A TEACHER'S GUIDE TO

FORCE OF NATURE

THE DAVID SUZUKI MOVIE

Towards a New Perspective

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Introduction

The purpose of this guide is to encourage teachers of grades 9–12 to incorporate the National Film Board documentary ***Force of Nature*** into their lesson plan by identifying where and how the film can support current curriculum expectations. In addition to connecting film content with subject outcomes, the guide offers a number of suggestions and activities to help teachers extend the discussion of a variety of themes, organized under the following headings:

Population, Consumption and Sustainable Development

Internment, Hiroshima, Human Rights and the Next Generation

Science and Technology in Society

Towards a New Perspective

These units can be explored selectively or collectively, depending on their relevance to the curriculum for which the teacher is responsible.

Each unit is accompanied by a table that identifies the activities therein, provides a description of each of these activities, and indicates the particular pedagogy employed. A second and third table provide direction as to where the activities may be incorporated into the curriculum by identifying the relevant general and specific curriculum links for each of the provinces and territories.

Force of Nature is a powerful ninety-minute documentary based on David Suzuki's Legacy Lecture. Dr. Suzuki described this address, presented in 2010 to a live audience at UBC's Chan Centre, as "his last chance to say what he wants." The film effectively punctuates the lecture with scenes from his personal life and news footage chronicling major political, scientific and social events of the past seventy years. The result is a highly relevant, thought-provoking and entertaining viewing experience that students will find both interesting and inspiring.

While the film explores a range of themes related to the questions of "who we are, why we are here and where we are headed as a species," Dr. Suzuki's core message is clear: humans have exhausted the limits of the biosphere and it is imperative that we rethink our relationship with the natural world. Though much of the narrative is devoted to articulating how our species has altered the physical, biological and chemical integrity of the planet, he does offer viewers a blueprint for survival and his assurance that the same qualities that have made humanity a force of nature will guide us on a new pathway to a future full of meaning and real wealth.

Force of Nature examines a number of key themes and concepts addressed in subject areas across the high school curriculum, including:

- **Population, Consumption and the Global Economy**
- **Sustainable Development**
- **Science and Technology in Society**
- **Racism and Human Rights**
- **Aboriginal Perspectives and Traditional Ecological Knowledge**
- **Scientific Literacy and the Media**

Selected excerpts from the documentary can be used to support the teaching of these topics individually or, when shown in its entirety, the film offers an extremely effective interdisciplinary examination of the ecological crisis at hand and the role of sustainable development.

"So I realized we had defined the problem incorrectly. There's no environment out there and we are here and we somehow have to watch the way we interact with it. We are the environment." –David Suzuki

By the late 1970s, Dr. Suzuki had come to believe that a new perspective was needed to tackle the crisis facing the planet and its people. This perspective began to emerge when he joined with the Haida people of the West Coast in an effort to stop logging operations in Windy Bay—a pristine watershed of some 6,000 acres that was sacred to the Haida. Haida culture and society are based on the belief that there is no distinction between people and the environment, that the land and the living things it supports are part of who we are. Suzuki concludes that "we are the environment, and what we've labelled as the environmental crisis is a human crisis."

The school curricula of all Canadian provinces and territories require that students explore the relationship between humans and their environment. Included in this unit of study is the examination of different world views and especially Aboriginal perspectives. The film's emphasis on interconnectedness provides an excellent context for addressing these issues.

The chart below provides a quick reference to the relevant curricula in each province and territory. A more detailed curriculum matrix is found in the Appendix.

Province/Territory	Curriculum Links
Alberta	Aboriginal Studies
British Columbia	First Nations Studies; Drama; English Language Arts
Manitoba	Social Studies; English Language Arts
New Brunswick	Social Studies; Science; English Language Arts
Newfoundland and Labrador	English Language Arts; Social Studies
Northwest Territories	Aboriginal Studies
Nova Scotia	Science; English Language Arts; Social Studies
Nunavut	First Nations Studies; Drama; English Language Arts
Ontario	Native Studies; Arts
Prince Edward Island	Social Studies; English Language Arts; Science
Quebec	Social Sciences; Arts Education; Languages; Cross-Curricular Competencies
Saskatchewan	Social Studies
Yukon	First Nations Studies; Drama; English Language Arts

A Summary of Activities

UNIT SEGMENT	ACTIVITY	DESCRIPTION	PEDAGOGY
Humans and the Environment	1. Everything Is Connected	Students simulate the web of life and the place of humans in that web.	Experiential learning – Simulation
	2. Competing Perspectives	Students examine the Haida view of nature and our relationship with the environment.	Collaborative learning Research Considering alternate perspectives
	3. Planning for the Seventh Generation	Students examine the Aboriginal view of planning for the seventh generation.	Concept mapping Considering alternate perspective
	4. Exploring Other Viewpoints	Students identify the common ground emerging among Aboriginal peoples, religious leaders and scientist as to our connection to nature.	Video analysis Considering alternate perspectives
Looking Forward	1. Visions of the Future	Students identify the common ground emerging among Aboriginals, religious leaders and scientists as to our connection to nature.	Values clarification Systems thinking
	2. Good News/Bad News	Students examine the danger/opportunity dialectic.	Using graphic organizers Systems thinking
	3. A Powerful Union: Western Science and Traditional Environmental Knowledge	Students examine how TEK and Western science are contributing to our ability to understand and resolve environmental crises.	Video analysis Research Considering alternate perspectives
	4. Yes We Can?	Students outline a strategy to meet the challenges described by Dr. Suzuki in ***Force of Nature.***	Co-operative learning Using graphic organizers Action planning

Selected Learning Outcomes

The activities in this teaching guide address the following selected general learning outcomes (knowledge, skills and attitudes):

- Explain how Aboriginal peoples' relationship to the land traditionally sustained them in various environments across Canada;
- Identify Aboriginal perspectives and rights regarding natural resources and their use;
- Analyze how artistic components are used in film and television works to achieve specific purposes and reach specific audiences;
- Demonstrate an understanding that spirituality is fundamental to traditional Aboriginal world views;
- Assess personal action based on an understanding of various dimensions and perspectives of planetary stewardship;
- Understand the options for a sustainable future;
- Develop and carry out a plan of action that demonstrates active citizenship related to an issue (local or global);
- Demonstrate an understanding that the future well-being of Atlantic Canada involves co-operation with the national and global community;
- Analyze the relationship of First Nations peoples with the natural world;
- Evaluate actions and policies associated with globalization that impact the environment;
- Participate in and contribute to improving quality of life in their society;
- Examine the influence of world views on one's understanding of interdependence in the natural and constructed world;
- Work collaboratively in planning and carrying out research, as well as in generating and evaluating ideas;
- Describe a plan of action that uses technology to solve a problem;
- Use appropriate tools and materials to accomplish a plan of action;
- Take action to maintain a sustainable environment.

Humans and the Environment

Activity 1:

Everything Is Connected

"To be Haida was to be connected to the land. The air, the water, the fish, the trees and the birds were all part of who the Haida are. Their connection to the land was their history, their culture, the very reasons why Haida are in this world." –David Suzuki

Purpose: To simulate the web of life and the place of humans in that web.

Background: Our study of ecosystems has made us more aware that everything is connected to everything else and that "we all live downstream." However, Dr. Suzuki has noted that humans have become a force of nature in this web. The following activity introduces the concept of the web of life and then adds humans to the mix.

Procedure:

- Follow steps 1–4 in the following lesson plan: <pzweb.harvard.edu/ucp/curriculum/ecosystems/s1_lessonplan.htm>
- Introduce a new "player/link"—humans—into the web of life. Ask where we would fit.
- Show the connections.
- Summary discussion questions:
- How have we generally viewed our connection to the web?
- Has our connection been similar to our role in the first part of the game, in which we were external to the web and acted in charge and in control, or similar to our role at the end of the game, when we functioned as another link (participant)?
- Which role do you think provides the most accurate depiction of our role in nature?

Activity 2:

Competing Perspectives

Purpose: To examine the Haida view of nature and our relationship with the environment. To contrast this view with that of the forest industry and others that emerge from an examination of the actual circumstances surrounding logging on Haida Gwaii.

Background: The logging dispute at Windy Bay provides a case study that enables students to examine competing perspectives regarding our relationship with and our place in the natural world.

Procedure:

- Review the observations made by Dr. Suzuki about the essential difference between the Haida view of the trees and the forest and that of the logging company.
- Separate the students into pairs and have one student research the Haida approach to the logging dispute while the other researches the positions of the provincial government and the logging company.
- In researching the First Nations perspective on our relationship to our environment, take note of the following:
  - Lessons learned as traditional food gatherers (traditional knowledge);
  - Concept of Mother Earth;
  - Concept of interconnectedness and interdependence of all life forms;

  - Celebrations of thanks;
  - Planning for the seventh generation.

- In researching the position of the Forest Service Branch of the British Columbia government, take note of the following:
  - Role of forest industry in BC economy;
  - Option B, which would create an Ecological Reserve in Windy Bay.

- Once the research is complete, have each pair of students engage in a conversation that illustrates the competing perspectives underlying the logging dispute.

Resources

NFB: Aboriginal Perspectives: www3.onf.ca/enclasse/doclens/visau/index.php
The Haida Nation: haidanation.ca
NFB: *Battle for the Trees*: nfb.ca/film/battle_for_the_trees

Activity 3:

Planning for the Seventh Generation

"And once we understand that those basic needs must be the very foundation of the way we live, that they must be protected for our very health and well-being, then we can begin to look ahead and imagine a new way of living in harmony and balance with those fundamental needs." –David Suzuki

Purpose: To examine the Aboriginal view of planning for the seventh generation.

Background: Sustainable development has been defined as development that meets the needs of the present generation without compromising the ability of the next generation. This approach to development suggests that we have to abandon our current trajectory in favour of a radically new approach. We are now beginning to realize, however, that sustainable development is not a new concept.

> Embedded within the Aboriginal world view is the concept of collective responsibility for tending the land and using only that which is needed for sustenance. Important, as well, is the interconnectedness and interdependence of all life forms—humankind, flora and fauna, and all that exists on the Earth. The concept of sustainability is not new to Aboriginal people; they are very aware of the growing need for all humans to show greater respect for the environment—respect for Mother Earth—if we are to continue to co-exist in this world.
> ("Aboriginal Perspective on Sustainable Development"), from
> <edu.gov.mb.ca/k12/cur/socstud/frame_found_sr2/tns/tn-41.pdf>.

For further information, see:
<pbs.org/moyers/moyersonamerica/media_players/SpiritNature1_video.html>
and the "I'm Staying" segment in ***Force of Nature***.

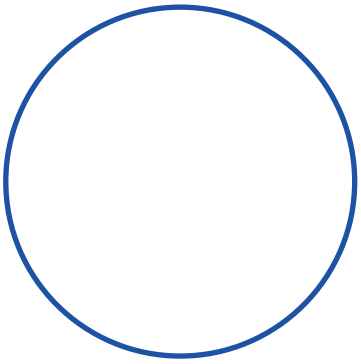
Procedure:

- Discuss the following:

"The circle… a symbol of unity, strength, wholeness, shelter and ritual. With no beginning and no end, it also reflects our connection with everything. All that is with us will always be with us. There is no such place as 'away,' and the effort to throw things 'away' has created polluted land, polluted water and polluted air. The Earth itself is a circle, and all that we throw away is here in that circle.

"The time has come to return to a way of living that is in harmony with nature and to consider the effects of all that we do unto the seventh generation. The poisons in the circle must be cleaned up, but more importantly, the flow of pollutants into the circle must be controlled. Prevention is the ultimate control. The awareness to see natural systems as circles has guided some of today's tribes to employ technology and timeless environmental values to accomplish good things for all people for all time."
–Makwa Gaa Nii bawit, Chippewa

- Draw a circle that represents the Indigenous perspective articulated above and which may serve to represent the new vision that Dr. Suzuki suggests is necessary. Add appropriate circles, labels, symbols and links as necessary to create a poster that conveys the intended message.



Resources:

NFB: Aboriginal Perspectives:
nfb.ca/enclasse/doclens/visau/index.php

Other Suggested Activities:

- Writing assignment in which student imagines he/she is a molecule of exhaled argon reporting on its travels.
- Storytelling is recognized as central to the Aboriginal approach to teaching or handing down the wisdom of the past. In accordance with this tradition, have students create stories that have as their central message the Aboriginal view of sustainable development and our relationship with all living things.

Activity 4:

Exploring Other Viewpoints: A Common Perspective Is Emerging

"The leading science corroborates this ancient understanding that informs us that whatever we do to our surroundings, we do directly to ourselves. The environmental crisis is a human crisis." –David Suzuki

Purpose: To identify the common ground emerging among Aboriginal peoples, religious leaders and scientists with regard to our connection to nature.

Background: Dr. Suzuki suggests that the leading science recognizes the inherent unity in all things and the notion that "what we do to our environment, we do to ourselves." The following activity explores this assertion through interviews with spokespeople from a variety of fields.

Procedure:

- Review the following commentaries:

Elder Shenandoah: pbs.org/moyers/moyersonamerica/media_players/SpiritNature1_video.html

Rabbi Ismar Schorsh: pbs.org/moyers/moyersonamerica/media_players/SpiritNature3_video.html

Professor Sallie McFague: pbs.org/moyers/moyersonamerica/media_players/SpiritNature2_video.html

James Lovelock: ecolo.org/lovelock/what_is_Gaia.html

David Suzuki: pbs.org/moyers/moyersonamerica/media_players/suzuki_video.html

- Summarize the perspectives offered (on humanity's role in nature) and explain how each viewpoint complements or contradicts the views of the Haida.

- Draw attention to the "We Are Air" segment in ***Force of Nature***. Then investigate further Dr. Suzuki's claim that leading science corroborates the ancient view that we are the environment.

Looking Forward

"All it takes is the imagination to dream it and the will to make the dream reality. So let's get on with making it happen and show what our species is really capable of." –David Suzuki

Activity 1:
Visions of the Future

Purpose: To identify the future "paths" or options available and to examine the implications of each option.

Background: While he paints a sober picture of "where we are at," Dr. Suzuki avoids fatalism by suggesting that the very crisis facing the planet and its people may provide the impetus to make the necessary changes. The following activity is intended to contribute to that discussion by exploring what must be done in selected areas if we are to adopt a particular option.

Procedure:

- Five commonly held visions of the future are presented below. Read them carefully and reflect on your own views of the future. Which vision best incorporates Aboriginal perspectives on securing our future?

1. Business as usual: There is nothing new under the sun. The world has problems, always did and always will. We will always have challenges but nothing that we can't work through.
2. Deepening crisis: Our world is in deep trouble. Whether due to nuclear war, a major famine, a breakdown of law and order or an environmental crisis, life will never be the same again.
3. Governmental intervention: Authoritarian leadership is required to save our society. Our government needs strict control to curtail population growth and stop pollution.
4. Technological innovation: Science and technology have improved nutrition. Consequently, humans are living longer. Investing more in scientific research and technological development will solve our current problems.
5. Sustainable society: It is necessary to rethink our mechanistic and fragmented view of the world. A more holistic and ecological perspective is required so that a more humane and sustainable society is possible.

UNESCO, 2002. Adapted from "Teaching and Learning for a Sustainable Future."

- Consider global climate change, acid rain, city smog and biodiversity. Which of the above visions of the future best matches your own perspective on each of these environmental issues? Explain.

ISSUE	YOUR VISION OF THE FUTURE FOR THIS ISSUE	EXPLAIN
Global climate change		
Acid rain		
City smog		
Loss of biodiversity		

Activity 2:

Good News/Bad News

"The crisis is real and it is upon us. The Chinese symbol for crisis is made up of two parts, danger and opportunity. The opportunity comes from recognizing that we cannot continue along the same path that got us here." –David Suzuki

Purpose: In order to take advantage of the danger/opportunity dialectic, we need to recognize where the two may intersect.

Background: While the dangers are great, Dr. Suzuki reminds us of the opportunities that come with them. A number of developments/trends are identified below, a discussion of which may serve to illustrate the Chinese concept of danger and opportunity.

Procedure:

- Use the chart provided to explore the way in which each of these trends represents both good news and bad news. Add additional trends/developments that may carry a mixed message.

DEVELOPMENT/TREND	BAD NEWS	GOOD NEWS
Science and technology have increased our "power"		
The improved economies in countries such as China, India and Brazil have raised the living standards of their citizens		
The world's supply of fossil fuels is expected to decline dramatically		
Climate change is expected to dramatically effect both the people and the planet		

Activity 3:

A Powerful Union: Western Science and Traditional Environmental Knowledge (TEK)

Purpose: To illustrate how TEK and Western science are contributing to our ability to understand and resolve environmental crises (in this case, climate change).

Background: Environment Canada scientists have initiated a number of resource management programs in co-operation with Aboriginal peoples that take advantage of Aboriginal knowledge of how the components of our environment are interconnected.

Procedure:

- Review this introduction to TEK in Appendix 2, "Aboriginal Traditional Knowledge and Environmental Management," at <edu.gov.mb.ca/k12/docs/support/sila_video/appendices.pdf>.
- View the video *Sila Alangotok – Inuit Observations on Climate Change* at <www.iisd.org/publications/pub.aspx?pno=428>
- Review the following activity suggestions that accompany the video. These lesson plans are quite comprehensive, and time restraints may require that teachers be selective in their use. <edu.gov.mb.ca/k12/docs/support/sila_video/learning_activities.pdf>

Activity 4:

Yes We Can?

Purpose: To outline a strategy to meet the challenges described by Dr. Suzuki in ***Force of Nature***.

Background: Dr. Suzuki ends his presentation on a hopeful note:

"I will die before my grandchildren become mature adults and have their own children, but I am filled with hope and I imagine their future rich in opportunity, beauty, wonder and companionship with the rest of creation."

Procedure:

- Have the students comment on Dr. Suzuki's optimistic forecast for the future. Is it warranted? Do they share it? Why or why not?
- Divide the students into groups and ask each group to select an issue that was raised by Dr. Suzuki in ***Force of Nature*** (e.g. human population, resource depletion, habitat destruction, air/land/water pollution, loss of biodiversity).
- Use the following organizer to outline a strategy for tackling the issue:

Framework for Addressing an Issue

Step 1

The situation now is

What we want it to be is

What we are going to do is

Step 2

Use an outline of a tree in which...

The roots represent the causes of the problem

The branches represent the effects

The fruit represents the possible solutions

Step 3

Use a second outline of a tree in which...

The trunk represents the proposed action

The roots represent the skills or materials required

The branches represent tasks for achieving goals

The leaves indicate who does what

The fruit represents goals indicated by symbols

Step 4

Use the following SMART criteria to assess proposed solutions.

S – are the tasks specific?

M – are the results measurable?

A – are the tasks achievable?

R – are the goals and tasks realistic?

T – are the timelines manageable?

Appendix

Curriculum Matrix

PROVINCE	SUBJECT	RELEVANT COURSES	CURRICULUM UNITS
Alberta	Aboriginal Studies	Aboriginal Studies 10, Grade 10	Aboriginal World Views
British Columbia	First Nations Studies	BC First Nations Studies 12	Land & Relationships, Cultural Expressions
British Columbia	Drama	Drama 11 &12: Film & Television	Context (Social, Cultural, Historical), Exploration & Analysis
British Columbia	English Language Arts	English Language Arts 10–12	Reading & Viewing
Manitoba	Social Studies	Geographic Issues in the 20th Century, Grade 10	Natural Resources
Manitoba	English-Language Arts	English Language Arts, Grades 9–12	Comprehend and Respond Personally & Critically to Oral, Print and Other Media
New Brunswick	Social Studies	Geography 12	Managing Natural Resources; Continental & Global Linkages
New Brunswick	Science	Science 10	Sustainability of Ecosystems
New Brunswick	Social Studies	World Issues 12	Issues Facing the Global Community; The Future of the Global Community
New Brunswick	Social Studies	Native Studies 12	Language & Culture; Religion & Spirituality; Arts & Crafts
New Brunswick	English Language Arts	English Language Arts	Reading & Viewing
Newfoundland and Labrador	English Language Arts	English Language Arts, Grades 10–12	
Newfoundland and Labrador	Social Studies	Atlantic Canada in the Global Community, Grade 9	
Northwest Territories	Aboriginal Studies	Aboriginal Studies 10, Grade 10	Aboriginal World Views
Nova Scotia	Science	Biology 11	Biodiversity; Interactions Among Living Things
Nova Scotia	Science	Science 10	
Nova Scotia	English Language Arts	English Language Arts	Reading & Viewing
Nova Scotia	Social Sciences	Global History 12	
Nova Scotia	Social Studies	Global Geography	
Nunavut	Aboriginal Studies	Aboriginal Studies 10, Grade 10	Aboriginal World Views; Inuuqatigiit Curriculum Perspective

PROVINCE	SUBJECT	RELEVANT COURSES	CURRICULUM UNITS
Ontario	Native Studies	Current Aboriginal Issues in Canada, Grade 11; Aboriginal Beliefs, Values and Aspirations in Contemporary Society, Grade 11; Contemporary Aboriginal Voices, Grade 11; Aboriginal Beliefs, Values and Aspirations in Contemporary Society, Grade 11; Issues of Indigenous People in a Global Context, Grade 12; Expressing Aboriginal Cultures, Grade 9; Aboriginal Peoples in Canada, Grade 10; Native Studies, Grades 9–10	Identity, Relationships, Sovereignty, Challenges
Ontario	Arts	Media Arts, Grades 9–12; Visual Arts, Grades 9–12	Creating & Presenting, Respecting, Responding & Analyzing
Prince Edward Island	Social Studies	Geography 621A	
Prince Edward Island	English Language Arts	English Language Arts, Grades 10–12	
Prince Edward Island	Science	Science 10	
Quebec	Social Sciences	Geography	Constructs his/her consciousness of global citizenship
Quebec	Social Sciences	History & Citizenship Education	Constructs his/her consciousness of citizenship through the study of history
Quebec	Arts Education	Visual Arts	Appreciates works of art and cultural objects from the world's artistic heritage, personal images and media images
Quebec	Languages	English Language Arts	Represents his/her literacy in different
Quebec	Cross-Curricular Competencies	Competencies 2, 3 & 4	Solves problems, exercises critical judgment, uses creativity
Saskatchewan	Social Studies	Native Studies, Grade 10	Identity & Worldviews, Community & Kinship, Governance, Economics – An Aboriginal Perspective
Yukon	First Nations Studies	BC First Nations Studies 12	Land & Relationships, Cultural Expressions,
Yukon	Drama	Drama 11 &12: Film & Television	Context (Social, Cultural, Historical), Exploration & Analysis
Yukon	English Language Arts	English Language Arts 10–12	Reading & Viewing

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