



Controlling the Proliferation of Nuclear Weapons



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Introduction

Objectives of the Teaching Guide

- ❑ To increase student understanding of the prevalence and spread of nuclear weapons;
- ❑ To familiarize students with historic and contemporary measures to control nuclear proliferation and stimulate their thinking of potential strategies for doing so in the future;
- ❑ To develop students' analytical reading, writing, and research skills;
- ❑ To reinforce students' abilities to collaborate and produce a work product with peers using traditional and electronic means of research, discussion, and document preparation;
- ❑ To enable classroom teachers, students, and contest coordinators to:
 - Understand the overall theme of the National Peace Essay Contest (NPEC) topic;
 - Define and understand the concepts contained in the essay question;
 - Formulate a thesis for their essay;
 - Review bibliographic resources and select qualified sources for their research;
 - Write, edit, and submit essays to the United States Institute of Peace;
- ❑ To provide teachers with lesson plans, worksheets, bibliographic sources, and factual material to assist them in preparing students to write essays for submission to the National Peace Essay Contest.

Advance Preparation

1. Review this teaching guide and the NPEC guidebook.
2. Decide whether you will use these lessons as preparation for the NPEC or as a supplement to your curriculum.
3. If you will use the guide as preparation for the NPEC, decide:
 - Will this be a required, extra-credit, or extracurricular project for your students?
 - At what point in your course will you include the NPEC?
 - How many class hours can you devote to this project?
 - How will the class hours be scheduled among other assignments and activities?
 - *Will you use optional activities and Lesson VI?*

- Will you use any of the extension activities?
4. For each student, make copies of the essay question, your schedule of assignments, and grading criteria. If you are submitting essays to the NPEC, you may also want to make copies of the Contest guidelines and judging criteria located on pages 4 and 6 of the NPEC guidebook. Please note that you can request a copy of the guidebook for each student in your class by contacting the Institute at (202) 429-3854. Students can also access the guidebook on the NPEC web site: www.usip.org/npec.
 5. Make copies of the worksheets, overhead transparencies, and reference materials for the lessons you have decided to use.

Teaching Materials

- Library Access
- Internet Access (if available)
- Overhead Projector

NOTES:

- This Teaching Guide has been prepared to coincide with the 2005-2006 NPEC; however, the materials can be used at any time, independent of the contest.
- These lessons assume a 45-minute class period. If your school uses block scheduling, these lessons may be combined or may be used as a portion of one day's block. Several lessons are "expandable" depending on the amount of time you wish to give students for research, whether they work individually or in groups, and the method of presentation of their results (written or oral reports), which you select. The sequence of lessons is recommended but is subject to teacher discretion.
- You may wish to confer with colleagues in other departments for substantive information or ideas to improve your students' essay-writing skills.
- Throughout the guide topics or activities that appear in *italics* are optional.

About the United States Institute of Peace (USIP)

The United States Institute of Peace is an independent, nonpartisan federal institution created by Congress to promote the prevention, management, and peaceful resolution of international conflicts. Established in 1984, the Institute meets its congressional mandate through an array of programs, including research grants, fellowships, professional training, education programs from high school through graduate school, conferences and workshops, library services, and publications. The Institute's Board of Directors is appointed by the President of the United States and confirmed by the Senate.

The Institute carries out its mandate through six activities:

1. Expanding society's knowledge about the changing nature and conduct of international relations and the management of international conflicts;
2. Supporting policymakers in the Legislative and Executive Branches;
3. Facilitating the resolution of international disputes;
4. Training international affairs professionals from the United States and abroad in conflict prevention, management, and resolution techniques;
5. Strengthening the education of emerging generations of young people in the United States and in foreign zones of conflict;
6. Increasing public understanding about the nature of international conflicts, as well as approaches to their prevention, management, and resolution.

The Education Program

The Education Program of the United States Institute of Peace seeks to address the needs of educators, students, scholars, international affairs practitioners, and the public to understand the complexities of international conflicts and approaches to peace. Activities of the Education Program include:

- Developing teaching resources for secondary and higher education;
- Organizing workshops for faculty that teach in US educational institutions;
- Sponsoring the National Peace Essay Contest for high school students;
- Working in zones of conflict program to help teachers and educators understand and teach about sources of conflict, approaches to conflict management, post-conflict reconstruction and reconciliation.

2005-2006 National Peace Essay Contest Topic

Controlling the Proliferation of Nuclear Weapons

A primary security concern in today's world is the threat of nuclear weapons proliferation. States beyond the five "original" nuclear weapons-possessing countries (Britain, China, France, Russia and the United States) are seeking to acquire, or have already acquired, nuclear materials, industrial systems to produce plutonium or uranium, and delivery systems, such as missiles and airplanes. Moreover, non-state actors are seeking to acquire nuclear materials and weaponry. What can be done to limit the proliferation of such dangerous weapons?

Despite multilateral and bilateral efforts to control the spread of nuclear weapons, the international community seems to be fighting an uphill battle. The Non-Proliferation Treaty (NPT), whose signatories number some 190 countries, is one multilateral mechanism for limiting the development and deployment of such weapons. But the success of the NPT relies on the willingness of states to be transparent and to cooperate with international organizations in verifying that their development of nuclear power is for peaceful purposes.

Other strategies to limit the spread of weapons have included political pressure – including from the UN Security Council, trade embargoes, sanctions, and the use of military force. Despite these methods, the number of states with nuclear weapons or seeking a nuclear capacity continues to grow. While the recent, apparently voluntary, dismantling of Libya's nuclear weapons program was a great success, and South Africa, Brazil and Argentina have all renounced or dismantled nuclear programs, India and Pakistan have joined the nuclear club, and the nuclear ambitions of North Korea and Iran highlight the urgency for more robust non-proliferation efforts.

In addition, attempts by non-state actors, such as terrorist organizations, to obtain nuclear weapons raise concerns about the ability of multilateral and bilateral efforts of states to prevent terrorist groups – who are difficult to control or deter – from acquiring nuclear materials or weapons.

In a 1500-word essay, select two cases in which the international community—through the United Nations, another international organization, or one or more states—attempted to control the proliferation of nuclear weapons. In one of the cases, the non-proliferation effort was successful; in the other case the effort was unsuccessful. At least one of the cases should be from the post-Cold War period.

- In each case, briefly describe the motivation and effort of either a state or sub-national group to develop a nuclear weapons capability, including the political and military context. Additionally, briefly describe the efforts of the international community to counter or respond to the proliferation efforts. What was each country or organization's motivation for cooperating in or subverting the non-proliferation process?
- Based on your analysis, why was the effort at non-proliferation successful or unsuccessful? Are international treaties more effective than bilateral or other efforts?
- Finally, recommend actions that the international community can take to strengthen efforts to prevent the spread of nuclear weapons.

Lesson I

Part A. Introducing the National Peace Essay Contest to Students (2 periods)

Lesson Overview: This lesson will introduce students to the topic of the 2005-2006 NPEC and will set the stage for the lessons that follow. The lesson emphasizes understanding of the vocabulary, ideas, and directives of the essay topic. Materials in the lesson stress the importance of locating and using high-quality, reliable sources in the proper manner and avoiding plagiarism.

Learning Outcomes:

By the end of the lesson students will have demonstrated an understanding of:

- ❑ the purposes of the United States Institute of Peace,
- ❑ the meaning of essential vocabulary in the essay topic,
- ❑ the difference between primary and secondary sources,
- ❑ the notion that plagiarism is unethical and may disqualify an essay.

Materials:

- ❑ 2005-2006 NPEC Guidebook on “Controlling the Proliferation of Nuclear Weapons”
- ❑ Essay contest topic, NPEC rules and guidelines, and information on USIP
- ❑ Your schedule of due dates, grading policy or rubric, and guidelines for the project.
- ❑ Student Worksheet I A: Non-proliferation Vocabulary
- ❑ Student Worksheets I B(1): Understanding Primary and Secondary Resources and Student Handouts I B(1): Evaluating Internet Resources and I B(2): Guidelines for Avoiding Plagiarism for the next assignment

Procedures:

Step 1

Introduce this project to your students and give them time to read over the information about the U.S. Institute of Peace and the contest rules and guidelines that you have prepared for them. Point out the objectives and benefits to them of entering this contest. Go over the schedule of lessons and assignments.

Step 2

Instruct students to read the National Peace Essay Contest topic.

Step 3

Divide students into groups of three or four and distribute copies of **Student Worksheet I A: Non-proliferation Vocabulary**. Divide the vocabulary among the groups and have each group develop definitions for their words based on the context of the essay topic. Provide students with dictionaries or Internet access to complete the assignment if you have it available in your classroom. Alternatively, you may have students develop definitions for homework if you do not have resources in your classroom.

Step 4

Have each group present their definitions. Use **Teacher Resource 1A** to guide their responses.

Step 5

The terms in the Non-proliferation Vocabulary are listed in the order in which they appear in the essay topic. Ask students to regroup the terms under two headings “Dangers of Nuclear Weapons” and “Methods of Controlling Proliferation” and a third heading “Other.” (See **Teacher Resource IA** for recommended grouping). Be sure students understand why each term belongs in each category. Discuss the groupings with students using some or all of the following questions:

- Which dangers are most problematic?
- Which are most likely to be subject to control and verification?
- How would you rank the methods of control from least to most forceful?

Step 6

Assign each group a paragraph of the essay topic. These paragraphs set the stage and framework for the subject of nuclear non-proliferation. Have students prepare one or two questions or prompts to lead a discussion about their assigned paragraph. For example, Paragraph 2: Why might states be unwilling to be transparent and accept verification? Paragraph 4: Why is it difficult to regulate the actions of non-state actors through international law? One group should re-read and carefully consider the fifth paragraph and each of the three bulleted items that give the direction for writing the essay. These students should prepare to review the bullets with their classmates.

Step 7

Have students pose the questions they developed about their paragraph and the bulleted items to assure that students fully understand the topic and essay format.

Note to teachers: Successful essays will discuss non-proliferation in two cases that conform to the description in the sentences before the bullets. In good essays the writer uses words or phrases from the topic to give the reader an indication which phrase or question is being addressed.

Step 8: Assignment

Distribute copies of **Student Worksheet I B(1)** and **Student Handouts I B(1) and I B(2)**. If you are pre-selecting the web page for I B (2), distribute that as well.

For students working independently

Follow Steps 1 – 5.

Part B. Finding and Using Bibliographic Resources (1/2 – 1 period)

Lesson Overview: This lesson emphasizes the importance of locating and using high-quality, reliable sources in the proper manner. The lesson stresses the importance of avoiding plagiarism.

Learning Outcomes:

By the end of the lesson students will have demonstrated an understanding of:

- ❑ the difference between primary and secondary sources,
- ❑ how to evaluate Internet resources,
- ❑ the dangers of plagiarism.

Materials:

- ❑ NPEC guidelines, and suggestions for sources and bibliography on pp. 4-5 of the contest guidebook
- ❑ Completed copies of Student Worksheet I B(1): Understanding Primary and Secondary Resources and Student Handouts I B(1): Evaluating Internet Resources and I B(2): Guidelines for Avoiding Plagiarism
- ❑ Student Worksheet II A: Timeline for the next assignment

Procedures:

Step 1

Review NPEC rules, guidelines for sources, and bibliography suggestions with students and answer any questions they have. Be sure to emphasize that essays submitted to the NPEC must have a properly constructed bibliography which:

- contains a variety of Internet and non-Internet sources,
- adheres to the NPEC guidelines regarding encyclopedias, web-sites, and dictionaries (located on p. 5 of the NPEC guidebook),
- includes material that is as up-to-date as possible,
- lists Internet sources separately.

Step 2

Review student answers for **Student Worksheet I B(1): Understanding Primary and Secondary Sources**.

Step 3

Review student answers for **Student Handout I B(2): Evaluating Internet Resources**.

Step 4

Use **Student Handout I B(2): Guidelines for Avoiding Plagiarism** as a vehicle for discussion of the perils and consequences of plagiarism. If students need practice in avoiding plagiarism, have them complete the following exercise:

Directions: Select a paragraph from the web page that you used for Handout I B (1). Follow the two acceptable methods of avoiding plagiarism presented in the Lizzie Borden examples on Student Handout I B(2), and write two versions of the paragraph that would avoid plagiarism.

Step 5: Assignment

Distribute copies of **Student Handout II A: Timeline** and divide students into groups. Assign a decade to each group and instruct them to identify the major historical events in their assigned

decade. *As an alternative, you may give the students a version of the Timeline that includes information about these events.*

For students working independently

Complete **Student Worksheet I B(1)**, review **Student Handouts I B(1), I B(2)** and Step 4.

Lesson II

Setting the Stage: Background on Non-Proliferation (1 period)

Lesson Overview: History has played an important role in the development and spread of nuclear weapons and affects current efforts to control their proliferation and use. In this lesson students will analyze the relationship between the creation and proliferation of nuclear weapons and the greater historical context.

Learning Outcomes:

By the end of the lesson students will have demonstrated an understanding of:

- ❑ the direct and indirect relationships between the development and proliferation of nuclear weapons and the historical context in which these developments occurred.

Materials:

- ❑ Student Worksheet II A: Timeline
- ❑ Student Worksheet II B: Grouping Timeline Events
- ❑ Student Handout III A: Treaty on the Non-Proliferation of Nuclear Weapons (NPT) Fact Sheet for next assignment
- ❑ Student Worksheet III A: Understanding the NPT for next assignment
- ❑ Student Handout III B: International Atomic Energy Agency Fact Sheet for next assignment

Procedures:

Step 1

Have each group share the historical context they identified in their assigned decade and the events related to the proliferation of nuclear weapons.

Step 2

Distribute **Student Worksheet II B: Grouping Timeline Events**, and instruct students to use the timeline to create the following three lists, each in chronological order. They can work independently or in groups to complete this task.

1. Nuclear weapons tests conducted by the nations of the “nuclear club”
2. Threatening actions which heightened the level of danger of nuclear war
3. Treaties and other events which lessened the level of danger of nuclear war

Step 3

Review the lists created by the students. Lead a class discussion about the relationship between the events related to the proliferation of nuclear weapons (in the left column of the timeline) and the greater historical context (in the right column of the timeline). There may be specific correlations, e.g. Cuban missile crisis leading to Hot Line, and more general ones such as the effect of the end of the Cold War on the willingness of former Soviet Republics and third world nations to agree to the NPT. You may wish to use the following questions in your discussion, which aim to distinguish between nuclear capability and intent to use nuclear weapons.

- Does a country’s nuclear capability affect international events or do international events result in a country’s increased intent to use nuclear weapons? Explore this relationship with examples from your groupings on Student Worksheet II B.

- Is nuclear capability enough to create the threat of nuclear war?

Step 4

Distribute **Student Handout III A: Treaty on the Non-Proliferation of Nuclear Weapons (NPT) Fact Sheet**; **Student Worksheet III A: Understanding the NPT**; and **Student Handout III B: International Atomic Energy Agency Fact Sheet**. Assign NPT and IAEA readings and questions for homework. *If you are assigning Set 2 on Worksheet III A, you may wish to assign groups of students to find the information to answer each question.*

For students working independently

Complete **Student Worksheet II A: Timeline** and **Student Worksheet II B: Grouping Timeline Events**. Consider the relationship between events and nuclear proliferation suggested by Steps 2 and 3.

Lesson III

The Non-Proliferation Treaty and International Atomic Energy Agency (1 period)

Lesson Overview: In this lesson students will review the treaty framework for controlling the spread of nuclear weapons.

Learning Outcomes:

By the end of the lesson students will have demonstrated an understanding of:

- ❑ the major provisions of the NPT,
- ❑ the challenges in enforcing the NPT.

Materials:

- ❑ Completed Student Worksheet III A: Understanding the NPT
- ❑ *Student Handout III C: Verification of Nuclear Agreements*

Procedures:

Step 1

Review student answers to the comprehension questions (set 1) of **Student Worksheet III A**. *Student groups can share the information they found about the research questions (set 2)*. Consider and discuss the questions in set 3.

Step 2

Have students turn to **Student Handout III B: International Atomic Energy Agency Fact Sheet**. Discuss the IAEA using some or all of the following questions:

- What are the three pillars of the work of the IAEA?
- Which of the activities described as “pillars” would you expect to have the most widespread acceptance and support? Why?
- Which of the activities might give rise to resistance and controversy and be difficult to carry out? Why?

Step 3

Distribute **Student Worksheet IV A: State and Non-State Actors** for the next assignment. Students may work independently or in groups to complete this worksheet.

For Students Working Independently

Read **Student Handouts III A and III B** and complete parts 1 and 2 of **Student Worksheet III A**. Answer the questions in Step 3.

Lesson IV

State vs. Non-State Actors (1 period)

Lesson Overview: Whereas earlier efforts to control proliferation were directed towards nation-states, currently the international community seeks to control the spread of these weapons to non-state actors as well. In this lesson, students will consider how the concepts and strategies that are a part of nonproliferation differ when considered in relation to state vs. non-state actors.

Lesson Outcomes:

By the end of the lesson students will have demonstrated an understanding of:

- The difference in meaning of various terms in relation to state and non-state actors.

Materials:

- Student Worksheet IV A: State and Non-State Actors
- Student Worksheet V A: Using Nuclear Power for next assignment

Procedures:

Step 1

Review with students the meaning of state and non-state actors. Ask students for examples of each type of actor.

Step 2

Read the following, excerpted from the Center for Non-proliferation Studies' chart of al-Qaeda's WMD activities, listed on the Center's homepage at <http://www.cns.miis.edu/>. Al-Qaeda is the terrorist organization which the U.S. government believes is responsible for orchestrating the September 11, 2001 attacks on the United States, among other terrorist acts.

On 8 February 2004, the Egyptian newspaper Al-Hayat reported that al-Qaeda had purchased tactical nuclear weapons from the Ukraine in 1998 and was "storing them for possible use." Al-Qaeda allegedly purchased the bombs in Kandahar after a visit from Ukrainian scientists. The Ukrainian government denied that the transaction had taken place, stating that all nuclear weapons stored in the Ukraine had been transferred to Russia as of 1996.

Ask students how the international community might verify the information above, which appeared in a newspaper. What challenges to verification might exist?

Ask students now to replace al-Qaeda in the story with North Korea. Does the story change when the actor changes? If so, how? Does the story become more complicated? Less complicated? Why?

Step 3

Divide students into 5 groups and assign each group a term on **Student Worksheet IV A: State and Non-State Actors**. Have each group describe the term they have been assigned in relation to both state and non-state actors.

Step 4

Have each group share their responses and facilitate a discussion about the challenges that non-state actors pose for the international community in their efforts to control the proliferation of nuclear weapons.

Step 5

Distribute **Student Worksheet V A: Using Nuclear Power** and instruct students to complete it individually or assign one or more countries to groups.

For students working independently

Complete Student Worksheet IV A.

Lesson V

The Use of Nuclear Power (1 period)

Lesson Overview: In this lesson, students will review the range of policy choices states have made regarding the development of peaceful and non-peaceful uses of nuclear technology.

Learning Outcomes:

By the end of the lesson students will have demonstrated an understanding of:

- ❑ the various policy choices regarding the development of nuclear technology,
- ❑ why countries make certain policy choices regarding the development of nuclear technology.

Materials:

- ❑ Completed Student Worksheet V: "Using Nuclear Weapons"
- ❑ *Background material and debate topic for Lesson VI*
- ❑ *Student Handout V: Distinguishing between Civil and Military Stocks of Nuclear Material*
- ❑ *Case Study: Australia*

Procedures:

Step 1

Ask students to present their policy choices for each country so the class can create a completed version of **Student Worksheet V**. Review responses with the whole class, discussing those countries for which students have answers that differ from the Teacher Resource.

Step 2

Lead a discussion using the questions at the bottom of **Student Worksheet V**.

- Why might a country develop nuclear technology?
- Why might a country that has developed nuclear technology for peaceful purposes consider diverting the technology for non-peaceful purposes?

and some or all of the following questions regarding the choices specific countries have made:

- Are there factors that might lead Japan and Taiwan to divert their nuclear energy programs to nuclear weapons? If so, what are they?
- Which countries tested and developed nuclear weapons in the context of the Cold War?
- Which countries have done so because of regional conflicts?
- What did your research reveal about the reasons countries abandoned nuclear weapons programs or made policy choices not to develop them?

Step 3

If you have time, review the case study of Australia with students and lead a discussion using the questions at the bottom of the case as a guide.

Step 4

If you are using the optional Lesson VI, distribute copies of Student Handout VI: Debate Background. For homework have students read the background and list arguments for each side of the debate.

For students working independently

Complete **Student Worksheet V: Using Nuclear Power** and consider the questions in Step 2.
Review the terms in **Student Handout V: Distinguishing Between Civil and Military Stocks of Nuclear Material**.

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