

ALIVE IN THE NUCLEAR AGE

AN ANTHOLOGY
OF SHORT PRO-
GRAMS ABOUT
NUCLEAR FEARS,
NUCLEAR ISSUES,
NUCLEAR POWER,
AND THE ARMS
RACE

FOR STUDENTS
AGES 11 TO 16

TEACHERS' GUIDE



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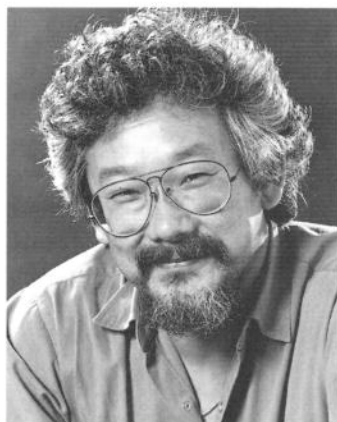
ALIVE IN THE NUCLEAR AGE

Teachers' Guide written by Karen Danderfer, Susan Hargraves and Gary Marcuse

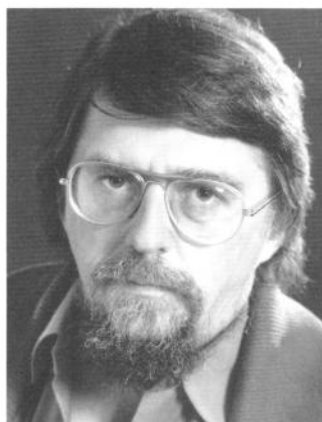


Photo: Kirk Tougas

Désirée McGraw and Maxime Faille are the hosts of *Alive in the Nuclear Age*. They gained their understanding of nuclear issues as members of the Montreal-based Students Against Global Extermination. With two other members of SAGE, they toured Canada in 1987, leading discussions about the nuclear age in more than 300 high schools. In 1989, Désirée received the Terry Fox Humanitarian Award and used the scholarship to study communications at Concordia University. Maxime lives in New York and works as a special assistant to the secretary-general of Parliamentarians for Global Action. He is also a member of the consultative committee which advises the Canadian Ambassador for Disarmament.



David Suzuki, broadcaster and concerned scientist, talks to high school students in *What Canadian Youth Are Saying*.



Journalist and military historian Gwynne Dyer narrates two excerpts from the NFB *War* series about the impact of technology on modern warfare.

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ALIVE IN THE NUCLEAR AGE

AN ANTHOLOGY OF PROGRAMS FOR STUDENTS AGES 11 TO 16

The twelve short programs are designed for teachers who wish to address the disturbing and complex issues surrounding nuclear technology, the arms race, and modern warfare. Each program is designed to provide a point of departure for classroom discussions on some of the difficult questions that young people are struggling to answer.

The anthology was designed for use by students from ages 11 to 16, but many of the programs in this anthology were derived from documentaries and news reports that were produced for a general audience, and will be suitable for all age levels. The programs are presented in a suggested order, but it is assumed that most teachers will pick and choose, using single programs or shorter sequences according to their needs and the interests of their students.

1•WHAT CANADIAN YOUTH ARE SAYING

12:50

David Suzuki presents the story of two students who visited Canadian high schools, leading discussions on the subjects of nuclear war and the arms race, and what students can do about them.

2•WHAT SOVIET YOUTH ARE SAYING

7:23

Soviet youth, age nine to fifteen, speak candidly about their concern about nuclear war and its consequences.

3•THE ROAD TO TOTAL WAR

14:22 (*excerpt*)

Military technology changed the nature of war from skirmishes between soldiers with muskets in the 18th century to "total war" against civilian populations by the end of World War II.

4•THE FIRST ATOMIC BOMBS

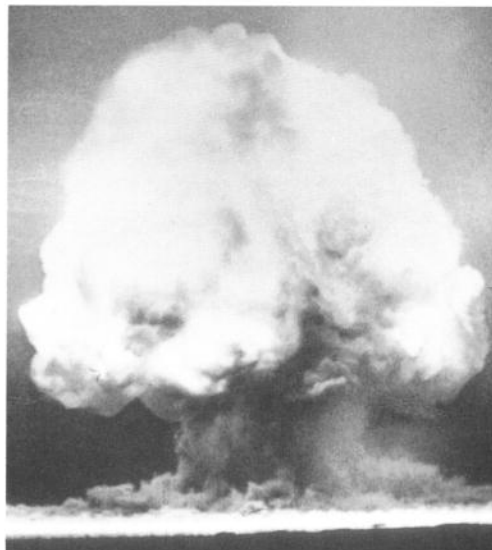
13:13

The invention of the first atomic bombs, described by physicist Philip Morrison in conversation with David Suzuki. Includes documentary footage of the bombing of Hiroshima and Nagasaki.

5•NO MORE HIROSHIMA

15:25 (*excerpt*)

Two very personal stories told by survivors of the atomic bombing of Hiroshima, and their plea for peace.



6 • CANADA'S NUCLEAR TECHNOLOGY

12:11

An introduction to the basic elements of nuclear power stations using CANDU reactors. The use of radioactive isotopes in medicine is illustrated.

7 • PUSH BUTTON WEAPONS

13:14

Wars can now be fought with "push button" technology. CBC reporter Joe Schlesinger looks at the marketing of new weapons at an arms bazaar, and Gwynne Dyer visits an American missile silo where soldiers practice launching nuclear missiles.

8 • HOW NUCLEAR WAR MIGHT START

13:45

What events could trigger a nuclear war between the super-powers? During the 1980s, the German border was the "hotspot" where NATO and Warsaw Pact troops rehearsed for the war that could end all wars.

9 • THE END OF WAR: NUCLEAR WINTER

16:37

Using simulated explosions and weather satellite photos and charts, this program gives a convincing picture of the steps leading to the extinction of human life following a nuclear war.

10 • THE INTERNATIONAL PEACE MOVEMENT

10:52

An overview of the protests against nuclear arms and the arms race in the 1980s, showing demonstrations in Europe and North America, including the

arrest of women demonstrating outside Greenham Common, England, and Litton Industries near Toronto.

11 • GUNS OR SHOES

12:16

Conventional wars are part of the arms race too. In Mozambique, a South African backed guerilla movement has been waging war on villages and government troops since 1976. Women on a farming co-operative describe the poverty caused by the war.

12 • THE BIG SNIT

10:27

In this award-winning animation, two characters are pre-occupied by a domestic squabble and a scrabble game while nuclear war breaks out outside.



13 • CREDITS

16:19

Complete program credits are found on the video following program 12.

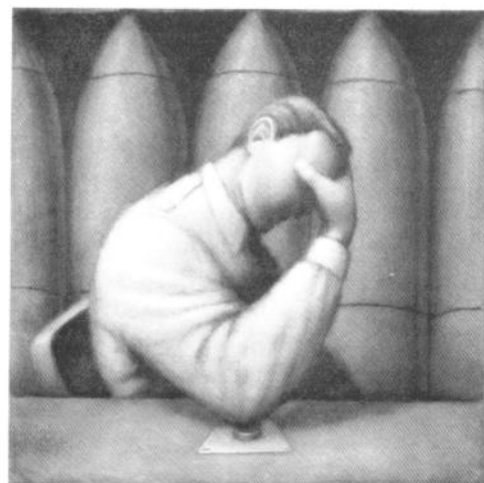
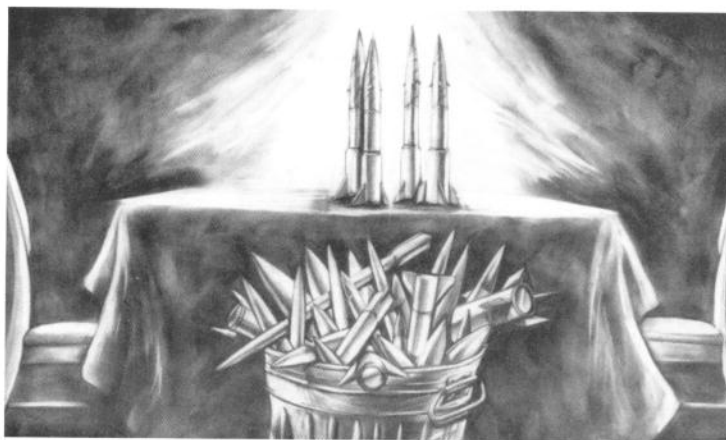


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Curriculum areas

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English, Language Arts												
Communications Skills	●	●	●	●	●	●	●	●	●	●	●	●
Journal Writing	●	●	●	●	●	●	●	●	●	●	●	●
Point of View				●	●	●	●	●	●	●	●	●
Higher Level Thinking Skills	●	●	●	●	●	●	●	●	●	●	●	●
History				●	●	●	●	●	●	●	●	●
Science, Science and Tech.				●	●	●	●	●	●	●	●	●
Social Studies	●	●	●	●	●	●	●	●	●	●	●	●
Problem Solving	●	●	●	●	●	●	●	●	●	●	●	●
Decision Making	●	●	●	●	●	●	●	●	●	●	●	●
Arms Race: Costs, History, Tech.	●	●	●	●	●	●	●	●	●	●	●	●
Conflicts, Conflict Resolution	●	●	●	●	●	●	●	●	●	●	●	●
Peace and Disarmament	●	●	●	●	●	●	●	●	●	●	●	●
Nuclear Energy					●	●	●	●	●	●	●	●
Nuclear Medicine						●	●	●	●	●	●	●
Politics and Government	●	●	●	●	●	●	●	●	●	●	●	●
Warfare: Non-nuclear			●	●	●	●	●	●	●	●	●	●
Warfare: Nuclear	●	●		●	●	●	●	●	●	●	●	●

Introduction

INTRODUCING THE NUCLEAR AGE IN THE CLASSROOM

The programs in this series are designed to help foster critical thinking and empowerment. Young people are invited to question issues, beliefs, assumptions and feelings. They are challenged to complicate their thinking, and avoid simple answers to difficult problems. Above all, they are encouraged to act to make a difference, to move beyond apathy and despair, in spite of the uncertainty and ambiguity that surround the unanswered questions of the nuclear age.

PLANNING A NUCLEAR AGE UNIT AROUND STUDENTS' KNOWLEDGE

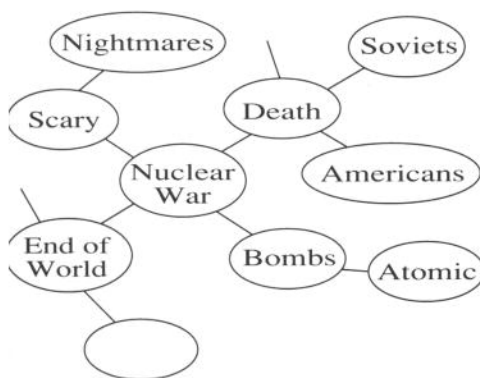
The following exercise can be used as an evaluation tool to determine what students already know, and what they want to know. Extended over the duration of the unit, or repeated at the end, the activity will reveal what knowledge the students have gained.

Because this issue is so sensitive, some guidelines are recommended:

1. Create a safe climate in which the students will feel free to voice their ideas and feelings.
2. Work to uncover feeling responses to the threat of nuclear war. Support the students in their use of language that conveys feelings as well as information.
3. Allow questions about nuclear war to come from the students. In this way, students will take the lead in determining how much information is appropriate for them. This will help to avoid suggestions from concerned adults (administrators, parents and school board members) that students are being "taught" about nuclear war.

Student-directed inquiry, clustering activity

1. Write the phrase "nuclear war" in the center of a large sheet of paper covering the blackboard. Ask the students: "What do you know for sure about nuclear war?" Student responses are recorded in a cluster chart. Ask the students: "What do you think might be true about nuclear war but you're not absolutely certain of?" Using a different colour of ink, add these responses to the cluster chart. As this process continues, questions will emerge. Framing and listing these questions is the key to this exercise and to the research which follows.
2. During the following days, the cluster chart is amended as student research yields new information. This activity may extend over several weeks, depending on the students' interests and desire for information. In this way, teachers can continue to take their cues from students about how much information on nuclear war is appropriate.



A Sample Cluster Chart



What Canadian Youth Are Saying

Producer: National Film Board of Canada, 1989

Director: Gary Marcuse

Host: Dr. David Suzuki

Length: 12:50

SYNOPSIS

This program follows two high school students from Montreal, Maxime Faille and Désirée McGraw, as they hold discussions with their peers on the subjects of nuclear war, the arms race, and what students can do about these issues. The program was videotaped in Vancouver schools.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- identify issues which concern them and other young people.
- explore obstacles which prevent these issues from changing.
- list alternative first steps that might initiate change.
- predict the likely consequences of their actions.
- discuss age as a factor in effecting social change.

BEFORE VIEWING

You may wish to present Program 2 about Soviet Youth in conjunction with this program. The following activities may be extended over several days.

A. Journal Activity

1. What is something that you have been very concerned about and thought should be changed? It could be something at school, in your family, or in the world.
2. What keeps it from changing?
3. What could be a first step toward making that change?
4. What might be the effects of this first step? In the short term?
In the long term?

B. Small group activity

1. Collate individual responses in a retrieval chart format:

OUR ISSUES	OBSTACLES	ACTIONS	EFFECTS

2. Post the charts.

C. Large group activity

1. What similarities and differences do you see in the charts?
2. Say you were 25 years old, would the pattern change? How?



TEACHER INTRODUCTION

Suggested statement: Most of us care deeply about some things that are wrong, unfair, and need to be changed, but it is difficult to imagine how young people could make a difference. This program is about young people who have been able to make a difference on a very difficult problem.

AFTER VIEWING

A. Discussion

1. General comments and questions.
2. What surprised you, if anything?

B. Journal Writing

1. What was their issue?
2. What obstacles did they face?
3. What actions did they take?
4. What effects did these actions have on the world? On you personally?
5. To what degree can young people bring about change on issues that they are concerned about?

C. Alternate Activities

1. Discussing fears
 - a) Distribute small cards. Have students describe, anonymously, something they do not know much about, which frightens them. Have them drop the cards in a box.
 - b) Read the cards aloud and discuss.
 - c) Ask: "Are some things frightening even when you know more about them?" "Are all fears reasonable?" Discuss.
2. Current Events Research

Have students locate newspaper accounts of people who are using their strong belief on an issue constructively or destructively.



Photo: Alan Etkin

3. Find out more about nuclear weapons free zones by conducting a library research project and by writing to the address in the Resource Appendix of this guide.
4. Read *The Chrysalids* by John Wyndham.
5. For more information on the SAGE tour, view the film/video *Mile Zero*, available from National Film Board libraries.

2

What Soviet Youth Are Saying

This program is an excerpt from What Soviet Children Are Saying about Nuclear Weapons.

Producer: International Physicians for the Prevention of Nuclear War, 1983.

Director: Dr. Eric Chivian

Editor: Intersection Associates

Length: 7:23

SYNOPSIS

An American doctor visited several youth summer camps in the Soviet Union and asked young people a series of questions about their knowledge and attitudes about nuclear weapons and the threat of nuclear war. The answers given are remarkably similar to statements made by Canadian and American young people.

GLOSSARY

Epicentre: also called the hypocentre; the point on the surface of the earth directly beneath a nuclear explosion.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- identify similarities and differences between themselves and Soviet young people, particularly in their statements about their beliefs and feelings about nuclear war.
- interview another student and a member of the community.
- describe their feelings about nuclear war.

BEFORE VIEWING

A. Anticipation guide

Note: It is important to create a "safe climate" for discussion in this exercise. At some point it may be useful for the teacher to offer personal opinions in order to avoid modelling apathy. This issue is discussed further in the appendix.

1. Present students with the following guide:

YOU	VIDEO	STATEMENT
		<i>Most Soviet children distrust Americans.</i>
		<i>The Soviet government does not give the Soviet people information about important issues like nuclear war.</i>
		<i>Most people in the USSR want peace.</i>

2

2. Read each statement aloud and instruct students to record their agreement or disagreement for each statement.
3. Take a poll of agreement/disagreement for each statement.
4. Students will then support their opinions in group discussion by providing evidence and examples.
5. Tell students the discussion will continue after they view the program.



B. Interviewing activity

Introduction: Have students review strategies for effective interviewing. Tell students that in today's lesson they will use an interview strategy to gather information about their opinions about nuclear war. These opinions will be compared to the opinions of the Soviet young people interviewed in the program.

Development: Have students form interview pairs to gather information using the following interview questions:

1. At what age did you learn about nuclear weapons?
2. Do you think that nuclear war between the USA and the USSR will occur in your lifetime?
3. Do you think anyone could survive a nuclear war? Why or why not?
4. Do you think it is possible to prevent a nuclear war between the USA and the USSR? Why or why not?

Following the paired activity, introduce the video. The program may be introduced by saying "Soviet young people were asked some of the same questions that you were asked in your interview. The program you are going to see records some of their responses. Watch closely to see how their responses differ from your own."

TEACHER INTRODUCTION

In the preceeding segment, *What Canadian Youth Are Saying*, we saw how some students spoke out and expressed their concerns about the possibility of nuclear war. As part of this lesson, you will have an opportunity to speak out and be heard on the same issue.

AFTER VIEWING

A. Anticipation guide

1. Students record the opinions expressed in the program.
2. Take another poll, this time asking students whether they think the program agreed or disagreed with each statement.
3. Students support their interpretations with evidence and examples. It is important that the teacher does not volunteer a personal opinion which might bias the discussion.

2

4. Discuss similarities and differences in opinions expressed in the program and those expressed by the students before viewing the program.

B. Discussions

1. Partner Discussion

Have students return to their interview partners to discuss the following questions:

- What similarities are there between our thoughts and feelings about nuclear war and those of the Soviet youth in the video?
- What differences are there?
- Have your thoughts and images of the Soviet Union changed? If so, how?
- What steps have the Soviet young people taken to make a difference on the issue of nuclear war?

2. Large Group Discussion

Have pairs of students share some of their impressions and answers to these questions with the whole class.

C. Alternate activities

1. As homework, have students interview adults to determine their opinions and feelings on nuclear issues. Use the same questions as listed above, in the partner discussion section.
2. Think about the idea of *enemies*.
 - Start by reading the book *Let's Be Enemies* by Janice May Udry.
 - Conduct a brainstorming activity on the questions: "What are the things we commonly say about enemies? Why do we say them? What feelings do we associate with them?"
 - Distribute small cards. Have the students describe an advantage of having an enemy on one side of the card, and describe a disadvantage of having an enemy on the other. Have them share their thoughts and discuss.
 - Journal writing: Have students reflect in journals on why we create and maintain enemies.
3. Look for examples of traditional enemies.
 - Have students brainstorm a list of traditional enemies at the local, national, or international level (e.g., blacks and whites in South Africa; Greenpeace and the fur fashion industry; Catholics and Protestants in Northern Ireland; any two countries currently at war).
 - Have them identify reasons why these groups are enemies.
 - How would each group describe the other?
 - What are some reasons for being enemies that are common to all these examples?
4. Contact the Soviet Embassy to arrange for a pen-pal program with Soviet children. The Embassy will translate the letters. Embassy of the USSR, 285 Charlotte Street, Ottawa, Ontario K1N 8L5.

The Road to Total War

This is an excerpt from a longer documentary by the same name, produced by Bill Brind and John Kramer for the National Film Board of Canada, 1983.

Director: Barbara Sears

Narrator: Gwynne Dyer

Length: 14:22

SYNOPSIS

This program traces the changing technology of warfare from the era of muskets, 200 years ago, through the evolution of rifles, machine guns and tanks, ending with the use of improved tanks and airplanes at the end of World War II. The impact of this technology, Gwynne Dyer explains, has been the expansion of warfare from battles between small numbers of soldiers to the waging of “total war” against cities and civilian populations.

CURRICULUM AREAS

Please refer to the matrix on page 4.



Photo: National Archives of Canada

OBJECTIVES

Students will:

- compare and contrast the ways in which technology has changed warfare since the time of Napoleon.
- demonstrate an understanding of how a person's role influences his or her point of view.
- diagram, label and explain the simple machines operating in an armoured tank.

BEFORE VIEWING

A. Brainstorming, clustering activity

Make a cluster starting with the phrase “technology and war” in the centre. Have the students brainstorm about the relationship between technology and warfare in any wars up to the invention of the atomic bomb at the end of World War II. Record their impressions in one colour on the chart. Be sure to raise such topics as weaponry, firing distance, accuracy, duration of battles, involvement of civilians, and number and kinds of casualties.

3

TEACHER INTRODUCTION

Suggested statement: In the next program, *The First Atomic Bombs*, we will be looking at the development of atomic bombs and how they changed modern warfare by making it possible to destroy entire cities with a single bomb. But the invention of the atomic bomb is just the latest in a long line of technological inventions that have changed the way that wars are fought. In this program, we will look at several other technological inventions that have been changing the way wars are fought since the time of Napoleon, two centuries ago.

AFTER VIEWING

A. Clustering activity

1. Using a different colour of ink, add more information and details to entries on the cluster chart.
2. View the program a second time. Ask students to create a retrieval chart with the following categories:
Begin by filling in the historical categories to the end of World War II. Students may fill in the gaps in their grids by exchanging information with others.

<i>Era</i>	<i>Weaponry</i>	<i>Firing Distance</i>	<i>Civilian Involvement</i>	<i>Duration of conflict</i>	<i>Number and kind of casualties</i>
PRE-WWI					
WWI & WWII					
TODAY					
THE FUTURE					

3. Ask students to fill in what they believe they know about weapons and technology today. Suggest that they may add to this category after viewing two other programs in this anthology: *How a Nuclear War Might Start*, and *Push Button Weapons*.

B. Journal activity

Ask students to speculate in their journals about the possible developments in technology and warfare in the future. This information should be summarized in the grid. Then, in small groups, students may share this information and extend their grids. Afterwards, the class could collate the ideas and discuss any patterns that they see emerging.

C. Address the question:

In the past, as the program suggested, we have used all available technology in warfare. But do we always use all available technology in all wars today? Why, or why not?

D. Point of view

Choose soldiers from different eras. Describe a day in their life. What do they do? How do they train? What are their living conditions? For additional information students might refer to the following non-fiction titles:

Buckham, R. *Forced March to Freedom* (Canadian Wings, 1984)
Hart, R. *Nelson's Navy* (Wayland, 1973)
Holden, M. *Legions of Rome* (Wayland, 1973)
Thomas, N. *French Foreign Legion* (Wayland, 1973)
Windrow, M. *World War II G.I.* (Franklin Watts, 1986)
Windrow, M. *Roman Legionary* (Franklin Watts, 1984)
Windrow, M. *Medieval Knight* (Franklin Watts, 1985)
Windrow, M. *Universal Soldier* (Guinness Superlatives, 1971)

E. Explain how an armoured tank operates.

1. Draw a cross section of an armoured tank and label the main parts.
2. Identify several simple machines which exist on a tank. Label the simple machines as lever, pulley, etc. Try to determine and label where the load, effort and fulcrum would be on a lever in the diagram.



4

The First Atomic Bombs



Dr. Philip Morrison, 1945

This is a revised version of Philip Morrison on Nuclear War, originally produced by Richard Longley for CBC-TV, "The Nature of Things", 1982.

Executive Producer: Jim Murray

Production Assistant: Kay Nagao

Researcher: Unita Williams

Narrator: Jan Tennant

Interviewer: Dr. David Suzuki

Length: 13:13

SYNOPSIS

This program describes the creation and use of the first atomic bombs through the eyes of Dr. Philip Morrison, a leading figure on the Manhattan Project which successfully created and tested the first bombs. Morrison describes the excitement leading up to the first test explosion in July, 1946. A month later, the other two bombs built by the Project were dropped on Hiroshima and Nagasaki. The bombing and its aftermath are described by Morrison and Paul Tibbets, the pilot of the airplane that dropped the Hiroshima bomb. Morrison concludes by saying that he thereafter avoided any further work on nuclear weapons. Tibbets says that he would do it again, under similar circumstances.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- demonstrate an understanding of how a person's role influences his or her point of view.
- distinguish between the original fission bombs (atom bombs) and the subsequent fusion bombs (hydrogen bombs).
- graphically represent production of atomic bombs between 1945 and the present.

BEFORE VIEWING

A. Journal activity, point of view

1. Imagine that you are a scientist working on the creation of a new super weapon during the middle of a war. Every day you hear reports of the destruction and loss of lives in the war. Your weapon is approaching completion. What are you thinking about? What hopes, concerns, or fears are you feeling?
2. Alternatively, imagine that you are a pilot in the US Air Force. You have seen and heard about the destruction and the loss of lives during an ongoing war. You are ordered to drop a "special" weapon on a city in the country with which you are fighting. What are you thinking about? What hopes, concerns, and fears are you feeling?

4



Photo: Los Alamos National Laboratory

The Trinity Explosion, July, 1945

TEACHER INTRODUCTION

In *No More Hiroshima*, we will hear the stories of two “hibakusha” (survivors of the atomic bomb) and how the bombing of Hiroshima affected their lives. Today, we are going to explore the same event — the dropping of the atomic bomb — from other points of view.

AFTER VIEWING

A. *Point of view*

Students again address the questions raised in the pre-viewing activity, this time from the point of view of Philip Morrison or Paul Tibbets. Students answer the question: Have your views changed? If so, how?

B. In order to understand other people’s point of view, you may need to ask them for more information. Compile a list of questions that you would like to ask either Philip Morrison or Paul Tibbets.

C. List other sources of information that you could use to better understand the decision to drop the bombs on Hiroshima and Nagasaki, and its consequences.

D. Do library research to determine the difference between the atomic bombs invented in 1945 and the hydrogen bombs developed in the 1950s. Hint: One kind of bomb uses fission as a source of energy, the other uses fusion.

E. Do library research to determine how many atomic bombs were produced each year between 1945 and the present. Plot this information on a graph showing the number of bombs on the X axis and the calendar years on the Y axis.



No More Hiroshima

*This is an excerpt from No More Hibakusha!, directed by Martin Duckworth, originally produced by Jacques Vallée for the National Film Board of Canada, 1983.
Length: 15:25*

SYNOPSIS

This short documentary tells the stories of two hibakusha. A man who was five years old when the bomb fell recalls the deaths of several members of his family. A young woman, the daughter of an hibakusha, describes her mother's experience and discusses the fear of genetic damage in her generation and the stigma attached to "second generation hibakusha" in Japanese society. The program ends with the man's description of his decision to speak publicly about his experience in order to help prevent a future war.

GLOSSARY

Hibakusha (he bahk'sha): Survivors of the atomic bombing of Hiroshima and Nagasaki in August, 1945, and their descendents.

Hypocentre: Area directly beneath the atomic blast.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

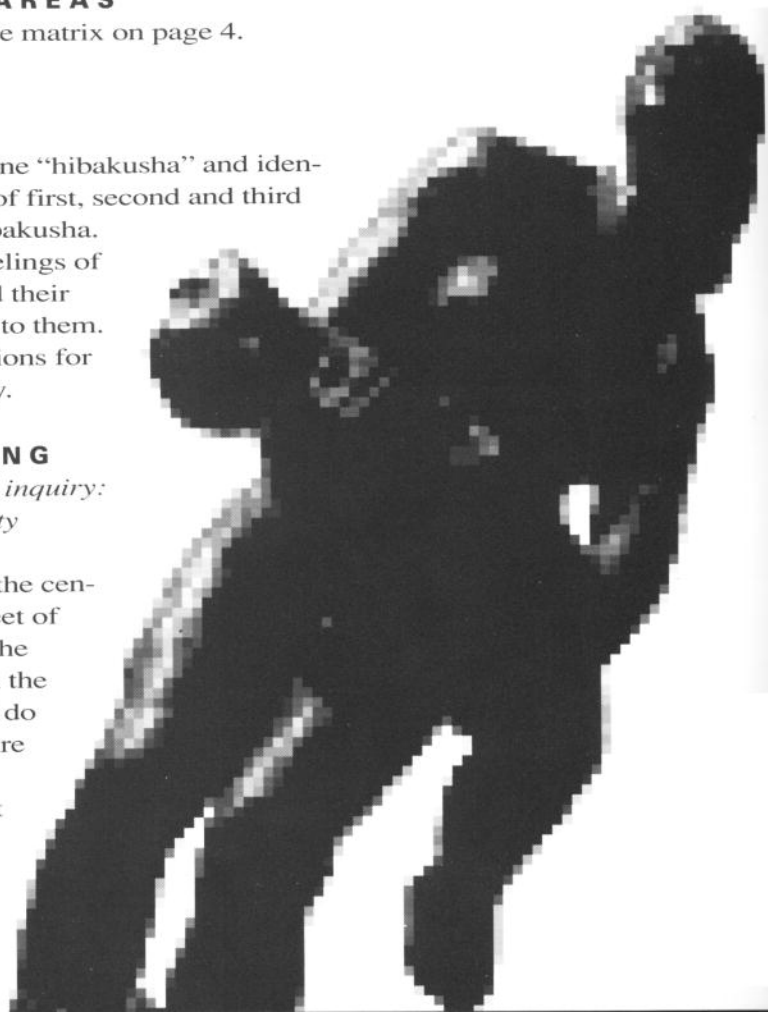
Students will:

- be able to define "hibakusha" and identify concerns of first, second and third generation hibakusha.
- discuss the feelings of hibakusha and their own response to them.
- identify questions for further inquiry.

BEFORE VIEWING

*Student directed inquiry:
clustering activity*

Write the word "Hiroshima" in the centre of a large sheet of paper covering the chalkboard. Ask the students: "What do you know for sure about Hiroshima?" Student responses are recorded in a cluster chart.





Ask the students: “What do you think might be true about Hiroshima but you’re not absolutely certain of?” Using a different colour of ink, add these responses to the cluster chart. As questions emerge, list them on a separate sheet.

TEACHER INTRODUCTION

Suggested statement: Many people of all ages have had nightmares about the possibility of a nuclear war. For one group of people, the Japanese who lived in Hiroshima and Nagasaki in August, 1945, that nightmare was a reality. This program looks at the stories of a man who was five years old at the time of the bombing, and a young woman whose mother survived. After viewing the video, you will be given time to reflect on it in your journals.

AFTER VIEWING

A. Journal activity

Students reflect on the video in their journal. Some people may wish to write, others may choose to draw. (If the students appear blocked, suggest that they try clustering any single words, short phrases or images that come to mind.)

B. Discussion

1. Discuss journal responses.
2. If the discussion does not address the following questions, be sure to address them with the students.
 - Which person’s experience was the most difficult or disturbing for you to hear? Why?
 - What did the young woman mean when she said, “I am contaminated”?
 - What prevented the man from talking about his experiences for so long?
 - What messages do the hibakusha leave us with?
3. List questions arising from the viewing. Consult the list of programs in the anthology to see which might contain answers to the questions. Retain the list during future screenings to see if the answers are found. Answers may also be pursued through groups discussions or individual projects.

C. Student-directed inquiry (follow-up on clustering activity)

New information obtained from the program is added to the cluster chart. Additional information may be added during the following days or weeks as students conduct research or raise further questions.

D. Alternate activities

1. Students choose one of the three questions listed in the above discussion for further reflective writing.
2. Write a letter to a survivor or survivors.
3. Write letters to an organization that works with hibakusha, in Canada, the USA or Japan. For information write to: Nagasaki Appeal Committee, 302 Haraki-cho, Nagasaki, Japan.
4. Students can collect magazine pictures to create a collage about

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feelings related to war and peace.

5. Read *Sadako and the Thousand Paper Cranes*, by Emily Coerr or *Hiroshima*, by John Hersey.

6. Research one of the following radiation topics:

- radiation is all around us
- beneficial uses of radiation
- biological effects of radiation

7. Point of view activity: Take the position of one of the survivors, write a poem or a narrative to describe your feelings.

8. Send paper cranes to the Hiroshima folded cranes club.

Children from around the world can send folded paper cranes to the Hiroshima Peace Park where they will be placed at the foot of the monument dedicated to children who died in the bombing. The tradition was started in 1958 by Ichiro Kawamoto, a labourer who carried childrens' bodies from the ruins. Contact Mr. Kawamoto at 730 Hiroshima Minami-Ku, Matoba 2-6-4, Kunimitu Biru 303, Hiroshima, Orizurunokai, Japan.

6

Canada's Nuclear Technology

This program is an edited version of Canada's Nuclear Edge, produced by Atomic Energy of Canada Ltd, 1984.

Narrator: Lorne Greene

Length: 12:11

SYNOPSIS

This AECL-produced documentary provides an introduction to the basic elements of a nuclear power station. Nuclear power plants produce electricity by using the heat released in the fission of uranium. Nuclear reactors developed in Canada — the CANDU system — are used around the world. While no means has yet been found to dispose of nuclear wastes, the nuclear industry is actively searching for ways to store it underground. The use of radioactive isotopes in nuclear medicine is illustrated.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- be able to identify the peaceful uses of nuclear technology.
- compare and contrast nuclear power with other forms of power generation.

BEFORE VIEWING

A. Anticipation guide

It is important to create a "safe climate" for discussion for this exercise. It is also important that the teacher does not volunteer a personal opinion.

1. Present students with the following guide:

YOU	VIDEO	STATEMENT
		<i>Nuclear power plants are always safe.</i>
		<i>Canada has not played a large role in developing nuclear technology.</i>
		<i>Exposure to radiation is always very dangerous to you.</i>
		<i>Nuclear waste, or nuclear garbage, is easily disposed of.</i>

2. Read each statement aloud and instruct students to record their agreement or disagreement on the guide.
3. Take a poll of agreements/disagreements for each statement.

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4. Students support their opinions in discussion by providing evidence and examples.
5. Tell students that the discussion will continue after viewing the program.

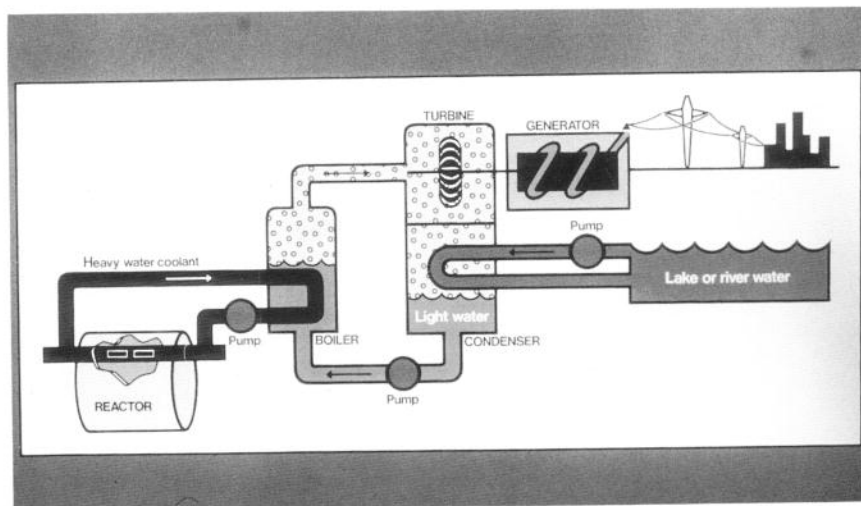
B. Clustering activity

This may be done individually, in small groups, or as a class.

1. Tell students to cluster one or more of the following terms: nuclear energy, nuclear power, or sources of energy.
2. Tell students they will return to this activity after watching the program.

TEACHER INTRODUCTION

Suggested statement: Our investigation of nuclear technology to this point has been primarily concerned with its application to weapons production. This program looks at two different kinds of uses for nuclear technology – in generating electricity and in medicine.



AFTER VIEWING

A. Anticipation guide

1. Students record the opinions expressed on the program.
2. Take another poll, this time asking students if they believe the program agreed or disagreed with each statement.
3. Students support their interpretations with evidence and examples. It is important that the teacher does not volunteer a personal opinion.
4. Discuss similarities and differences in opinions expressed in the program and those expressed by students before and after viewing.

B. Clustering activity

1. Discuss any changes or additions that students would like to make to the cluster(s).
2. Alternatively, have students create a cluster diagram around a key concept that they feel strongly about.
3. Have students write about the subject.

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C. Concept mapping

Have the students make a map or chart showing information about nuclear technology that was learned from the program. Incorporate words, ideas and information from the previewing discussion.

D. Research activity

1. Do library research on one of the following energy alternatives: biomass, wind, water, hydroelectric, solar, tidal, geothermal, nuclear, or fossil fuel. Describe the energy source according to the following categories: resource used, benefits, limitations, or dangers.
2. How is uranium used in the production of nuclear power? Where is uranium found? How is it mined? Is it considered a "safe" element? What precautions are taken in its handling?
3. Do a library research project on the nuclear accidents which took place at Chernobyl, USSR, and at Three Mile Island, USA. What safety systems are found in nuclear power plants? What are their limitations?
4. Describe the short and long term environmental effects of a nuclear power plant meltdown.
5. Investigate how nuclear power and nuclear products are used in industrial, medical and military applications, or in food and drug processing.
6. Investigate how nuclear waste is currently disposed of, and what methods are being developed. Describe the effect of nuclear wastes on the environment.
7. Trace a world map and identify which countries have nuclear power plants, and how many are in operation.

ADDITIONAL RESOURCES

Public information on atomic energy

Atomic Energy of Canada Limited, Public Affairs, 275 Slater St. Ottawa, Ontario K1A 0S4. Information and speakers are available.

American Nuclear Society, 555 North Kensington Ave., La Grande Park, Illinois 60525 publishes *Energy From the Atom*, an orderly presentation of atomic theory at the elementary level. Available on loan.

Films & videos

Consult your teacher-librarian, district media centre, or the distributor:

Energy: The Nuclear Alternative (revised) 22 min., 1980. Audience level: intermediate, secondary. Gordon Watt Films, 3241 Kennedy Rd #3, Scarborough, Ontario M1V 2J8. American scientists and citizens debate with the nuclear industry in an exploration of reactor safety, hazardous materials, and waste disposal.

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Fusion, the Energy Promise 50 min., 1974. Audience level: secondary. BBC Films, Cinevillage, 65 Heward Avenue, Suite 111, Toronto, Ontario M4M 2T5. This program compares fission and fusion processes and traces the development of reactors from the first fission models.

The Nature of Matter – An Atomic View 23 min., 1973. Audience level: secondary. McGraw-Hill Films, 330 Progress Ave, Scarborough, Ontario M1P 2Z5. This program provides an introduction to basic atomic theory with models, computer simulations, and bubble chambers.

The Nuclear Path 24 min, 1985. Audience level: secondary. Canadian Filmmakers Distribution West, 100-1131 Howe St., Vancouver, B.C. V6Z 2L7. Dr. David Suzuki narrates this critical examination of the movement of uranium from mine to reactor and from weapons production to waste.

(n=337)	Nothing	Very Little	Quite A Bit	A Lot	Missing	
How much have you learned about nuclear issues in school?	18	57	22	3	0	
How much do you think you should be learning?	5	12	55	28	1	
	Home	School	Church	By Myself	Nowhere	Other
Where would you like to be able to talk and learn about nuclear war?	43	63	5	20	10	6

WHAT WOULD YOU LIKE TO LEARN MORE ABOUT? (n=331)	
% OF EJQ	RESPONSE
59	The effects of nuclear war
54	Nuclear weapons
40	Nuclear power
36	USA and the Soviet Union
34	Nuclear technology
34	How students are responding to the nuclear threat
30	Canada and the arms race
28	U.N.'s disarmament plan
28	Trudeau's peace plan
25	How adults are responding to the nuclear threat
7	Other

Source:

An extract from Susan Hargraves, "Psychological Impact of Nuclear Developments on Youth: A Local Study." Unpublished M.A. Thesis, Faculty of Education, Simon Fraser University, Burnaby, B.C. 1984, p.139-40.



Push Button Weapons

This program combines a CBC current affairs report with an excerpt from Notes on Nuclear War, produced by the National Film Board of Canada, 1983.

Length: 13:14

Reporters: Joe Schlesinger and Gwynne Dyer

SYNOPSIS

CBC reporter Joe Schlesinger visits an arms bazaar in Washington, D.C., for a look at the "push button" technology used by arms manufacturers and the soft-sell techniques they use to promote new weapons. A visit to an American missile silo during a monthly practice session shows how ordinary soldiers, sitting in armchairs, would push the buttons that would launch World War III.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- understand how new weapons systems are created and distributed.
- understand the steps required to launch a nuclear missile.
- understand possible weapons technology of the future and their impact on future wars.
- refine information on the application of modern technology to the design of weapons.
- identify the techniques used to sell weapons.
- demonstrate an understanding of how a person's role influences his or her point of view.

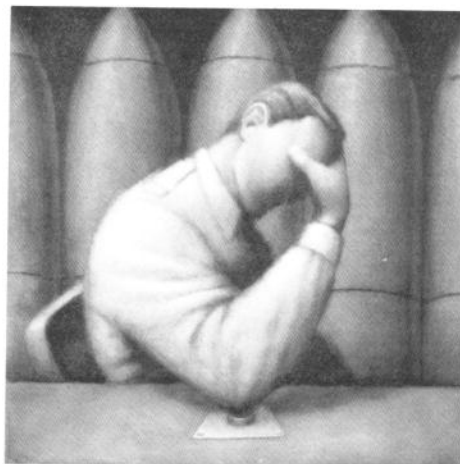


Illustration: Dave Shannon

BEFORE VIEWING

- A. Have students imagine how military personnel are introduced to new weapons technology.
- B. Have students speculate on the steps that would be taken to launch a nuclear missile.

TEACHER INTRODUCTION

Suggested statement: Changing technology has completely changed the way that wars are fought today, compared with a few years ago. In a previous

program, *The Road to Total War*, we looked at technological changes from the time of Napoleon to the end of World War II. In this program, called *Push Button Weapons*, we will look at the weapons produced by modern technology, and how they have changed the way that modern wars are fought.



AFTER VIEWING

A. Return to the retrieval chart that was begun with the program *The Road to Total War*. Revise and extend the category dealing with current weapons. Compare and contrast student speculations about future technology and its impact on warfare.

B. Journal writing

1. Readdress the question: Is all available technology used in all wars? Do you think it will be in the future? Explain.
2. Do modern weapons "take the sting of blood and death out of war"? Comment.
3. If video simulators – something like video games – are used to train pilots, how will this affect the pilot in real situations? Support your answer.

C. What techniques do the arms manufacturers use to interest their audiences at the sales convention? Compare this to the marketing of other products like soap, pop, etc. Comment on the appropriateness of these marketing strategies.

D. Point of view

1. Take the position of a pilot sent to the arms bazaar to study the latest technology. What are you thinking about? What hopes, concerns, or fears are you feeling?
2. You are a salesperson working at the arms bazaar representing a company which has just developed a new kind of missile. What are you thinking about? What hopes, concerns, or fears are you feeling?

E. Refer to your speculation on how a missile is launched. Using new information from the program, supplemented with library research, describe the major parts of a nuclear missile. How is it launched? What are the chemical and mechanical components of a missile?

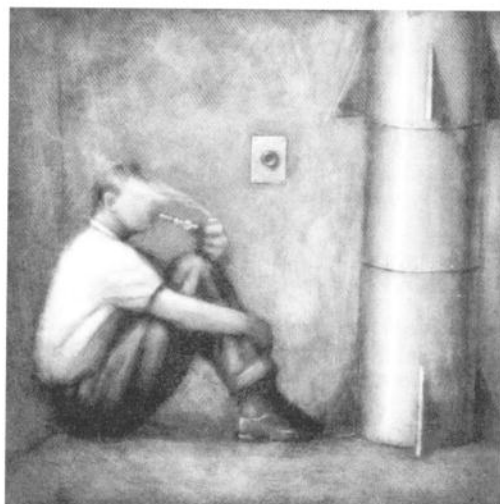


Illustration: Dave Shannon

8

How a Nuclear War Might Start

This program is an excerpt from Keeping the Old Game Alive, produced and directed by Douglas Kiefer for the National Film Board of Canada, 1983.

Narrator: Gwynne Dyer

Length: 13:45

SYNOPSIS

The border between East and West Germany is identified as a zone of possible confrontation between East and West, between NATO and Warsaw Pact troops. Using footage of war exercises by both sides, Dyer shows how a confrontation which began as a "conventional" war is likely to escalate by stages into a nuclear war.

CURRICULUM AREAS

Please refer to the matrix on page 4.

GLOSSARY

Conventional war: War fought without use of nuclear, biological or chemical weapons.

Chemical warfare: The use of highly potent, toxic chemicals against enemy soldiers or civilian populations. May be delivered by bombs, shells, missiles, etc.

Intermediate weapons: In this program refers to chemical weapons which are a step short of nuclear weapons.

Nuclear weapons: Nuclear charges delivered by bomb, missile or shell, exploded on or above the ground. Destructive power varies from the equivalent to a few kilotons of TNT to a few megatons.

NATO: The North Atlantic Treaty Organization, formed in 1949. Its members are Belgium, Canada, Denmark, France, West Germany, Greece, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Turkey, United Kingdom, and the United States.

Warsaw Pact: Formed in 1953, its members are Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Romania, and the Soviet Union.

Cold War: The ideological and economic conflict between the superpowers and their respective allies. Usually dated from 1946.

OBJECTIVES

Students will be able to:

- demonstrate an understanding of the terms used in the glossary.
- construct a sequence of the stages in a possible escalation from conventional to nuclear war.
- compare costs of conventional weapons and costs of meeting basic human needs.

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BEFORE VIEWING

A. List terms in the glossary and have the students define them from their own knowledge. Refine and complete while watching the program.

B. Make a guess at the cost of each of the following: a modern tank, a modern jet fighter. Revise estimates while watching the program.

C. Do you think that a nuclear war is likely to happen? If so, how might it start? If not, why not?

D. Locate the border between East and West Germany on a map, and identify the Eastern and Western bloc countries. Label them as members of the NATO and Warsaw Pact military alliances.

TEACHER INTRODUCTION

Suggested statement: If the two superpowers, the United States and the Soviet Union, ever get into a war with each other, it probably won't be a nuclear war — at least at first. But many military experts believe that if such a war starts, it is likely to escalate, step by step, from conventional war to nuclear war, over a very short time. This program, called *How a Nuclear War Might Start*, takes us to Germany where the two superpowers have troops, tanks and airplanes ready to go to war at a moment's notice.

AFTER VIEWING

A. Have students create a concept map or chart showing the steps leading from an initial confrontation to an all-out nuclear war. Instruct students that there is no right way to complete this assignment. The only requirement is that they represent in some way what they feel are the essential

steps in the escalation of the warfare. The map or chart can be made using words, pictures, phrases, etc. View the program again if necessary. After completion, students should explain their maps or charts to the class.

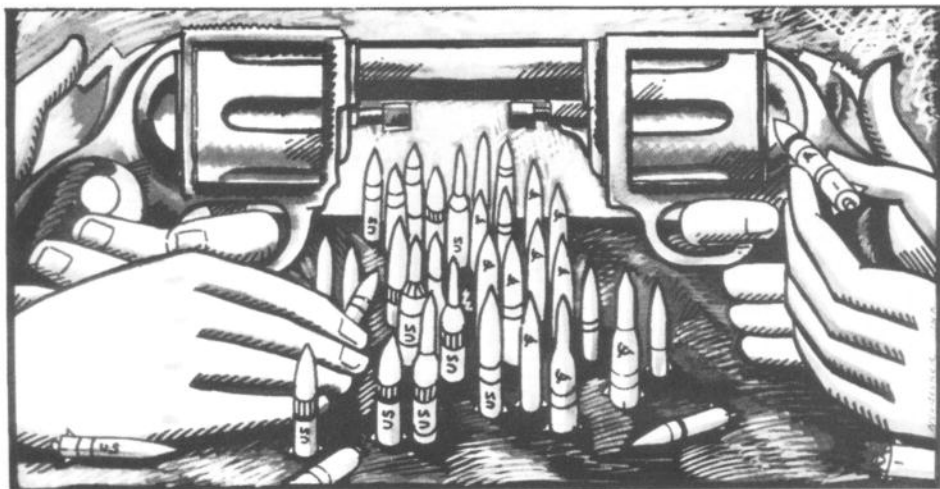


Illustration: Robert Neubecker

B. Discuss the cost of weapons versus the cost of meeting other needs. (This is an extension of the discussion begun in another program in the anthology, *Guns or Shoes*.) Determine the cost of tanks and jets, and compare it to the cost of providing, for example, safe drinking water to people in Mozambique. If one hand

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pump costs \$150, how many could be obtained for the price of one tank (\$3 million) or one fighter plane (\$23 million)?

Answer: About 20,000 per tank, 153,333 per fighter plane. Another comparison can be made between the cost of one aircraft carrier at \$3.9 billion, which equals the cost of feeding 20 million people one full meal a day for six months. Students may choose to represent the above comparisons visually, using, for example, a drawing of a tank beside a drawing of twenty buckets, each representing a thousand water pumps.

C. Have students write a narrative describing how a conventional war might lead to a nuclear war.

D. Have the students define chemical warfare.

E. Research the history of chemical warfare and the different kinds of weapons used in chemical warfare.

THE END OF THE COLD WAR?

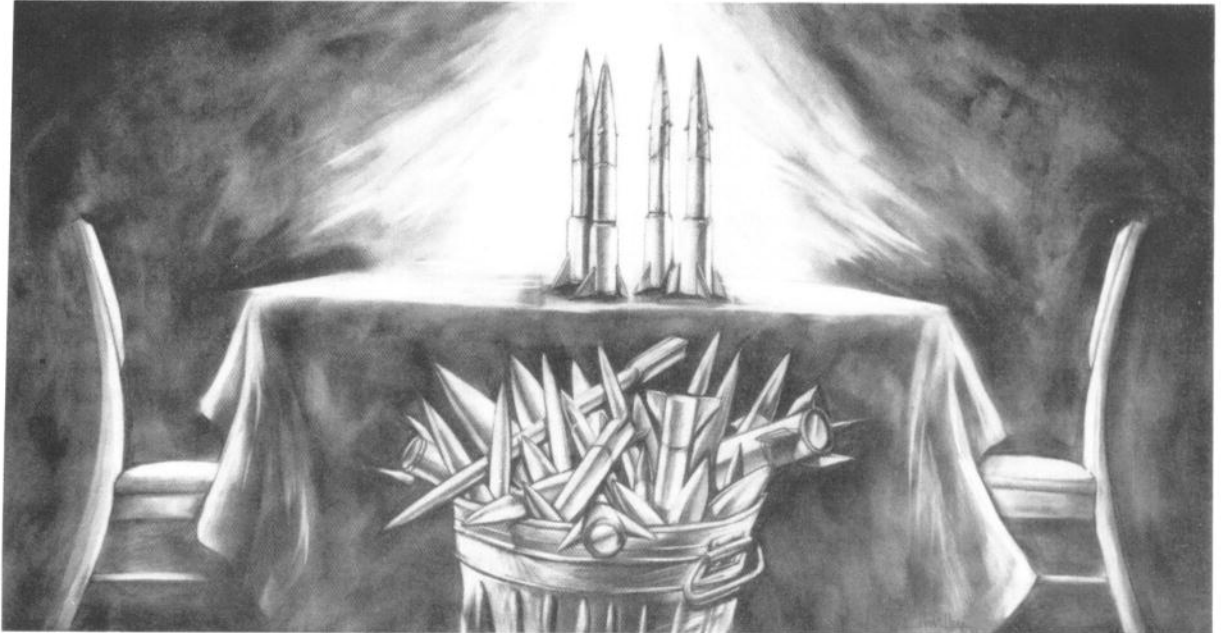


Illustration: Minh Uong

At the end of the 1980s, arms control negotiations began to reduce the stockpile of strategic and tactical nuclear weapons. The estimated total of 50,000 used in this series includes reductions to intermediate range weapons in Europe. Further cuts in nuclear and conventional weapons were pending which would reduce the threat of conflict in Europe. Teachers may wish to discuss the current situation with students. Have the risks portrayed in this program been reduced? How? What are the current stockpiles of nuclear weapons? Is there still a risk of nuclear war? Where does that threat come from today?

9

The End of War: Nuclear Winter

*This program is an excerpt from The Final Chapter
Produced by TV Ontario & NHK (Japan).
Narrator: Christopher Plummer
Length: 16:37*

SYNOPSIS

Scientists from the USA and the USSR join in warning the world that the explosion of even a small percentage of the world's nuclear stockpile will release massive quantities of soot and dust into the atmosphere, blocking the sunlight and plunging the world into nuclear winter. Models and simulations show the progress of nuclear winter over a period of weeks, as it extends from the northern to the southern hemisphere, destroying the world's ecosystem and eliminating most species, including humans.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- demonstrate an understanding of the sequence of events leading to nuclear winter.
- be able to explain the cause and consequences of nuclear winter.

BEFORE VIEWING

A. Anticipation guide

Note that it is important to create a "safe climate" for this exercise, and for the teacher not to volunteer a personal opinion at this time.

1. Present students with the following guide:

YOU	VIDEO	STATEMENT
		<i>A nuclear winter would happen only where a nuclear bomb is dropped.</i>
		<i>The cause of nuclear winter is radiation.</i>
		<i>Only North Americans need be worried about nuclear winter.</i>
		<i>For nuclear winter to occur, more than 10% of the nuclear warheads in the world have to be exploded.</i>

2. Read each statement aloud and instruct students to record their agreement or disagreement in the "You" column.

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3. Take a poll of agreements/disagreements for each statement.
4. Students will then support their opinions in group discussion by providing evidence and examples.
5. Tell students the discussion will continue after the viewing.

TEACHER INTRODUCTION

Suggested statement: Scientists from all countries are concerned about what would happen to the planet following a nuclear war. In addition to the millions of people who would be killed, scientists from both the United States and the Soviet Union now believe that a nuclear war would also set off a nuclear winter. This program uses models and simulations to explain what nuclear winter is and why it will happen.

AFTER VIEWING

A. General discussion and questions.

Was there anything in the video that surprised you?

B. Anticipation guide (continued)

1. Have students record the opinions expressed in the program.
2. Take another poll, this time asking students whether they think the program agreed or disagreed with each statement.
3. Have students support their interpretations with evidence and examples. The teacher's opinion may be useful here to demonstrate interest and concern. Teachers should be careful, however, not to bias the discussion.
4. Discuss similarities and differences in opinions expressed in the program and those expressed by students before viewing the program.

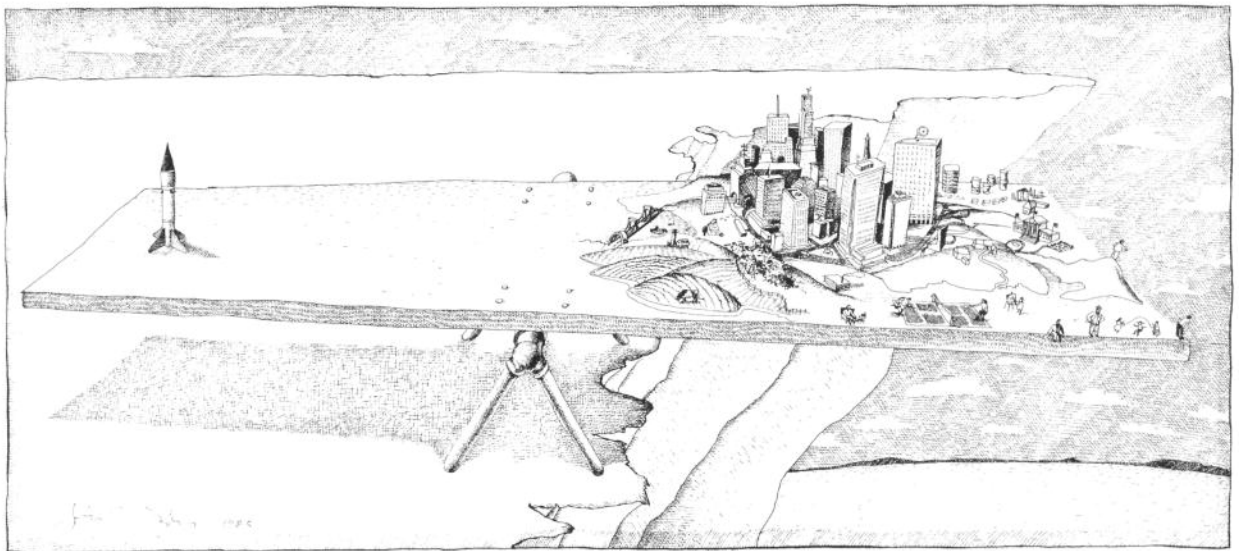


Illustration: John Dykes

C. Sequence map

Make a sequence map demonstrating the effects of nuclear winter at regular intervals (e.g., day 1, day 5, day 10, etc.). Students may wish to review the computer map section in the program to gather words, ideas, images and bits of information.

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D. Journal activity

The program states the following: Politicians have failed to put an end to the nuclear arms race. If the nuclear arms race is to be stopped, it will be when we want it to be stopped. We are all responsible for making sure the third – and last – war never happens. Comment in your journal on this statement with supporting reasons.

E. Environmental scenarios

1. In a total nuclear war, it is believed that some 2.5 billion tons of smoke would be created by fire and blast. Of this, 200 million tons would be pushed beyond the troposphere, into the stratosphere. If this happened, do you agree that the climate of the earth would be severely affected? Develop a scenario which shows what would happen to the earth over time. Include a time frame, a description of the severity of the effects, and the impact on different parts of the planet. Is there a possibility of nuclear war triggering a new ice age?
2. Draw contrasting diagrams showing the earth's cloud cover formations before and after a nuclear war, or make a 3-dimensional model showing the same information.



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The International Peace Movement

This program combines television news footage with excerpts from the National Film Board productions Speaking Our Peace, and Mile Zero. Producer: The National Film Board, 1989. Length: 10:52

SYNOPSIS

This program provides an overview of the protests against nuclear arms and the arms race in the 1980s, with examples of major demonstrations in Bonn, Amsterdam, London, Vancouver, and New York. Demonstrators are also shown and interviewed outside an American nuclear missile base at Greenham Common, England and Litton Industries near Toronto. Former Ottawa Mayor, Marion Dewar, comments on the influence of demonstrations on politicians.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- describe the ways in which citizens make their voices heard on controversial issues.
- compare and contrast actions on a current issue with the actions of peace activists shown in the program.

BEFORE VIEWING

Cluster chart: The teacher will pick a controversial issue (e.g., an environmental or legal issue) and ask the class to make a cluster chart of ways people have used to draw attention to their views.

TEACHER INTRODUCTION

Suggested statement: In an earlier program, we heard the stories of two people affected by the bombing of Hiroshima. In this program, we see what they and other people who share their concerns are doing in the 1980s to work toward peace.

AFTER VIEWING

A. Key words and key concepts

1. Explain that this is a co-operative activity where everyone works toward helping the group complete the task as quickly as possible.
2. Write each of the following names and descriptions on separate 3 x 5 cards. The object will be to match up names and descriptions.

Buddhists

- initiated drive for peace in London, England.

Residents of Amsterdam and Bonn

- marched for peace in Europe.

Vancouver residents

- marched to "End the Arms Race."



Photo: Gary Marcuse



Sheila Cooper

- wants to set people's agenda for disarmament.
- is trying to set date for arms reduction.
- is working toward establishing a nuclear free zone.

British Police

- protect the missile base from protestors – protecting 32 nuclear missiles.

Women at Greenham Common

- climbed barbed wire fence.
- entered military base.

Helen Johns

- is a mother of five.
- marched for 10 days.
- chained herself to fence.

Commander of Greenham Common

- said demonstrators could stay as long as they liked.
- helped create an international symbol of peace.

Sheila MacVicar

- reported for the media at the demonstration by women outside Litton Industries.

Women outside Litton

- want Litton to set up alternatives to producing military weapons.
- are drawing attention to fact you don't need weapons to have jobs.
- were arrested by RCMP for trespassing.
- want company to stop production of missile guidance system.

Litton worker

- constructs guidance system for Cruise missile (at time of demonstration).

Marion Dewar

- is Mayor of Ottawa (at time of interview).
- wrote 4000 letters supporting a ban on the production of nuclear weapons.
- respects activities of protesters.

Japanese protesters at New York Rally

- are victims of bombing of Hiroshima.
- travelled to the USA to protest against nuclear weapons.
- made paper cranes, a Japanese symbol of peace.

3. Distribute one card to each student.

4. Students look for a match between people and their actions.

5. Students report back to group orally (e.g., I am Helen Johns, the mother of five, I marched for 10 days, and chained myself to a fence).

B. Journal writing

Students address the question: "Who is responsible for peace?"



C. Alternate activity: Current events/Compare and contrast

Pick a current controversial issue (environmental, social, political).

Compare and contrast methods used to rally support for this issue with methods shown in the video.

TABLE 1 — COMPARISON OF CHILDREN'S PREDICTIONS OF FUTURE.

Do you think a nuclear war between the USA and USSR will happen in your lifetime?

	USSR	USA	Sweden	Canada
YES	11.8%	38.4%	26%	67%
NO	54.5%	16.9%	26%	30%
UNCERTAIN	33.7%	44.8%	48%	3%

If there were a nuclear war, do you think that you and your family would survive?

	USSR	USA	Sweden	Canada
YES	2.9%	16.4%	6%	4%
NO	80.7%	41.3%	68%	72%
UNCERTAIN	16.4%	40.8%	26%	24%

If there were a nuclear war, do you think that the USA (Canada) and the USSR would survive it?

	USSR	USA	Sweden	Canada
YES	6.1%	21.9%	13%	2%
NO	78.9%	37.8%	64%	79%
UNCERTAIN	15.0%	39.7%	23%	19%

Do you think nuclear war between the USA and the USSR can be prevented? (Canadian children were not asked this question.)

	USSR	USA	Sweden
YES	93.3%	65.2%	45%
NO	2.9%	14.5%	32%
UNCERTAIN	3.9%	19.9%	23%

Sources:

1. Holmborg PO, Bergstroem A: *How Swedish Teenagers, Aged 13-15, Think and Feel Concerning the Nuclear Threat*. Paper delivered at IPPNW Conference, Helsinki, 1984.
2. Hargraves S: *Local Findings on Children's Anxieties*. Presentation at British Columbia Teachers' Conference, Vancouver, B.C., 1984.
3. Johnston L, Backman J, O'Malley P: *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors*. Ann Arbor, Mich., Institute for Social Research (annual volumes), 1975-1983.
4. Chivian E, Goodman J: *What Soviet Children Are Saying About Nuclear War*. IPPNW Report 1984; Winter: 10-12.



Guns or Shoes



Photo: Kirk Tougas

This program is an excerpt from The Journey, a fourteen-hour program containing a wealth of material on nuclear and global education issues. See the Resources Appendix for details.

Producer: Films for Peace Ltd, The Swedish Peace and Arbitration Society, 1987.

Director: Peter Watkins

Length: 12:16

SYNOPSIS

Women working on a small farming co-operative in Mozambique describe their impoverished existence on a farm that once belonged to Portuguese colonialists. Life on the co-op goes on in the face of acute shortages of everyday necessities like soap, shoes, and implements. Shortages are attributed in large part to military expenditures by the government defending the countryside from attacks by the South African-supported Mozambique National Resistance (MNR), also known by its Portuguese acronym, Renamo (Resistência Nacional Moçambicana).

BACKGROUND

Mozambique has a population of fifteen million and is about twice the size of California. A former colony of Portugal, Mozambique won its independence in 1975. Attacks by the MNR began in 1976 and intensified after 1981. MNR targets include hospitals and relief workers. More than 2000 schools have been destroyed and, as of 1985, 125 teachers were reported dead or missing. By 1988, more than 600,000 Mozambicans had died, 2 million had been driven from their homes and 6 million faced food shortages. The infant mortality rate approaches 375 per 1000 live births. In 1988 a senior official in the USA State Department accused the MNR of perpetuating "one of the most brutal holocausts against ordinary human beings since World War II." Source: William Finnegan, A Reporter at Large, "Mozambique 1 & 2," *New Yorker*, 22, 29 May 1989.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- be able to describe the relationship between poverty and military defense in Mozambique.
- be able to use reasons to support military or social expenditures.
- estimate and identify per capita spending for military and social programs in selected countries.

BEFORE VIEWING

- Locate Mozambique on a map.
- Identify the "front line states" (bordering on South Africa) and discuss the meaning of the expression.



TEACHER INTRODUCTION

Suggested statement: Every minute, millions of dollars are spent buying weapons and training soldiers in nearly every country in the world — and not all of that money goes to pay for nuclear weapons. Even the poorest countries have armies which they use to invade their neighbours, or defend themselves from invasions. National defense is so important to these countries that they will often sacrifice health and education programs to maintain the military. In Mozambique, for example, the government spends 20 dollars per year per person on the military. It spends just 3 dollars a year on health in a country where malnutrition, disease, and a lack of drinking water are constant problems. Also, there are very few doctors. In Canada, there is one doctor for every 508 people. In Mozambique, there is only one doctor per 34,449 people. Big military budgets mean less money for everyday needs. In poor countries, that can mean choosing between guns for the army or shoes for the children. In this program, we will look at the poverty caused by a continuing war in Mozambique.

Make this statistic relevant for your school by calculating how many schools your size would be served by one doctor; divide your school population into 34,449. The source for statistics in this section: Ruth Leger Sivard, *World Military and Social Expenditures*, 1987-88, World Priorities, Box 25140, Washington D.C. 20007.

A note: The images in this program are not ones of starvation, and the villagers appear adequately dressed, leading some viewers to question their claims of poverty. Have the images of starving people in the Sudan affected our perceptions of Africa? You may wish to discuss this question with the students. It is quite likely that the villagers wore their best clothing for the cameras. Why would they do this? What evidence of their conditions is given in the program? Is it credible?

AFTER VIEWING

A. Point of view, role play

Role-playing scenario:

Canada and several other countries have decided to assist the “front line states” which border on South Africa, including Mozambique. Canada sends Mozambique money to be used to protect Canadian aid projects against the attacks of the MNR. This money frees up a small amount of money (\$50,000) that the government had set aside for the same purpose. Now the government of Mozambique must decide whether to use these funds for domestic spending or other military expenditures. The civilian government is trying to decide on the priorities. The farmers on the co-operative hear that some money may now be available. They elect a delegation to go to the capital with a list of their needs. Meanwhile, the government’s military advisors are convinced that the funds should be spent for defense. Everyone converges on the office of the minister in charge to negotiate for a share of the funds.

1/2

The Big Snit

Producers: Richard Condie, Michael Scott, National Film Board, 1985.

Director: Richard Condie

Length: 10:27

SYNOPSIS

Two animated characters are preoccupied by a domestic squabble and a scrabble game while nuclear war breaks out outside their door. This program contains off-the-wall humour.

CURRICULUM AREAS

Please refer to the matrix on page 4.

OBJECTIVES

Students will:

- identify reasons why some subjects are difficult to discuss.
- describe their feelings about nuclear war.
- list questions that they have about nuclear war.
- use resource materials to answer their questions.
- reflect on knowledge gained from discussions about the nuclear age.

TEACHER INTRODUCTION (to the Activities)

Suggested statement: Sometimes we get so wrapped up in our own small problems that we don't see the bigger problems around us. Sometimes we avoid talking or even thinking about issues that are very important to us. Today we are going to explore how, and why this happens.

BEFORE VIEWING

A. Journal writing, point of view

Address the question: Can we talk about this? Then ask students to finish the following sentence, "Some people avoid thinking about _____ because _____."

B. Discussion in small groups

Address the questions: What is it about these subjects that makes people want to avoid them? Are certain groups of people (parents, teachers, young people) more evasive than others? How does avoiding issues help? How could it hurt?

TEACHER INTRODUCTION (to the Animation)

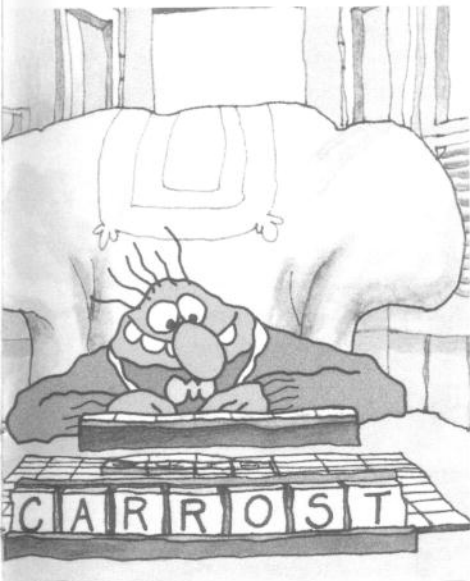
Tell students to view the animation with the previous discussion in mind, and to observe what it is that the characters are avoiding, or missing, and why.

AFTER VIEWING

A. Discussion, journal writing

1. Small group discussion

After establishing co-operative learning guidelines in groups (group members share responsibility for themselves and for the participation of each member of the group), assign the following questions:



Richard Condie



- a. Two stories are told in this animation. What are they?
- b. At what point do they meet?
- c. Would it have been possible to keep these stories entirely separate? Explain.
- d. How believable is it that anyone could be so unaware of their surroundings?
- e. In your experience, are people doing this with the nuclear issue? Why or why not?
- f. Do you ever avoid dealing with this issue? Why, or why not? What might make it easier to talk about?
- g. If you could put these concerns aside, what questions would you ask?

Students will discuss the questions in small groups, record their answers in their journals, and then join in a large group discussion.

2. Large group discussion

Review questions d,e,f. Through this discussion establish group guidelines for creating a comfortable climate in which to explore the issue of nuclear war.

B. Student-directed inquiry, clustering activity

If this activity was conducted as an introduction to the anthology, repeating it will reveal what students have learned. In that case, compare the charts and discuss the differences.

Write the phrase “nuclear war” in the centre of a large sheet of paper covering the blackboard. Ask the students: “What do you know for sure about nuclear war?” Student responses are recorded in a cluster chart. Ask the students: “What do you think might be true about nuclear war but you’re not absolutely certain of?” Using a different colour of ink, add these responses to the cluster chart. On a separate sheet, list the questions which emerge.

If a similar chart was made before viewing programs, as outlined in the introduction, ask the students to compare the charts. What new information and understandings came from the programs and the accompanying discussions?

C. Library research

Conduct library research to explore unanswered questions.

D. Alternative activity

Students might write an alternative ending or another scene for the animation. These scenarios could be sketched out on a storyboard, dramatized by role playing, or enacted by simple stick puppets.



Dealing with Controversial Issues in the Classroom

INTRODUCTION

Raising and discussing nuclear issues in the classroom poses some special problems for teachers. This appendix is designed to assist teachers by describing the values and objectives which were used in developing this anthology.

THE OVERALL OBJECTIVES OF THE ANTHOLOGY

Students will:

- identify and explore their feelings, thoughts and questions about nuclear war.
- compare their thoughts, feelings and questions with those of others.
- use decision-making skills to identify how to create change in the world around them.
- identify how others create change.
- describe and predict patterns in the relationship between technology and warfare.
- describe the interrelationship between military and social spending (in selected countries).
- outline benefits and limitations of nuclear energy when compared to other energy sources.
- describe the sequence of events in an escalation from conventional war to nuclear war, and its consequences.
- use point of view to demonstrate an understanding of multiple perspectives.
- describe and employ alternatives to violence or coercion in conflict situations.

THE TEACHING PROCESS

The pedagogy used in this anthology is designed to help educate students for social responsibility. The key elements of the teaching process are:

- an emphasis on the concept of social/environmental/global interdependence.
- a recognition of the importance of building a community within the classroom and the school, and an emphasis on developing decision-making skills within the context of a democratic classroom.
- an emphasis on giving students a voice and listening to their questions and concerns. This approach begins with what the students already know, and helps them to examine critically the sources of their information and the assumptions and biases inherent in those sources, and then moves on to questions the students raise.
- the inclusion of multiple perspectives.
- an emphasis on "dialogue" as an attitude as well as a skill, on seeking common ground, and on tolerating ambiguity and the uncertainty of knowledge.
- a recognition of the importance of forming and acting upon convictions and commitments, while staying open to new ideas and the possibility of being wrong.
- the inclusion of activities for information/ feeling/ and action, facilitating the integration of heart and mind.



A CRITICAL THINKING MODEL FOR TEACHING CONTEMPORARY ISSUES*

by Susan Hargraves

Susan Hargraves is a board member of Educators for Social Responsibility and one of the principal writers of the teachers' guide. She is currently the principal of Sundance School in Victoria, BC.

The following guidelines will help to achieve the objectives of the anthology.

1. Set a context of world-mindedness: "How do you want the world to be?" Help students develop a vision of what might be possible. Stress the importance of global interconnectedness.
2. Build on students' knowledge and questions, and follow their thinking. Four questions arise: What do you know? What do you think you know? What are the sources of your information? What questions do you have? Use journals, create an atmosphere of open-ended inquiry, give time for thinking, and allow time for connections.
3. Create a safe classroom environment in which students can share thoughts and feelings and feel free to make mistakes. Stop "put-downs" by talking about them; involve students in process; have students read each other's work; have class meetings to discuss how students are feeling; use student self-evaluations; stress the importance of building community; develop decision-making skills within the context of democratic classrooms.
4. Go into depth. Do not assume skills.
5. Teach from multiple perspectives and build dialogue skills. Help students tolerate ambiguity and uncertainty of knowledge. Teach dialogue as an attitude as well as a skill. (Others always have a part of the truth unseen by us...)
6. Discuss feelings. Be aware of the integration of "heart and mind"; be aware of the "despair-empowerment" curve.
7. Teach critical analysis and allow the hard questions to emerge. Adolescents are the critics at the dinner table; they see hypocrisy.
8. Teach conflict-resolution skills through direct instruction, classroom management, and the curriculum.
9. Provide students with opportunities for social contributions and involvement. Teach about participation; teach about individuals and organizations that make a difference; encourage democratic participation in the classroom and school. Provide opportunities to participate in the larger community by assigning students to make a difference in, for example, social service projects. Stress the importance of forming and acting on convictions and commitments while staying open to change and new ideas.

Questions for critical analysis:

1. How do we know what we know?
2. What are the biases in the way we are socialized and in what we are told?
3. What are the competing interests and powers?



4. What are the assumptions underlying the positions on an issue?
5. In whose interests are the solutions?
6. What are the systemic and structural sources of political and social problems?

* adapted from the writings of Shelly Berman and Gene Thompson.

A CHECKLIST FOR TEACHING CONTROVERSIAL ISSUES IN THE ELEMENTARY GRADES *

The goals are to help children to:

- ☐ understand vital current issues.
- ☐ see that there are many points of view on an issue.
- ☐ learn that adults may disagree on important issues, and that this can be healthy.
- ☐ learn how to grow mutually from differences of opinion.
- ☐ realize that there are not always simple and clear-cut answers to difficult questions.
- ☐ complicate their thinking.
- ☐ be in charge of the information they learn and the questions that get raised.
- ☐ learn to ask thoughtful questions about information.
- ☐ develop age-appropriate research skills.
- ☐ express their ideas clearly, in their own words.
- ☐ see that they learn better when they become active questioners rather than passive listeners.
- ☐ learn to listen actively to each other and to see that valuable information can come from kids as well as "authorities."
- ☐ take risks and feel okay about making mistakes.
- ☐ realize that we learn and grow through corrective feedback.
- ☐ learn to be supportive of each other's learning process.
- ☐ develop co-operative thinking skills.
- ☐ involve parents in the dialogue about current and controversial issues.
- ☐ understand that the parents are one (but not the only) source of opinions.
- ☐ develop organized thinking and note-taking skills.
- ☐ develop such critical-thinking skills as distinguishing fact from opinion, looking at supporting evidence, evaluating sources of information, and recognizing bias.
- ☐ gain the experience of competence: that they can find out answers to their questions.
- ☐ learn to respect each other: that they can learn from each other as well as adults.
- ☐ gain the experience of real respect: that their thoughts and opinions are valuable to others.
- ☐ learn to make the connections between thought and action and find appropriate ways to act to make the world a better place.
- ☐ experience power: that they can participate in age-appropriate ways and make a real contribution.



PICTURE OF PEACE

by Lori Bloomfield

On a mountain
far above the earth
I had a vision
vivid
just beyond my reach.
It was the picture of peace
a moment clear
with edges
only slightly blurred.
Privileged I felt,
for men greater than I
had pondered for years
the question of peace
and I,
alone on my mountain,
for reasons unknown
was shown the answer.
It came suddenly,
with no warning at all
a bolt of lightening
crashing through the earth.
I watched with interest,
the border all disappeared
and countries once divided
melted into one.
Mere seconds passed before
the silence began.
I could no longer hear
the sounds
of children crying
of the angry shouts
of fighting men.
Nothing was heard:
nothing at all
— until
the wind.
Then I knew.
I knew the answer of peace.
Peace, I saw, was what remains
after war.
And I,
from my mountain
saw peace that day;
it was the day
the world
turned
to dust.

- ☐ experience learning about current and controversial issues as something fun and exciting, not tedious or boring.

* adapted from articles by Susan Jones, published by Educators for Social Responsibility. For further information contact ESR at the address in the Resource Appendix.

"THE DAY THE WORLD TURNED TO DUST" DEALING WITH CHILDREN'S FEELINGS ABOUT NUCLEAR WAR

Dr. Joanna Santa Barbara, a child psychiatrist, is affiliated with the Department of Psychiatry, Chedoke-McMaster Hospitals, Hamilton, Ontario.

The poem at left, with its cynical title, was written by a Canadian girl in grade 12.

Adults often worry that in addressing the nuclear threat at school or at home, they may be introducing an anxiety that had never previously occurred to a child, or that they may bring into awareness a painful fear best left repressed. Their natural protectiveness causes them to shrink from causing children unnecessary pain. Likewise, some adults feel that children in elementary grades are not greatly concerned about nuclear issues, and perhaps should not be disturbed by them.

How concerned are children about nuclear war? Consider the data on children's thoughts and feelings on this issue. In one study, 6,800 Canadian children, ages 12 to 19, from 20 communities were consulted in a random sample taken by the Children's Mental Health Research group in 1984-85. The results are revealing:

Prevalence of awareness: 75% of the students surveyed thought about nuclear war at least once a month. 10% thought about it daily.

Source of awareness: Students learn about the issue predominantly from television (75%), newspapers and magazines (62%) and teachers and school (34%).

Awareness and anxiety: Thinking about nuclear war often — but not always — gives rise to anxiety. Of the 75% who think about nuclear war at least once a month, 60% say such thoughts cause anxiety; 20% say they have had bad dreams about nuclear war at least a few times a month, with 1.3% answering "almost every day."

Degree of anxiety: Students were asked, "When you think of your life and future, what three things do you worry about most?" 32% listed war-related worries as first in rank order. More than half mentioned it among their greatest worries. No other worry occurred as often, although concerns about work and employment were almost as frequent. Clearly, we are dealing with a concern that is highly significant for these children.

WHY EVEN TRY

Why even try;
the striving and the struggle to be our best,
would be in vain.

Why even try;
all our technology and advancements will
destroy us,
someday soon.

Why even try;
our family, our friends, our language and
culture,
gone with the push of a button.

Why even try,
if we have to live in fear of the end,
of everything.

Why even try
if we are probably going to die, anyway.

—John Wilkin

Age effects: The highest frequency of anxiety appeared in the youngest age group surveyed, the 11 and 12-year-olds. Psychologist, Susan Goldberg, went further, and looked at younger children in grades 2 to 6 in Toronto. She asked them about their hopes, wishes and fears for the time they would be grown up. In grade 2, 20% mentioned the war/peace issue; in grade 4, 50%; in grade 6, 85%. It appears that age 11 may be the period of highest anxiety about war/nuclear issues. Adults who extrapolate from their own or their peers' degree of anxiety may greatly underestimate the prevalence and degree of anxiety felt by children.

Perception of the future: A survey of children in Burnaby, British Columbia, by Susan Hargraves yielded the results in Fig. 1, which are disturbing in the degree of pessimism they reveal.

Fig 1.

	YES	NO	UNCERTAIN
Do you think a nuclear war between the USA and the USSR will happen in your lifetime?	67%	30%	3%
If there were a nuclear war, do you think you and your family would survive?	4%	72%	24%
If there were a nuclear war, do you think your country would survive it?	2%	79%	19%

Source: Hargraves, S.L. "Psychological Impact of Nuclear Developments on Youth: A Local Study", Faculty of Education, Simon Fraser University, Burnaby, British Columbia, 1984.

Perception of personal effectiveness: Students were asked, "How much influence do you feel that you personally can have in preventing nuclear war?" 67% of Canadian students answered "none"; 25% answered "a little"; 7% "a lot"; and 1% "total control." Their perception of their parents' influence was similar. More optimism was expressed about Canada's influence: only 11% answered "none"; 37% "a little"; 41% "a lot"; and 10% "total control."

Many students are coping with their anxiety about nuclear issues through strategies of avoidance, repression and distraction. The feelings of these impotent individuals come to life in a poem by a 14-year-old Canadian boy, at left.

If this feeling of impotence is so common, what can we learn from the children who feel more effective? Greater personal effectiveness was found to be related to the following: worrying more about the issue, talking more about it, taking some action on it, and having parents who have taken some action. In other words, these students are coping by trying to effect change, by trying to solve problems.



War is fighting,
War is killing,
War is hatred.
Bombs are flying,
People are dying.
This builds up inside
And it comes out like the ocean tide.

—Sally Cohoon
Grade 6, Brantford,
Ontario

Taken as a whole, these findings suggest that we cannot shield young people from anxiety, and at the same time foster feelings of personal competence and potential mastery of difficult problems. Protection from anxiety involves avoidance of information and denial of its significance – and these behaviours are inimical to problem solving.

The role of the educator: Should educators disturb students who are coping by avoiding or repressing thoughts and feelings about the nuclear issue, or other issues like the environment, economic injustice, or human rights? I would answer unequivocally “Yes.” It is dangerously maladaptive for our planet to have citizens who avoid trying to solve its grave problems, just as it is maladaptive for individuals to resign themselves to living with injustice, deprivation of rights, or treatable ill-health. “Empowerment” of the individual and establishment of firm foundations for democratic participation are themes that run through the programs in this anthology.

What if a student becomes quite upset when dealing with these issues? Does anxiety about the nuclear threat cause problems in mental health? The short answer is “No, not by itself.” Some anxiety at the thought of nuclear devastation is to be expected and is a sign of empathy and social concern.

Children who are upset by exposure to such unpleasant realities as nuclear bombs or the toll of poverty and war on other children, need empathetic responses and support. They do not need denial of reality, false reassurance, or encouragement to repress. They need support in their courage to face reality, and appreciation of their empathy with others, and they need to know that they can make a difference.

What about children who do not connect weapons and nuclear bombs with suffering; children who see war as heroic adventure and weapons as exciting symbols of power? Such children accurately reflect our culture’s input from television, films, video games and toys. The educator’s task is to correct such serious distortions by providing information, and this anthology is well designed to do that.

Finally, teachers will also have profound feelings about these issues. Here are some suggestions:

- Remain as aware as possible of your feelings about the lesson material and the students’ responses to it.
- Use your feelings when they serve the educational needs of the students; for example, if you were to shed tears for the sufferings of Hiroshima.
- If your feelings are not helpful to students’ needs, curb them while teaching and deal with them with a colleague. For example, if you felt upset at the apparent callousness of a student who wanted to bomb the Soviets into oblivion.

Selected Resources

ALSO FROM THE NATIONAL FILM BOARD

Films for a Peaceful Planet. This catalogue lists 75 NFB films and videos relevant to peace studies. All ages. 19 pages. Free.

Bombs Away, 17 min., film or video and teaching guide, 1988. A drama about a girl who has a nuclear nightmare, and her difficulty in talking about it. Ages 9 to 13.

Mile Zero: The SAGE Tour 48 min., film or video and study guide, 1988. A look at the cross-country tour by four students from Students Against Global Extermination including Maxime Faille and Désirée McGraw, the hosts of *Alive in the Nuclear Age*. Their tour took them from coast to coast, and they spoke to more than 100,000 students. Ages 13 and up.

Speaking Our Peace, 55 min., film or video and study guide. Seven prominent women peace and social justice activists speak about their participation in the peace movement. Ages 13 and up.

Perspectives in Science, an interactive video series exploring science, technology and society. Includes a 60-page teachers' guide. Includes sections on toxic waste and biotechnology. Ages 12 to 16.


RESOURCES FROM OTHER SOURCES

Canadian Institute for International Peace and Security, Suite 900-360 Albert Street, Ottawa, Ontario K1R 7X7. Write for their free newsletter and a list of reports and background papers.

The Canadian Peace Educators' Directory, Rob MacIntosh, editor. The Pembina Institute for Appropriate Development, P.O. Box 839, Drayton Valley, Alberta, Canada T0E 0M0. 170 organizations involved with peace and peace education in Canada indexed by name and location.

Educators for Social Responsibility, 23 Garden Street, Cambridge MA, USA 02138. Tel: (617) 492-1764. Write for lists of resources, films, videos and educational software.

The Journey by Peter Watkins, a fourteen-hour series divided into 45-minute segments. Interviews and documentary footage worldwide explore issues surrounding the arms race, the nuclear weapons industry, war, colonialism, media coverage of these issues, and people's understanding of them. Teaching material is available. Distributed in Canada by DEC Films, 229 College St., Toronto, Ontario M5T 1R4. Tel: (416) 925-9338. Or write to Films for Peace Ltd, Swedish Peace and Arbitration Society, Riddgatan 36, S-114 57 Stockholm, Sweden.



National Youth Peace Network, 555 Bloor St. West, Suite 5,
Toronto, Ontario M5S 1X6. Tel: (416) 588-5555 (for information on
peace groups in your area).

Nuclear Weapons Free Zones in Canada. As of 1989, 64% of
Canadians lived in NWF zones. For information on the NWFZ
nearest your school, write to: Campaign for a Nuclear Weapons Free
Zone, Box 4520, Vancouver, B.C. V6B 7Z3.

Peace Education Network News (Canada). Published quarterly by
the Pembina Institute, Box 839, Drayton Valley, Alberta T0E 0M0
\$18/year.

Peace Education Coalition Materials Catalogue, 1985. Print and
audiovisual resources are listed with a one sentence description and a
recommended grade level. 31 pages. BCTF Lesson Aids Service,
BC Teachers' Federation, 2235 Burrard Street, Vancouver, B.C. V6J
3H9. \$3.90. (Outside British Columbia, \$4.68).

Sivard, R.L., *World Military and Social Expenditures*. Match
International, 401-171 Nepean St., Ottawa, Ontario K2P 0B4.
Published yearly. \$6.00.



Credits and Acknowledgements

THE VIDEOS

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Hosts: Désirée McGraw, Maxime Faille, David Suzuki
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Produced in co-operation with the Provincial Educational Media Centre, Ministry of Education, Province of British Columbia

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This guide may be copied freely by teachers for classroom use.

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This project has been a co-operative effort. These credits acknowledge the contributors to the anthology as a whole. Complete credits for each program are found on the video, following Program 12.

Distribution

Alive in the Nuclear Age

Volume One: Programs 1-6

Volume Two: Programs 7-12

Order No. C 0189 148 (Available in video only)

At the time of publication, this anthology is available to teachers in British Columbia from the Provincial Educational Media Centre and in Ontario from TVO. In other regions, contact your provincial media centre or the nearest distribution center of the NFB.

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ALIVE IN THE NUCLEAR AGE

NEW!
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ALIVE IN THE
NUCLEAR AGE

AN ANTHOLOGY
OF SHORT PRO-
GRAMS ABOUT
NUCLEAR FEARS,
NUCLEAR ISSUES,
NUCLEAR POWER,
AND THE ARMS
RACE.

FOR STUDENTS
AGES 11 TO 16.

TEACHERS' GUIDE



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THE BEST IN DOCUMENTARIES

Alive in the Nuclear Age includes contributions from broadcasters Gwynne Dyer and David Suzuki, with excerpts from the NFB's *War* series and the CBC's *The Nature of Things*. In programs ranging from intense discussions in school corridors to simulations of nuclear winter, this series uses the power and the directness of the documentary approach to bring the world into the classroom, and to make it accessible to young people.

For students ages 11 to 16

**ALIVE IN THE NUCLEAR AGE IS A COLLECTION OF 12
SHORT PROGRAMS, EACH LESS THAN 15 MINUTES IN
LENGTH, DEALING WITH NUCLEAR ISSUES, NUCLEAR
FEARS, THE ARMS RACE, AND NUCLEAR TECHNOLOGY.**



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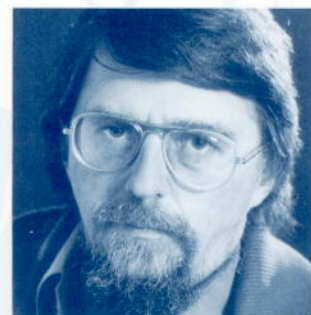
ALIVE IN THE NUCLEAR AGE



DAVID SUZUKI, broadcaster and concerned scientist, talks to high school students in *What Canadian Youth Are Saying*.



DÉSIRÉE MCGRAW (left) and MAXIME FAILLE (right) are the principal hosts of *Alive in the Nuclear Age*. In 1987 they travelled across Canada as part of the SAGE tour, leading discussions on nuclear issues with more than 100,000 high school students.



Journalist GWYNNE DYER narrates two excerpts from his *War* series about the impact of technology on modern warfare.

TEACHERS KEY TO NUCLEAR AGE SERIES

Two dozen teachers from the Vancouver area collaborated with the NFB in the creation of *Alive in the Nuclear Age*. The teachers outlined the goals of the series, screened films, co-authored the teachers' guide and kept watch over the editing of the dozen programs in the series.

"The key to discussing nuclear issues is to create a supportive environment in the classroom. This gives the students the opportunity to say what they feel and to ask questions." — FROM THE TEACHERS' GUIDE

PROGRAM TITLES

What Canadian Youth Are Saying
What Soviet Youth Are Saying
The Road to Total War
The First Atomic Bombs
No More Hiroshima
Canada's Nuclear Technology
Push Button Weapons
How a Nuclear War Might Start
The End of War: Nuclear Winter
The International Peace Movement
Guns or Shoes
The Big Snit

FOR TEACHERS IN ALL SUBJECTS

A 48 page guide written by classroom teachers provides a variety of activities for use before and after viewing the

programs. The programs can be used in any order, by elementary and secondary teachers in subject areas including English, Language Arts, History, Science, Science and Technology, and Social Studies. The series deals with the real and difficult issues of the nuclear age, and at the same time promotes skills in problem solving, decision making, and higher level thinking.

CREDITS

Alive in the Nuclear Age.

Director: Gary Marcuse

Producer: Jennifer Torrance

Editors: Paul Lievesley, David Ingram

Music: Graeme Coleman

Executive Producer: Barbara Janes

Produced in association with the British Columbia Provincial Educational Media Centre. Additional assistance was received from the Burnaby School District, the Canadian Institute for International Peace and Security, the CBC, the Swedish Peace and Arbitration Society, International Physicians for the Prevention of Nuclear War, Los Alamos National Laboratories, and Atomic Energy of Canada Ltd.

AVAILABLE NOW

The twelve programs of *Alive in the Nuclear Age* will be released on two 75 minute videotapes in February 1990. The series will be distributed to British Columbia schools by PEMC and in Ontario by TVOntario. Elsewhere please contact your teacher-librarian, provincial media authority, or the NFB. Free copies of the teachers' guide are available by returning the coupon.

SEND THIS COUPON TO ALIVE IN THE NUCLEAR AGE,
NATIONAL FILM BOARD, 300-1045 HOWE STREET
VANCOUVER, B.C. V6Z 2B1
(604) 666-3838

YES!!

Please send me a free copy
of the 48 page teachers
guide for ALIVE IN THE
NUCLEAR AGE

Name _____

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School _____

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P.O. Box 6100, Montreal, Quebec H3C 3H5

NEW!

Learning Resources

#300-1045 Howe Street
Vancouver, B.C.
V6Z 2B1

April 10, 1990

Dear Educator:

As a subscriber to the Peace Education News, we would like you to know about a new anthology just released by the National Film Board.

Alive in the Nuclear Age is a collection of a dozen short programs, dealing with nuclear fears, nuclear technology, and the arms race. Individually, the programs are discussion starters and exercises in critical thinking. Collectively, the programs add up to a portrait of the arms race...and public response to it...in the 1980's.

The series, and the enclosed teacher's guide, are designed to help start discussions with young people, ages 11 and up. Surveys have shown that this age group has a strong interest in the arms race, and nuclear issues, but few audio-visual programs are available for teachers who want to explore these powerful subjects. To meet this need, we have excerpted NFB programs, purchased documentary footage from the CBC, brought in material from the USSR, Mozambique, and the United States, and created new programs about life in the nuclear age.

Since we began production, events in Europe have made one of the programs (about how war might start in Germany) into an historical document, but the nuclear age is far from over. As former peace ambassador Douglas Roche noted recently, there are still more than 50,000 nuclear weapons in the world, and arms spending has doubled from 500 billion to 1 trillion a year since 1972. NATO has decided to maintain "an array of nuclear weapons" in Europe. Elsewhere, nuclear weapons are proliferating, increasing the possibility of another Hiroshima. There is much to talk about.

Classroom teachers have been instrumental in designing the guide and the videos, and it shows in the quality of the exercises and the compact, tightly focussed programs. The series is hosted by Désirée McGraw and Maxime Faille, two students who toured Canada in 1987 leading discussions on nuclear issues. They take a direct, engaging, no-nonsense approach. "Look at the issue, look at the different sides of the issue, make up your mind, and act on it", Désirée says at one point, "don't be passive, don't let it happen, do it for yourself." *Alive in the Nuclear Age* was created in that spirit.

Yours sincerely,



Jan Clemson
Education Representative
NFB - Pacific Centre



Gary Marcuse
Director
Alive in the Nuclear Age

