grade 8 Films for Change: Sample of student work

HOMEWORK TASK

Create a poster or DVD jacket for the film with the title, an accurate description of the film (75 words) and a promotional slogan. Design a graphic component that captures the viewer's attention and accurately reflects the environmental issue and context presented in the documentary.



Appendix B

Links to curricula documents for the provinces and territories of Canada

Department of Education of Newfoundland and Labrador

www.ed.gov.nl.ca/edu/k12/curriculum/guides/index.html

Ministry of Education, Nova Scotia

<https://sapps.ednet.ns.ca/Cart//index.php?UID=2008080613120674.57.214.154>

Ministry of Education, Prince Edward Island

www.gov.pe.ca/educ/index.php3?number=74882&lang=E

Ministry of Education, New Brunswick

www.gnb.ca/0000/anglophone-e.asp#cd

Ministère de l'Éducation, du Loisir et du Sport du Québec

www.mels.gouv.qc.ca/gr-pub/menu-curricu-a.htm#second

Ministry of Education, Ontario

www.edu.gov.on.ca/eng/curriculum/secondary/

Department of Education, Citizenship and Youth of Manitoba

www.edu.gov.mb.ca/k12/cur/index.html

Ministry of Education, Saskatchewan

www.learning.gov.sk.ca/Default.aspx?DN=093f4e5d-2bf3-45e0-8252-030c45a44b7d

Ministry of Education, Alberta

<http://education.alberta.ca/teachers.aspx>

Ministry of Education, British Columbia

www.bced.gov.bc.ca/irp/

Ministry of Education, Yukon

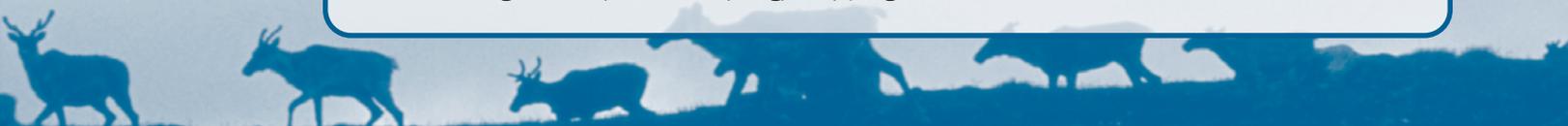
www.education.gov.yk.ca/psb/curriculum.html

Ministry of Education, Northwest Territories

www.ece.gov.nt.ca/Divisions/kindergarten_g12/indexK12.htm

Ministry of Education, Nunavut

www.gov.nu.ca/education/eng/css/progstudies7_12.htm



Appendix C

The Quebec Education Program (QEP)

As an interdisciplinary template, Films for Change can be set in the context of several broad areas of learning relating to the media, environment and community and focus on four different cross-curricular competencies from the QEP. Since the activities can be integrated in

any discipline, subject-specific competencies are not outlined in this document. It is understood that teachers have already identified the learning outcomes for their subject-specific competencies.

a) Broad areas of learning targeted by Films for Change:

* **Environmental awareness and consumer rights and responsibilities**

> **Educational aim:** To encourage students to develop an active relationship with their environment while maintaining a critical attitude toward consumption and the exploitation of the environment.

* **Media literacy**

> **Educational aim:** To enable students to exercise critical, ethical and aesthetic judgment with respect to the media and produce media documents that respect individual and collective rights.

* **Citizenship and community life**

> **Educational aim:** To enable students to take part in the democratic life of the classroom or the school and develop an attitude of openness to the world and respect for diversity.

b) Cross-curricular competencies targeted by Films for Change: (per phase)

Cross-curricular competency	Key features of competency	Applicable to Films for Change activities proposed in:		
		Phase 1 Creating an awareness of global environmental issues	Phase 2 Developing a deep understanding of environmental issues	Phase 3 Implementing environmental action projects in the classroom
Uses information	<ul style="list-style-type: none"> * Systematizes the information-gathering process * Gathers information * Puts information to use 	*	*	*
Communicates appropriately	<ul style="list-style-type: none"> * Becomes familiar with various modes of communication * Uses various modes of communication * Manages the communication process 	*	*	*
Exercises critical judgment	<ul style="list-style-type: none"> * Forms an opinion * Expresses his/her judgment * Qualifies his/her judgment 		*	*
Solves problem	<ul style="list-style-type: none"> * Analyzes the components of a situational problem * Tests possible solutions * Adopts a flexible approach 			*

c) Assessment questions for cross-curricular competencies targeted by Films for Change

Below is a list of questions based on the evaluation criteria for four selected cross-curricular competencies to help guide the assessment of students engaged in Films for Change activities.

Uses information

- * Does the student consult a variety of information sources?
- * Is the student using effective research strategies?
- * Is the student able to critically analyze information?
- * Does the student logically organize his/her information?
- * Is the student using information in new contexts?

Communicates appropriately

- * Is the student creating coherent messages?
- * Is the student making use of appropriate vocabulary and symbols?
- * Is the student observing practices, codes and conventions?
- * Is the student creating messages that are appropriate for the context and the audience?
- * Does the student engage in self-analysis and evaluate his/her work?

Exercises critical judgment

- * Does the student properly formulate questions?
- * Does the student use appropriate criteria on which to base his/her opinion?
- * Does the student express a well-reasoned justification for his/her judgment?

Solves problems

- * Does the student accurately define a problem?
- * Does the student propose a variety of relevant solutions?
- * Does the student evaluate possible solutions?
- * Does the student engage in a broad analysis of problems and possible solutions?
- * Does the student apply the strategies developed to other new situations?

Appendix D

Educational resources from the National Film Board of Canada (NFB)

Footprints: Environment and the Way We Live

This Web site offers an engaging point of entry for secondary and postsecondary students into the complex interplay among society, culture and the environment. Carefully selected films from the NFB's vast collection, along with teacher guides and a wealth of supplementary material, focus on key issues and players in this field. Teachers will find detailed lesson plans and 191 short film clips to bring this exceptional site into the classroom.

Visit <www3.nfb.ca/footprints>

NFB Films on the Environment

ARCTIC MISSION

This five-part series explores the impact of global warming on Canada's North, examining the issue from all angles. English and French soundtracks. 2003 (5 X 52 min)



1. The Great Adventure

Follow the crew members on their five-month voyage from Montreal to Vancouver, taking their scientific expedition through the Northwest Passage.

2. Climate on the Edge

Experts explain how the Arctic is on the front line of climate change: as temperatures increase, the melting of the permafrost releases greenhouse gases that affect the whole planet.

3. Lords of the Arctic

Polar bears depend upon ice to thrive in their Arctic environment. As temperatures rise, will the region's wildlife and northern plants be able to adapt?

4. Washed Away

Global warming causes ocean levels to rise, jeopardizing whole islands. Meet two island communities struggling to prevent the disappearance of land.

5. People of the Ice

For over 4000 years, the Inuit have lived in the Arctic environment, but global warming threatens their habitat and culture. This episode looks at climate change through their eyes.

Arctic Mission: An Interactive Adventure

This educational quiz encourages children nine to 12 to learn more about the impact of climate change. The object of this interactive game, which can be played at home or school, is to go on a northern adventure to save the polar bear by answering questions about the Arctic environment. The answers are found in the film clips provided, all taken from the Arctic Mission Series. English/French soundtrack. 2005 (72 min)



Being Caribou

Wildlife biologist Karsten Heuer and filmmaker Leanne Allison follow the annual migration of the porcupine caribou herd to their calving grounds in Alaska. Their stunning narrative reveals the threat of proposed oil and gas drilling on these powerful yet vulnerable northern creatures. 2004 (72 min)



Buried at Sea

Hundreds of thousands of tonnes of toxic materials lie on ocean floors in rusting barrels, jeopardizing the health of marine species and coastal communities. After WWII and during the Cold War, massive weapons stockpiles were simply dumped into the ocean by the U.S.A., Britain, Canada, the Soviet Union and Germany. This documentary journeys to some of the most dangerous sites. 2006 (50 min)



Crapshoot: The Gamble With Our Wastes

Highly Recommended: “A disturbing film, and it means to be. Contemporary society is creating its own witches brew, and the future it predicts will be our undoing. While it may appear one-sided, *Crapshoot* could generate a healthy discussion. The film would have great applicability in courses with environmental units, but it could also be used in Sociology, Law, Civics, Science, Ethics or Technology.” — *Canadian Review of Materials*

Filed around the world, this bold documentary questions whether the sewer is actually compounding our waste problems. Does our need to dispose of waste take precedence over public safety? What are the alternatives? 2003 (53 min)



Dead in the Water

Some powerful companies have spotted a major water crisis lying ahead. From California to Soweto, and in several thousand other cities, these corporations have attempted to privatize what many consider a public trust.

This documentary investigates the results of these efforts at privatization. 2006 (52 min) The DVD also includes a special 10-minute feature, *Moncton: A Canadian Case Study*.



The Fight for True Farming

This film travels to Canada, the U.S.A. and France, capturing the damage done by factory farming. Along the way we meet people who are doing things differently: organic apple growers in Quebec, grape growers in France, truck farmers and large-scale grain producers—who all report that their yields are quite acceptable, and their soil stays naturally fertile. All are leading the fight for true farming. 2005 (90 min)



Manufactured Landscapes

Edward Burtynsky is famous for his large-scale photographs of nature transformed by industry. *Manufactured Landscapes* follows him to China as he captures the effects of the country's massive industrial revolution. This remarkable film leads us to meditate on human endeavour and its impact on the planet. Special features include additional scenes, director's commentary and interviews. In English with French subtitles option. 2006 (90 min)



Organic Prophecies

Meet Dr. Ken Taylor, an organic farmer with a PhD in chemistry. He explains why he avoids chemical fertilizers and herbicides on Windmill Point Farm in Quebec as he shows us his heritage plants and vegetables. 2002 (44 min)



Radiant City

Highly Recommended: *Radiant City* is a thought-provoking social commentary on suburban life...an excellent film to use in a high school geography or social studies class.” — *Canadian Review of Materials*

Urban sprawl is eating the planet. Across the continent the landscape is being levelled—blasted clean of distinctive features and overlaid with zombie monoculture. Politicians call it growth. Developers call it business. The Moss family call it home. Gary Burns hooks up with journalist Jim Brown and a chorus of cultural prophets to tell a startling family chronicle of the Late Suburban Age. 2006 (86 min)



The Refugees of the Blue Planet

Each year, millions of people the world over are driven to forced displacement. From the Maldives to Brazil, and even closer to home, here in Canada, the disturbing accounts of people who have been uprooted are amazingly similar. This film sheds light on the little-known plight of environmental refugees. 2006 (53 min)



Toxic Trespass

Intrepid filmmaker Barri Cohen investigates toxic chemicals and what they're doing to our health. She starts with her 10-year-old daughter, whose blood carries carcinogens like benzene and the long-banned DDT. Then



Cohen heads out to Windsor and Sarnia, Canadian toxic hotspots with startling clusters of deadly diseases, and to the Native reserve of Aamjiwnaang, with a birth rate problem. This is essential viewing for anyone concerned about the effects of pollutants on our very DNA. Includes a French subtitle option and 83- and 52-minute versions. Comes with a well-researched user guide.

Turning Down the Heat: The New Energy Revolution

On Saskatchewan's Selective Listing of Learning Resources

Highly Recommended: "The Canadian perspective is a real support." — *Canadian Review of Materials*

Addresses the crisis of global warming and offers renewable energy and energy conservation as viable solutions. The projects profiled in this film include such alternative sources of power as solar energy in Holland, Japan and California, biogas energy in Denmark and Vietnam, wind energy in India, and hydrogen fuel cells and ground source heat in Vancouver. 1999 (49 min)



Up the Yangtze

A luxury cruise boat motors up the Yangtze—navigating the mythic waterway in China. The river is about to be transformed by the biggest hydroelectric dam in history. At the river's edge, a young woman says goodbye to her family as the floodwaters rise towards their small homestead. The Three Gorges Dam—symbol of the Chinese economic miracle—provides the backdrop for this dramatic documentary on life inside the 21st century Chinese dream. Chinese-Canadian filmmaker Yung Chang crafts a moving depiction of peasant life and a powerful narrative of contemporary China. 2007 (93 min)



Water Detectives

2008 Notable Video for Children, American Library Association

This engaging short documentary shows young students that their efforts to conserve water can have far-reaching results.

This lesson is illustrated through the youth in Matamoros, Mexico, where a severe water shortage led the city to take the unusual step of putting local children in charge of changing adult attitudes and habits. Featuring lively narration from Mariana, Carlos and Raoul—three of the "water detectives." Their message will inspire children everywhere! This DVD has English and Spanish versions with an option of French subtitles. The user's guide for teachers, written in English, French and Spanish, is available on the NFB

Web site: <www.citizen.nfb.ca/water>. 2007 (11 min)



Waterlife: Free Interactive Website

Highly Recommended:

Waterlife is an interactive journey through the last great supply of fresh water on earth. Visit this interactive Web site with your students to tour Canada's Great Lakes and learn about the

issues affecting the waters from Lake Superior to the Atlantic Ocean. <http://waterlife.nfb.ca>



Weather's Wonders

Twenty-six five-minute films on the Earth's climates. These films explain the origins of various weather phenomena and their effects on fauna, flora and human inhabitants. 2004 (154 min)



The World According to Monsanto

Monsanto is the world leader in GMOs, as well as one of the most controversial corporations in industrial history. This century-old empire has created some of the most toxic products ever sold, including polychlorinated biphenyls (PCBs) and the herbicide Agent Orange. Yet today, Monsanto styles itself as a “life sciences” company that wants to solve world hunger. Behind its clean, green image, Monsanto is tightening its grasp on the world seed market, striving for market supremacy to the detriment of food security and the global environment. Based on a painstaking investigation, *The World According to Monsanto* puts together the pieces of the company's history. 2007 (109 min)



Weather Report

Weather Report journeys across the globe—from the Canadian Arctic to Northern Kenya, from the U.S. Midwest to China and India—visiting communities where lives and livelihoods are being dramatically affected by climate change. 2007 (52 min)



Where the Bay Becomes the Sea

Students take a brief look at the interactions between humans and the Bay of Fundy with a particular focus on maintaining a balance so as not to destroy its ecosystem. Through investigation and research, students then prepare a multimedia presentation to raise awareness about an environmental issue in their own community and propose solutions to the problem or ways for others to get involved. 1985 (29 min)



To order National Film Board of Canada Films

call toll-free: 1-800-267-7710

in the Montreal area: 514-283-9000

shop online: www.nfb.ca/store





www.learnquebec.ca

www.nfb.ca

www.mcgill.ca/edu-integrated/cel/