The Greater Good

Negotiating a Trade Agreement Based on Specialization of Production and Comparative Advantage

About the Buck Institute for Education

The Buck Institute for Education (BIE) is dedicated to improving 21st-century teaching and learning by creating and disseminating products, practices, and knowledge for effective Project Based Learning. Founded in 1987, BIE is a not-for-profit 501(c)3 organization that receives operational funding from the Leonard and Beryl Buck Trust, and funding from other education organizations, foundations, schools and school districts, state educational agencies, and national governments for product development, professional development, and research.

Project Based Economics

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Foreword

Students learn more when they care about what they are learning. Students understand concepts better if they see how these concepts apply to the world outside of school. Students retain information longer if they are actively engaged in discussion and demonstration of what they are learning.

These are hardly new ideas, but too much of what happens in American classrooms does not meet this ideal. *Project Based Economics (PBE)* is built upon these principles. It addresses the concepts and content defined by the *Voluntary National Content Standards in Economics*, but does it in such a way that this material becomes meaningful and involving to students. *PBE* reverses the traditional method of "teach the concepts first, then give students the opportunity to apply them." Instead, *PBE* places students in an interesting scenario with an open-ended problem to solve and asks them to arrive at a justifiable solution using economic concepts. The project thus "pulls" students through the content. The teacher's role is to clarify, facilitate, and guide, rather than "push" unmotivated students toward the learning objectives.

Additionally, the *PBE* methodology helps teachers build valuable interdisciplinary "21st-century skills" including collaboration, critical thinking/problem solving, and making a presentation. We have found that *PBE* works well for diverse students in a variety of school settings. Research comparing students' economic knowledge gained from *PBE* versus that gained by students who received traditional instruction has demonstrated that the *PBE* students learn more, and that this difference is statistically significant.

These units were developed collaboratively by the Buck Institute for Education, and the HIRE Center, California State University–East Bay. They have been pilot-tested and critiqued by a group of energetic and insightful teachers throughout California. Although too many teachers have been involved in the development of these units to thank each teacher by name, we are extremely grateful for their time, insight, and contributions to making these units successful. In addition, there have been a number of university professors, staff developers, and school district staff who have contributed to unit development. We have benefited from their observations and suggestions, and offer a collective "Thank you!"

Please visit the Interact website (www.teachinteract.com) to find out about professional development offerings and conference presentations.

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Introduction

Chapter One

What is Project Based Learning?

Project Based Learning (PBL) is an instructional method in which students:

- Engage in a rigorous, extended process of inquiry focused on complex, authentic questions and problems
- Work as independently from the teacher as possible, and have some degree of "voice and choice"
- Demonstrate in-depth understanding of academic knowledge and skills
- Build 21st-century skills such as collaboration, presentation, and critical thinking/problem solving
- Create high-quality products and performances which are presented to a public audience

PBL is often cited as a valuable method by educators promoting differentiated instruction, multiple intelligences theory, learning-styles theory, 21st-century skills, and the "new 3 Rs" of rigor, relevance, and relationships.

In PBL, the project *drives* the curriculum—it provides the structure for teaching and learning. A project is not just an "applied learning activity" that follows a traditionally taught unit of instruction. Nor is it like discovery learning in its most basic form, in which students are provided with tools and activities that allow them to "discover" knowledge and skills with minimal guidance from a teacher. Instead, PBL challenges students to solve a problem through the application of content knowledge and collaborative resource-gathering, investigation, discussion, and decision-making.

Each project in *Project Based Economics* is a complete unit of instruction centered on a scenario that presents students with an engaging, realistic problem with more than one possible reasonable solution. To resolve the problem successfully, students realize they need to understand economics. This increases their motivation to learn the curriculum. Coaching students to resolve the problem posed in each unit requires a teacher to weave together a number of instructional components while remaining focused on the economic concepts around which the project is organized.

Phases of a Project Based Economics unit: how learning unfolds

Although structured flexibly enough to allow for student discovery and

independent learning, all *PBE* projects follow a series of steps or phases. These phases may sometimes overlap, but can generally be defined as follows:

Project launch—the Entry Event

At the start of each *PBE* project, students either receive some type of authentic correspondence or have an authentic experience intended to engage them in the project scenario. The "Entry Event" provokes interest and generates curiosity, leading naturally to the next phase.

Framing the inquiry—Driving Question and Knowledge Inventory

To begin the inquiry and problem-solving process, students as a class analyze their task and write a "Driving Question" that guides the project. The teacher coaches students in the construction of a Driving Question that summarizes the problem to be resolved, which in *PBE* is written according to the model:

"How can we, as _____?, (do) _____?, so that _____?"

The teacher also leads the class through a discussion and recording of knowledge that the students already have (know) and information that they still require (need to know) in order to arrive at a solution to the problem. This process is repeated periodically throughout the lesson.

Problem-solving and learning activities

The project scenario unfolds as students receive additional information about the problem to be solved. Students work in teams to conduct independent investigation and complete project tasks, while the teacher provides resources and lessons, guided by the students' "Need-to-Know List." A Project Log is used to check for student understanding of key economic terms and concepts. The class revises the knowledge inventory periodically and revisits the Driving Question to help stay on track toward a reasonable resolution to the scenario. The teacher monitors students' progress and watches for "teachable moments" when students recognize their need to know more about economics.

Presentation, assessment, and debrief

The project culminates as students finalize their solution to the problem posed in the scenario. Students prepare authentic products and present them to an audience and/or publicly discuss each group's work. The teacher uses a rubric to evaluate the students' work, and may also choose to administer a test to assess learning. The last step is to debrief the project with students, discussing both economics content and the process by which it was learned.

Teaching in the PBL environment

Although Project Based Learning is designed to foster active, engaged learning, students do not work completely on their own or exclusively with their peers when addressing the problem presented in a scenario. PBL is most effective when accompanied by *project based teaching*.

In PBL, the teacher guides students through the process of collaborative problem-solving and the creation of high-quality products and performances. Teachers are an important provider of subject-area knowledge and remain responsible for monitoring and assessing student learning, clarifying content-related concepts and misconceptions, assigning students to work groups, and managing what goes on in the classroom. Although traditional tools such as lectures, homework, and quizzes still have a place in this setting, they are used in the meaningful context of solving a problem. The role of the teacher using PBL is one of making learning "inevitable" by carefully managing the learning process and promoting a spirit of inquiry.

Make it a collaborative effort

Timing and extent of a teacher's instructional interventions differ from those used in traditional approaches. Effective teachers in PBL wait for teachable moments when students are interested and ready to learn before intervening or providing the necessary content explanations; they present or clarify concepts once students realize they need to understand subject-area content in order to solve the problem. Project Based Learning is most effective when it is a collaborative effort between the teacher and students, with the teacher as the senior partner.

This collaboration begins by engaging students in the problem to be solved. As you launch the unit, it is important not to reveal too much about the problem that students are about to encounter, and not to pre-teach the content and take away the motivation to learn that comes after students are "hooked" by the Entry Event. Take the problem seriously. While acknowledging that it is a scenario, point out that the problem is closely modeled on what happens in the real world. Heighten student interest and motivation by emphasizing the important effects their decisions will have (summarized in the "so that" part of the Driving Question written by the class). Model genuine interest and enthusiasm for the challenge of exploring several possible solutions.

The "teacher-as-coach" metaphor applies as students go about the tasks of conducting research, understanding the problem's complexities, and preparing to present their solutions. Like a good coach watching athletes practice, the teacher needs to observe, diagnose, and guide

without doing students' work for them. Anticipate some needs before they arise, be prepared to meet them, and watch for new needs as they emerge—but wait until they emerge.

One of the biggest challenges for many teachers is to step back and wait for the "need to know" to arise in students. Instead of answering all questions right away, ask, "How could you find that out?" and offer suggestions and resources for further inquiry. If students get stuck at a certain point, act as a "cognitive coach" by modeling thinking strategies. Offer process-oriented comments such as, "How would I approach that issue/task? Well, I might break it down into steps, or I might want to talk with my group about _____, or make sure I understood _____. Or maybe I'd go back to my Need-to-Know List…"

Build classroom culture

Establishing the classroom culture is also important for successful PBL. Students must know that it is all right to take intellectual risks and offer creative solutions for critique by their classmates and teacher without fear of ridicule. A healthy spirit of give-and-take needs to be in evidence in a PBL classroom, as does the habit of reflection. Students and the teacher need to constantly ask, "What are we learning?", "How are we learning?", and, "What does it mean?"

Another vital part of classroom culture is collaboration. Students work in small groups in PBL, and key to their success is the ability to work together comfortably and productively. If students are not used to group work, these skills must be taught. If students are not working well together, the teacher needs to know how to intervene and smooth things out. And when students share ideas, ask questions, and present their work, whether it is to their own classmates or a public audience, a serious and respectful tone should be the norm.

Invest in planning

A teacher using PBL should be skilled in planning and organization. Before beginning a unit, make sure to read all instructions and prepare materials carefully. But, do not overplan and feel bound by a predetermined timetable. It is hard to predict exactly how each class will approach a project and what needs will arise. A certain amount of flexibility is required, as is the willingness to let go of some expectations and control. Students may propose solutions that you had not considered, or they may want to explore issues in greater depth and breadth.

A teacher also needs skill in the use of performance-based assessment. This means knowing how to assess skills such as collaboration, communication, and time and task management. You can enhance

student development of these skills by providing exemplars, well-written rubrics, and chances to practice with helpful feedback.

Teaching in a PBL environment differs from many traditional classrooms in two other ways. First, it can be noisy. That means a teacher (and his or her school neighbors and administrators) must be willing to accept occasional apparent disorder as being the inquiry process at work. Second, a teacher must be willing to personally engage with students in ways other than standing in front of the room, delivering content knowledge as the "sage on the stage." A degree of intellectual and sometimes emotional connection with individual students is often needed to meet the challenges of PBL.

Teaching Economics With Project Based Learning

Chapter Two

Economics is the study of the allocation of scarce resources. Because resources are scarce, individuals, firms, and society must make choices about how to allocate resources and where to make tradeoffs. If a company decides to hire more workers, for example, it must reduce capital costs. If government spends more on defense, it must reduce spending on education or other areas (or else increase debt).

When students learn about economics through projects, they apply economic theories and principles to solve authentic problems. The PBL process also challenges them to think critically, to understand complex systems, and to explain and defend their decisions.

To help students gain a better understanding of how our economy allocates scarce resources, units included in *Project Based Economics* focus on teaching different aspects of scarcity and the related concepts of opportunity costs and tradeoffs. By integrating each of these PBL units into a high school economics course, students will have a better understanding of how the allocation of scarce resources forces individuals, firms, and society to make choices among competing goods and why those choices determine how resources are used. Taken together, the units demonstrate how our economy responds to each of the four basic economic questions:

- What is produced and in what quantities?
- How are goods produced?
- For whom are goods produced?
- Who makes economic decisions and by what process?

Preparing students for PBL

Before launching the the *PBE* unit, we recommend introducing students to the concept of Project Based Learning. This can be accomplished with a 45-minute activity, **Make More Money?** (see Chapter Three). In this activity, students encounter an economics-related situation. As they set about solving the problem, they learn the process for how PBL works. In one class period, they gain experience analyzing an Entry Document, writing a Driving Question, conducting a Knowledge Inventory—and learning how to think and act in different ways than they might be used to in more traditional forms of learning.

What is provided in this unit

- A **Unit Overview**, including the time required, a summary of the problem to be resolved in a scenario, the economic concepts to be learned, the placement in the curriculum of a typical high school economics course, and the NCEE Content Standards addressed
- A section on how to teach each unit, which contains:
  - **Sequence of the Unit**, a quickly referenced list of each step
  - **Step-by-Step Teaching Guide**, with detailed instructions about how to manage each step, plus sample **Driving Questions** and **Know/Need-to-Know Lists, Economics Content Notes**, prompts for **Project Log** entries, and **Potential Hurdles**
- A section of **Student Materials** with all student handout masters
- A section of **Teacher Materials** with a detailed review of the economic concepts and terminology within the unit, which may be used to guide the preparation of lessons for students, plus a glossary of concept definitions, answer keys for unit assignments, and rubrics for major unit products
- A multiple-choice test with an answer key

At various points within each unit, you will see two types of special **Notes to the Teacher** on effective implementation:

- **Economics Content Notes** point out key concepts students should be learning, and provide guidance on how to ensure that they do.
- **Potential Hurdles** indicate certain points during the unit when students might become confused or sidetracked, and explain how to help them.

Teaching Strategies for *Project Based Economics*

Scaffold learning activities

Students are supported in a variety of ways in the *PBE* units. In addition to "soft scaffolds" such as conversations with a teacher, "hard scaffolds" are provided in each unit such as charts, tables, or worksheets, to help students learn concepts and organize their ideas. Students may practice using economic concepts through oral or written exercises that build knowledge and skills necessary for the culminating task in the unit.

Efficient project-based teaching generally involves selecting content resources for students to use before they embark on solving the problems presented and creating products. These can include economic textbooks, specially prepared handouts, newspaper articles, videos, and online resources. Students should be encouraged to grapple on their own or in small groups with economic concepts, and find their own answers to content-related questions as much as possible. Consequently, it is generally best not to assign specific resources but rather to tell students what they can easily access to find the information they need to complete project tasks. It is then up to students and their groups to decide what content resources they are going to pursue.

Provide clarifying lessons at "teachable moments"

PBL is most effective with continual dialogue between the teacher (as a coach) and students. Effective project-based teachers must actively direct students toward the curriculum goals by asking probing questions in class discussions, circulating and listening to discussions in group work, and taking advantage of teachable moments when students are ready to learn. When these moments arise, the teacher has a key role to play in explaining content-related concepts and clarifying misconceptions. The teacher may offer a quick explanation to individuals or small groups, or recognize when all or most of the class needs to be taught something as a whole via direct instruction.

When lectures are given, they should be short (hence the term used in these materials, "*mini-lecture*") and organized. Limit lectures to the information students need at that point in the problem-solving process. A mini-lecture should be introduced by talking about it as part of the teacher's role as "coach" for the students' problem-solving process. It is a good idea to refer to the "Need-to-Know" list and say something like, "Many of you said yesterday that you had questions about _____, so I have some information that will answer those questions." And, as in all cases when lectures are used, you should use the techniques of good lecturing; engage students by speaking in an interesting style, asking questions, giving examples, using visual aids, and pausing to have students think, talk, or do some activity.

Use formative assessments

A key part of your job in project based teaching is to monitor whether students are learning the concepts the project is designed to teach. A variety of formative assessments will help with monitoring, including individual questioning, pop quizzes, checks for understanding with peers, and project logs. Here are strategies for using formative assessment tools:

- Listen to student discussions in small groups or as a whole class, and ask questions to provide a window into students' thinking and reveal confusion or misunderstandings.
- Administer a short pop quiz requiring students to demonstrate their understanding of an economic concept.
- Arrange for peers to check each other's understanding by pairing up to explain an economic concept to another student. Follow this by asking students for a show of hands to report how well they thought they explained, and how well they (honestly) thought their partner explained the concept. If this check reveals a knowledge gap or misunderstanding, conduct a short whole-class discussion or mini-lecture to consolidate understanding of the idea or concept.

Project Logs provide a structured way of assessing student understanding and are included in *PBE* units at significant points during the project. You may have students record many things in a Project Log or journal, including notes on the process of learning, comments on how well they or their groups are working, or reflections on content-related topics. Project Logs provide for individual accountability for learning the material, and allow you to assess the understanding of each student when students work in groups.

Project Log entries *must be checked soon after they are written* if they are to be used effectively as a diagnostic tool. You need to find out what students do and do not know in order to plan the next day's instruction. Apart from skimming them all, one way to do this quickly is to select a small number of representative samples from a range of students in the class. Or, students could be asked to raise their hands according to how well their entries—or their peer's, if they have swapped and read each other's logs—matched the criteria provided.

Once Project Log entries have been reviewed to assess the degree to which individual students understand the conceptual material being addressed, you can plan further instructional actions such as:

- talking with the class about the concepts in question by giving another mini-lecture
- talking with certain students or groups to address their misconceptions and misunderstandings

- giving additional textbook reading assignments, and/or directing students to online resources and explanations
- arranging peer teaching between students who are confused about the concept and those who have a solid understanding of it

Manage small-group work

Although the problems posed in project scenarios can be resolved entirely by individuals or entirely through whole-class effort, Project Based Learning is most effective when students are required to work in small groups. Consequently, all *PBE* unit scenarios place students in the role of a team with three to six members. This gives students the opportunity to discuss their ideas and questions with peers and develops the skills of stating a position, listening to others' positions, respectfully disagreeing with others, and collaborating and compromising. There is no always-applicable guidance for forming groups, and you will have to think about your students and decide who works well together. Generally, we encourage teachers to include students with different interests and abilities in the group so that a range of talents and skills can be applied to the project. And, it is generally *not* a good idea for students to choose their own groups based on friendship alone.

Coaching and monitoring groups is important. Most groups will need some assistance maintaining a task focus. Groups may also need help maintaining a positive attitude or dealing with group members who are not carrying their weight. Although PBL is predicated on students taking charge of their own learning, teachers need to monitor this process continually, and pull groups into impromptu conferences when their process bogs down.

Communicate standards of excellence

Rubrics that specify the characteristics of quality work and exemplars of finished products are included in each *PBE* unit. Students should be given the rubric midway through the project, to guide them as they prepare the required major products and performances. Students should not be given the rubric at the same time they receive the Entry Document at the beginning of the project as part of a "complete packet of materials" for the whole unit. They need some time to define for themselves what they have to learn to resolve the problems posed by the scenario, and receiving the rubric or other materials too soon short-circuits that process.

Manage presentation and critique of answers to the Driving Question

All *PBE* units include the preparation of some sort of tangible product and/or performance to communicate an answer to the Driving Question—essentially, the solution a group has developed to the problem posed in the project scenario. Students will need guidance in the preparation of these

products, as well as the opportunity to practice and receive feedback on their work as much as possible from their peers and teacher. After students' solutions have been presented, the class should compare and discuss them, as explained in the debrief phase of each unit.

Oral presentations to the class or a panel are a valuable component of many *PBE* units. As teachers know well, you're often not really sure if you understand something until you explain it to others. However, managing oral presentations well presents several challenges. Student groups need time to prepare and practice. The expectations for a good oral presentation should be made very clear, including presentation techniques and proper attire, posture, attitude, and group member participation. The rubrics accompanying each unit provide guidance to students on the use of content knowledge as well as oral presentation skills.

To help ensure proper participation by all group members, experienced teachers use several strategies. One is to explain that everyone will be held responsible for understanding all parts of an oral presentation and the visual aids that accompany it—and the rubric and grading criteria will reflect this goal. In addition, groups could be informed that even if they have decided in advance who will say what during the formal part of a presentation, *anyone* may be asked a question about *any part* of the presentation. Or, a teacher could tell students they will be picked at random just before the presentation to deliver various parts of it, thereby putting all group members on notice that they all need to be prepared to fully participate.

On the day of presentations, if the number of groups is not too large, there may be time for each group to make a presentation. However, a potential problem with this approach is that groups tend to repeat themselves, and by the time the fourth or fifth group has made its presentation, there is very little new left to say or very few new questions to ask the group. Also, students in groups presenting nearer the end may have an advantage by hearing previous presentations. This can be avoided if it is possible to send the rest of the class to the library or another room, so each group can present only to the teacher or panel—or have presenting groups go to another location. If all students need to remain together, give student audience members a task. Have them listen to other presentations and make notes of good points made and good answers to questions, as well as how they might have done it differently. Some classes may be ready to assess their peers' performance, using a rubric or other set of criteria while they observe and listen.

Practice 21st-century skills

To meet the challenges of the changing economy in the United States and across the world, and become participating citizens in a democracy, students need to learn more than basic skills and acquire subject-area knowledge. Accordingly, all *PBE* units provide opportunities for students to learn and practice 21st-century skills such as collaboration (e.g., working well with others, sharing resources, arriving at consensus), critical thinking (e.g., gathering relevant information, generating and evaluating solutions to problems), and communication (e.g., discussing ideas, writing, making an oral presentation, using technology). You can discuss, teach, and even assess these skills before, during, and at the end of every project.

Establish group and individually based grading procedures

As students usually work together to create the products and/or performance that culminate a project, you may need to assign a single grade for that product, given to all students working in the group. Of course, however, some students—like some adults—will become freeloaders and allow others to do their work for them. Self-reports, combined with group self-evaluation and group leader reports, can provide some information on how much each student may have worked, but not how much each has learned. Students will take more responsibility for their learning, and learn more, if they know their economics content understanding will be assessed individually, so let them know the group product is not the only component of their grade. Instead of relying on one speaker to make a presentation, they should be asked to divide up the task—and be ready for questions about *any* part of it, not just the part they did. But since time is usually short, questioning students during oral presentations can only be a partial assessment strategy. Consequently, multiple-choice tests that can be used to assess individual student understanding appear at the conclusion each *PBE* unit. Additionally or alternatively, you could require students to turn in individual written assignments or take a short-answer/short-essay test. You will have to work out what is most appropriate for your own grading system, but the fundamental idea holds: Make sure to assess students individually on their content knowledge, in addition to any group assessment you conduct.

Allow for several possible "right answers"

Part of what engages students in Project Based Learning is knowing that they can make choices and are not simply "doing what the teacher wants." All *PBE* unit scenarios are built around problems for which there can be multiple reasonable solutions. There are also solutions which are clearly wrong; not *every* solution will work. Guidance on evaluating reasonable and unreasonable solutions for each unit is offered in the **Step-by-Step Teaching Guide**.

Stay within the project scenario

Since the scenarios are hypothetical, students often want to add details, modify what is known, or otherwise *change* the scenario so that it is easier to resolve the problem presented. Such creativity will sabotage the core purpose of the project—it has been carefully developed as a vehicle to teach specific economics content. All *PBE* units have been developed in close consultation with U.S. high school teachers, tested in their classrooms, and revised based on their feedback to ensure that the project, although enjoyed by most students, does not become merely a "fun activity." The project has been created to achieve a serious instructional purpose, and deviating from the project scenario's storyline tends to focus students' attention on irrelevant or less important learning objectives.

Consider needs of English language learners

Students who are learning to speak, read, and write English can benefit greatly from Project Based Learning, but special scaffolding may be necessary. They may need more time to complete tasks, more vocabulary-building, and more peer-to-peer support. Some of the authentic-sounding documents presented in *PBE* scenarios may contain jargon, slang, or cultural references that will need to be explained. When forming small groups, care should be taken to assign students learning English to teams with supportive and skilled members. Finally, oral presentations may present special challenges—ELL students may be allowed to participate to a lesser extent than other group members, and/or be given questions to be answered later in writing, rather than "on the spot."

Make More Money?

Chapter Three

An Activity to Introduce Students to the Project Based Learning Methodology

Overview

In this activity, students are presented with a problem-solving task focused on a fictitious high school senior who wants to drop some classes in order to work more hours. In the role of a counseling team at the school, students investigate the facts of the situation, consider the personal and economic choices involved, and recommend a reasonable solution.

Although this activity touches on some basic economic concepts, it is primarily designed for another purpose—to demonstrate the instructional methodology of Project Based Learning (PBL). It may be used with two groups of participants: high school students in the classroom, or their teachers in professional development workshops. The Buck Institute for Education (BIE) has field-tested this activity successfully with both groups. With students, we recommend using it prior to teaching the units from the *Project Based Economics* series. The instructions below are written with this use in mind. (If the activity is being used with an audience of teachers, they should experience it much as students will, which is the best way to learn how to implement it.)

Project Based Learning may be an unfamiliar process for many students and teachers. In this activity, which requires less than a typical class period to complete, students will become familiar with many of the key elements of the methodology as designed by BIE for its economics units. Like the *PBE* units, the **Make More Money?** activity begins with a problem-solving scenario (not all projects in PBL begin this way, but it is an effective option). PBL is an inquiry-based process that springs from what students identify they need to know in order to solve the problem presented in the scenario. Accordingly, it is important not to "frontload" any information before starting the activity. Do not conduct a discussion, assign reading, or give a lecture in advance about the value of going to college vs. going to work, nor tell students all about PBL. It is sufficient to simply say, "Now we're going to do an activity that will introduce you to one of the ways we're going to learn about economics in this course." The first thing students should see is the Entry Document, the note that launches the scenario. After the scenario has run its course, the debriefing time is when the principles and features of PBL should be discussed, along with any content-related issues or further work on the topic that the teacher would like to do.

Project Based Learning has proven effective in teaching content knowledge as well or better than a traditional lecture/textbook approach, improves

retention of knowledge, and contributes to the acquisition of 21st-century skills such as collaboration, presentation, and critical thinking. Moreover, it increases student engagement and interest in the subject of economics, which is important in their lives as workers and citizens.

Content standards addressed

Voluntary National Standards in Economics:

Standard 1: Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

Content keywords: scarcity, tradeoffs, opportunity cost

Materials needed

- One copy for each student or pair of students of the Entry Document, the note from a student, "AJ," with the additional context for it
- To have on hand in case students request it: copies or a displayed version of the handout, "Earnings by Education Level"
- Chart paper, whiteboard/chalkboard, overhead transparency, or computer and LCD projector

Procedure (40–50 minutes)

1. Read the **Entry Document** aloud as a whole class (page 22, note from "AJ" with added context)
2. Write an **initial "Driving Question"** as a whole class (recorded on a projector, chart paper or board)

   Sample:

   How can we, as the counseling team, find out what's going on with AJ, so we can help him/her make a good decision?

3. Write a list of **"What Do We Know?"** as a whole class (recorded on a projector, chart paper or board)

   Sample:

   - We're a high school teacher who got a note from a student
   - It is September
   - AJ is an 18-year-old high school senior
   - AJ wants to drop classes

- AJ isn't sure about going to college right away
- AJ has seemed withdrawn and distracted lately
- AJ's grades have slipped
- We are on AJ's counseling team
- AJ won't graduate on time if s/he drops classes
- AJ wants to work more and make more money
- AJ doesn't want his/her parents involved

4. Write a **list of "What Do We Need to Know?"** as a whole class (recorded on a projector, chart paper or board)

Sample:

- Is AJ male or female?
- What classes does AJ want to drop?
- Why has AJ been distracted and withdrawn?
- What college was AJ planning to go to?
- Why doesn't AJ want his/her parents involved?
- Do AJ's parents agree with this decision?
- What job does AJ have?
- How much money does AJ make?
- What does AJ need more money for? Is it urgent right now?
- Has AJ thought through the consequences of not going to college?
- How much more money could AJ make in the long run by going to college?

5. Discuss what **resources** could provide answers to our "need to know" questions.

For example, some answers could be found through research—such as a comparison of earnings in jobs requiring college degrees vs. jobs that only require a high school diploma—and some might need to come from actually talking to people. Students should recognize, or be coached to see, that the best way to get more information at this point is to talk to AJ—so tell them AJ will be here in a minute for a meeting.

6. Students take 2–3 minutes, working in pairs or small groups, to plan **questions to ask AJ**.

7. *If they ask for it*, students receive the handout **found on page 24, which shows earnings by educational attainment.** This information may give students ideas for what to discuss with AJ, and should be very briefly discussed as a class. If students do not request this information, the handout may be held for the debrief as an optional discussion piece if you want to use it.

8. Students ask questions during a **"live" meeting** with someone playing the role of AJ.

   - AJ is reluctant to talk, but eventually reveals details about the decision to drop classes.
   - For suggested responses to questions, see "Guidelines for Conducting the Interview and Playing the Role of AJ" below.
   - After AJ reveals the "secret"—that he/she needs more money to help support the family since the father was laid off—the interview ends.

9. Revisit the **Know/Need-to-Know Lists** and revise the **Driving Question** as a whole class.

   Point out that students now have answers to some of their "need to know" questions—and that the list of "what we know" has lengthened. To save time, you do not actually have to write new items on the lists. However, do ask students if they think the Driving Question still fits or if they want to change it, and do so. A new Driving Question might be:

   How can we, as the counseling team, talk more with AJ and his/her parents, so we can help him/her graduate on time and go to college?

10. **Wrap-up:** Explain that although they may not have all the answers to their "need to know" questions, it is now time to propose solutions, or at least say what they would do next. Allow 2–3 minutes for students working in pairs or small groups to brainstorm possible solutions, and then share them aloud and evaluate them.

    Sample of possible solutions:

    - Try to rearrange AJ's class schedule so he/she can complete courses required for graduation and still work the required hours.
    - Talk with AJ's parents to try to find a way to keep AJ on track for graduation and attending college.
    - Go ahead and do what AJ wants.
    - Recommend independent study or the Graduate Equivalency Diploma (GED).

11. **Debrief** with the whole class by leading a brief discussion about both the economics content and the process of learning in PBL.

Economics Content Note Discuss the economic concepts of *scarcity, tradeoffs,* and *opportunity cost.*

Economics Content Notes: Discuss the economic concepts of *scarcity, tradeoffs*, and *opportunity cost:*

- Since the time available for work is a limited, or scarce resource, AJ must consider the trade-offs between work and further education.
- Point out that the cost of AJ's decision can be thought of in terms of what he/she gives up—the opportunity cost—by working more hours to make more money now, versus going to college and earning more later. If you wish, introduce the data comparing earnings of college graduates vs. high school–only graduates.

Potential Hurdle Discuss what this activity demonstrates about Project Based Learning.

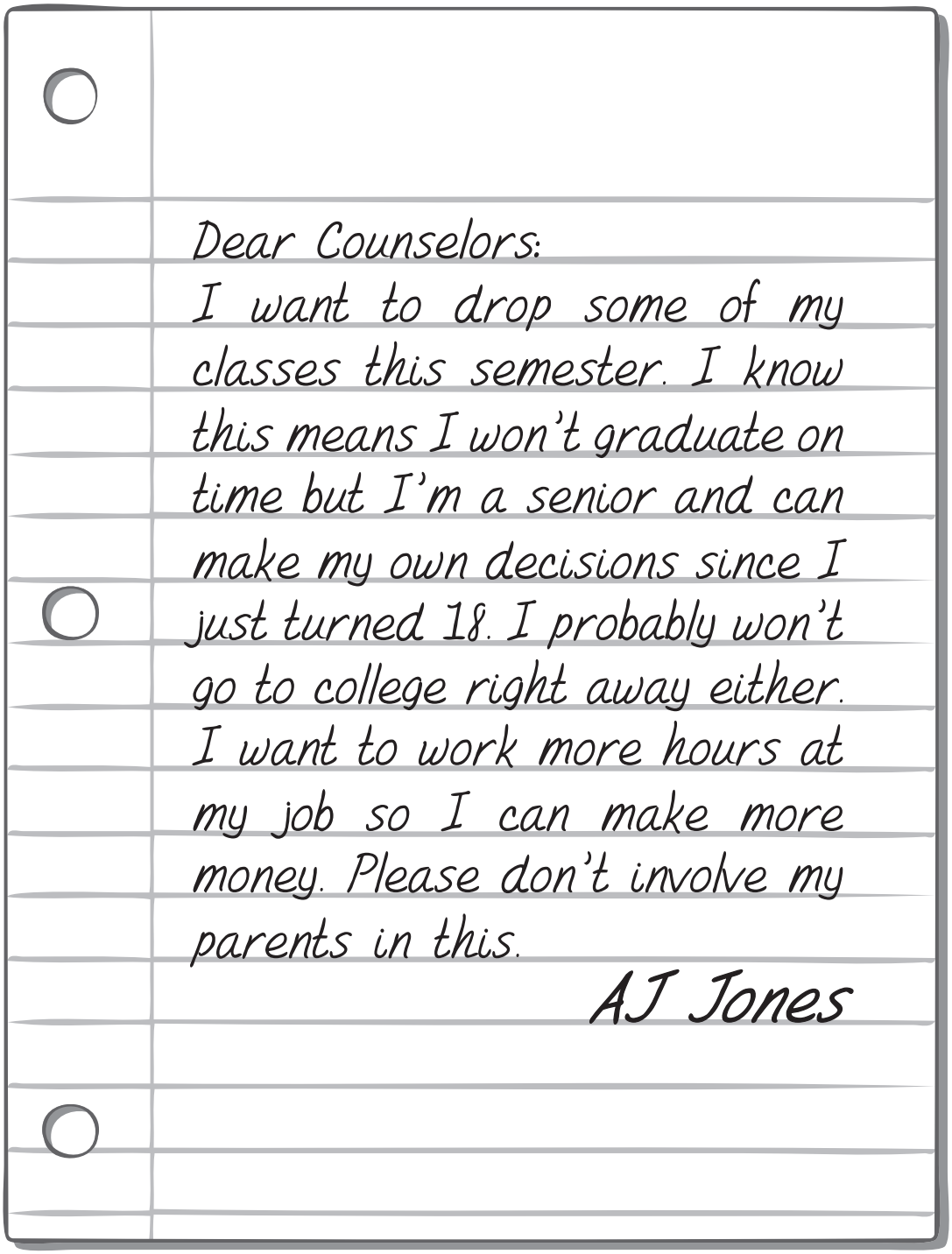
Potential Hurdle: Discuss what this activity demonstrates about Project Based Learning:

- There is no *single* ***right*** answer to the problem in the scenario—it is "open-ended"—but there are ***wrong*** answers. For example, denying AJ's request without further discussion or contact with his/her family would probably be a mistake.
- ***It is important to be persistent.*** During the "live" interview, encourage students to find different ways to ask AJ the same question. During the debriefing, point out that persistence is an important "habit of mind" for PBL.
- ***Frustration is OK—it is an important part of PBL.*** Ask students if they were frustrated at any time during the process. This often leads to a discussion of how students become frustrated during research or other inquiry-based assignments when they cannot find the answers easily. You should allow for some frustration but also offer coaching if students are getting too far off track. Focus students back on the "need to know" list when they are having difficulty thinking of questions to ask AJ.
- ***The Driving Question and the Know/Need-to-Know Lists are important tools*** for keeping on task and focused on the problem to be solved as it evolves.
- ***Good PBL gets students to ask questions about content.*** Asking questions demonstrates that students are open to learning, which can lead to "teachable moments." Rather than give students the answers too quickly, record questions as they come up and have students investigate. In this activity, the information on average earnings by level of education was handed out, but it could have been easily researched by students if there was more time.

- ***New information leads to shifts in perspective—and new questions***. For example, learning that AJ needs more money to support his/her family, not for frivolous expenses, creates a major shift in the way students think about the problem, and new "need to knows" could be identified.
- ***Decisions are often made under conditions of uncertainty.*** Just like people in the real world, students do not always have complete information on which to base decisions. Some of the items on the "need to know" list in the **Make More Money?** activity may not be answered, but that doesn't mean reasonable solutions to the problem can't be proposed.

Letter From AJ

You are a high school teacher who is also on a counseling team, and one day in September you received this note from a student your team counsels:

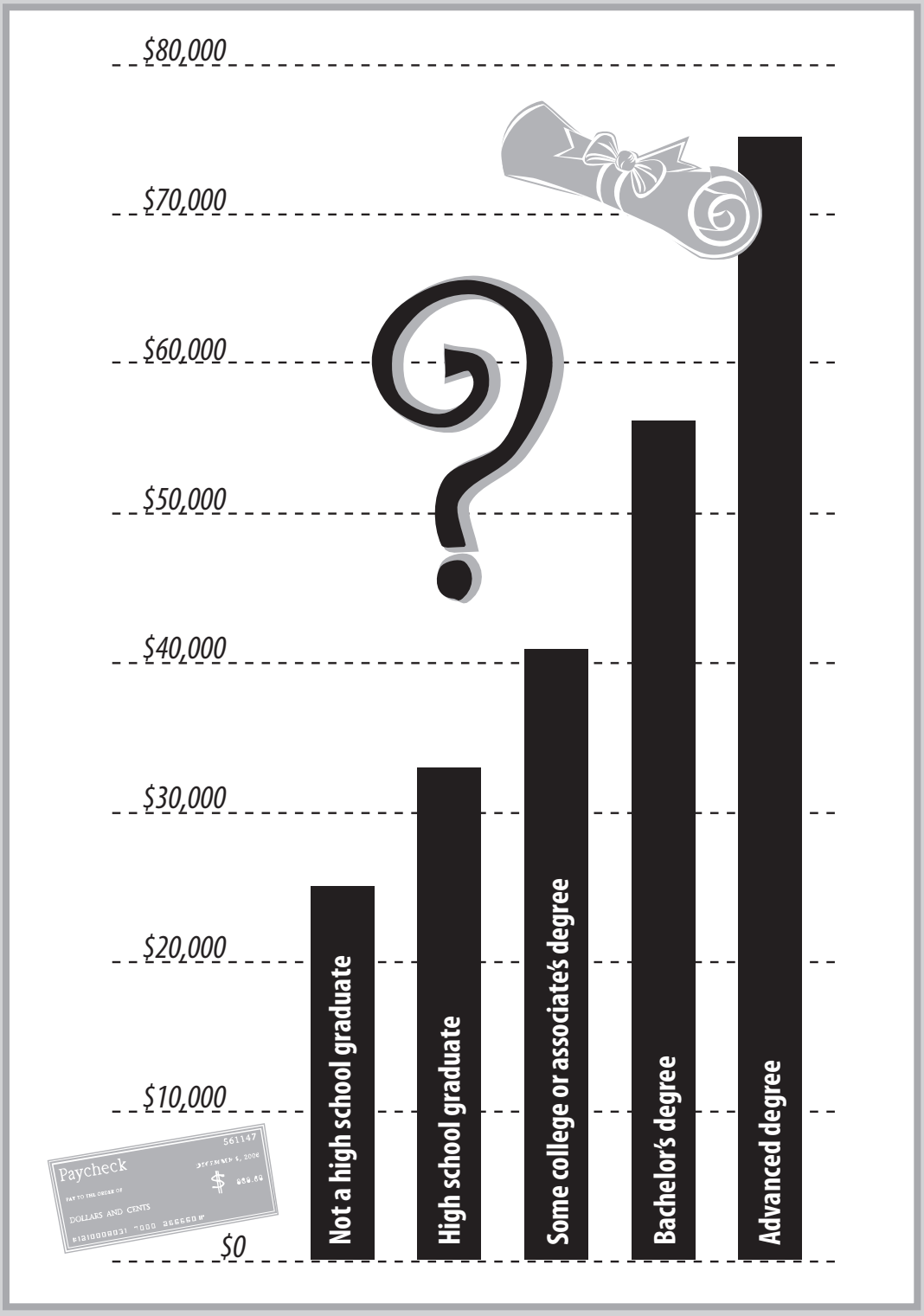


You have always thought AJ was doing just fine in school—but then you remember hearing that AJ's grades have been slipping lately and that AJ has seemed somewhat distracted and withdrawn. You've decided to take this to the counseling team for action.

Guidelines for Conducting the Interview and Playing the Role of "AJ"

- The role of AJ may be played by a male or female—either you, another adult, or a competent student who has been rehearsed.
- AJ should be very reluctant to talk at first. Avoid answering direct questions by saying things like, "It's a personal decision,"—"I just want to work more hours,"—"I'm 18 and can handle myself,"—"It's nothing to do with not liking school or having trouble or anything."
- Slowly reveal the following information, when asked about it:
  - Job is at a local supermarket; bagger and stocker now, but could become a checker soon
  - Hourly wage is $8
  - Now work 15 hours a week, want to increase it to 40
  - May have appeared withdrawn and distracted because of this decision, but nothing else is going on (relationships are good, no drug/alcohol abuse, no physical or mental problems, no difficulties with school, etc.)
  - Want to drop government, economics, and English classes and keep art, yearbook; not taking math or science this year but have taken three years of each
- Be evasive about what the money is needed for—"Oh, I just want to buy stuff," … "My cell phone bill is pretty big," … "I might get a car, better clothes, just spending money for going out with my friends, you know…," … "And I'll save some money too."
- Show discomfort when talking about your parents. Say you do not want to involve them because, "I'm 18 and can make my own decisions," … "I don't want them to stress about me," … "They've got my two brothers and sister to worry about."
- If asked, "Why not wait to work more until after you graduate?" AJ should respond, "I really need the money now." (This should be said in a way that begins to raise suspicions, and/or show discomfort with body language and facial expressions.)
- If the group is getting too frustrated and/or you wish to end the activity, give a clue about what question to ask to get AJ to reveal the "secret" by saying, "My family…I mean, I really need the money now."
- Upon further questioning, it should be revealed that AJ's father has suddenly been laid off from his job (you could choose something in a downsized sector of the economy—computer programming, auto-parts factory, etc.). AJ feels like s/he should work to help support the family, but they would be ashamed to admit it, and would not want AJ to do this.
- *After this last piece of information is revealed, the meeting ends and "AJ" leaves.*

Median Earnings for Full-time, Year-Round Workers Age 25 and Over by Educational Attainment (2007)



Source: www.census.gov/prod/2009pubs/p20-560.pdf

The Greater Good

Chapter Four

Purpose and Overview

Time required

6–8 class periods

Project scenario

When economic production is limited to a single country, it is less than it would be if production were specialized and goods were traded with other countries. With trade and voluntary exchange, countries can specialize and produce only their lower-cost goods, which will net them a comparative advantage in production, then trade with other countries for goods that have a higher relative cost. The trade process increases the goods and services that can be produced with a given amount of resources. However, trade can raise concerns in a country about the effect on workers, the environment, and natural resources. To explore these concepts and issues, students are presented with the following problem-solving scenario:

> *Two island nations, Hatfield and McCoy, have an unfriendly relationship with each other but friendly relationships with their neighboring island nations. Their two island neighbors have just ended a long war, opening the possibility for trade. Hatfield and McCoy each pursue the possibility of trade with the two neighboring islands by analyzing each island's data on the hours it takes to produce goods, and discover economic benefits that occur with specialization of production and trade. When war once again breaks out between the two neighboring islands, Hatfield and McCoy decide to negotiate a trade agreement with each other. Protests about the agreement arise on both islands, led by labor and environmental groups, and the leaders of the islands must create public awareness materials that justify their reasons for trade.*

Concepts to be learned

To successfully resolve the problem and complete the products required in this project, students need to understand and be able to apply the following economic concepts:

- Absolute advantage
- Comparative advantage
- Costs
- Export and import
- Free trade
- Market economy
- Opportunity cost
- Protectionism
- Quota
- Resources (factors of production)
- Scarcity
- Specialization
- Tariff
- Tradeoffs
- Voluntary exchange
- Voluntary restraint agreement

Although an understanding of the following economic concepts is not essential to complete project tasks, teachers can use the unit to explain additional economic concepts, including:

- Division of labor
- Exchange rate
- Trade deficit

NCEE content standards addressed

The Greater Good addresses the following *Voluntary National Content Standards in Economics* codified by The National Council on Economic Education, in partnership with the National Association of Economic Educators and the Foundation for Teaching Economics. For more information see www.ncee.net/ea/standards.

Standard #	Economic Concept
1	Scarcity
2	Opportunity cost
5	Free trade and voluntary exchange
6	Specialization and free trade

The Greater Good can also be used to teach the following standards:

3	Market systems
7	Market economies
11	Money
13	Income and productivity

Teaching *The Greater Good*

Sequence of the unit

Like the other *Project Based Economics* units, *The Greater Good* is designed so that students follow a standard set of activities in a proscribed order. But within these activities, there will be variation in the timing and in the way students complete them.

The sequence of instructional activities is described below. This sequence is logical, and is based upon extensive pilot testing in high school economics classrooms. It is also informed by research into effective instruction. Although changes may be necessary to meet time constraints, address the needs of specific student populations, or include additional instructional materials and learning opportunities, we strongly encourage teachers to adhere to the sequence of activities as closely as possible at least during the first several times *The Greater Good* is taught. Each instructional activity is discussed in more detail in the following section, the **Step-by-Step Teaching Guide**.

Pre-project planning

0. **Prepare** for successful project implementation.

Launching the project

1. Students view **first video from Carlos Medine**, read the transcript, and discuss it as a whole class.

Framing the inquiry

2. Students develop **initial "Know" List** with you (whole-class discussion).
3. Students develop **initial Driving Question** with you (whole-class discussion).
4. Students develop **initial "Need-to-Know" List** with you (whole-class discussion).

Problem-solving and learning activities

5. Students receive **memo with three questions** to research and are divided into three expert groups.
6. Students read **report on free trade and protectionism** and write answers to the question assigned to their expert group (as individuals or pairs).
7. Students **share and discuss answers** to three questions about free trade and protectionism (whole-class discussion).

8. Students **revise the Know/Need-to-Know List** (whole-class discussion).
9. **Divide students into two groups**, the island nations of Hatfield and McCoy.
10. Students receive Table 1 for their island, are told to keep it secret from students in the other island, and review it with you (whole-class discussion).
11. Provide **Clarifying Lesson #1** on *resource productivity and use*.
12. Students receive **Table 2 for their island** and calculate opportunity costs (in small groups).
13. Provide **Clarifying Lesson #2** on *comparative advantage*.
14. Students individually write **first Project Log entry** on opportunity cost and comparative advantage.
15. **Review individual Project Log entries** to assess understanding of economic concepts.
16. Provide **Clarifying Lesson #3** on *specialization and trade*.
17. Students receive **Table 3 for their island** and determine reduction in hours with specialization and trade (in small groups).
18. Students view **second video from Carlos Medine,** read the transcript, and discuss it as a whole class.
19. *Optional:* Students **revise the Driving Question** with you (whole-class discussion).
20. *Optional:* Students **revise the Know/Need-to-Know List** with you (whole-class discussion).
21. Students **decide which goods would be most efficient to produce** by their island (in small groups).
22. Students **negotiate trade agreements** using the "Trade Agreement" worksheet (in foursomes, two representatives from each island).
23. Students view **video from Ellis McClure** on disadvantages of trade and discuss it as a whole class.
24. Students review **flyer against trade** and discuss it as a whole class.
25. Provide **Clarifying Lesson #4** on *benefits and costs of tariffs, quotas, and voluntary restraint agreements*.

26. Students individually write **second Project Log entry** on tariffs, quotas, and voluntary restraint agreements.
27. **Review individual Project Log entries** to assess understanding of economic concepts.
28. Students view **third video from Carlos Medine,** read the transcript, and discuss it as a whole class.
29. Students **finalize the Driving Question** with you (whole-class discussion).
30. Students **finalize the Know/Need-to-Know List** with you (whole-class discussion).
31. **Shares supplied rubric with students** to guide their work.

Presentation, assessment, and debrief

32. Students **create flyer** defending the trade agreement (individually, in pairs, *or* in small groups).
33. Students **present and compare flyers** (whole-class discussion).
34. **Use supplied rubric to assess** flyers.
35. Conduct **debrief to clarify and consolidate** students' understanding of key economic concepts (as necessary).
36. Manage **student reflection** on the 21st-century skills practiced and the process of learning in PBL.
37. Use supplied **multiple-choice test** to assess individual students' knowledge of key economic concepts.
38. Make **notes on adjustments to the unit** to improve student learning for the next time the unit is taught.

Step-by-Step Teaching Guide

Each of the above instructional activities is discussed in more depth below, with tips for successful classroom implementation.

Pre-project planning

0. Prepare for successful project implementation.

There are a number of issues that must be considered before embarking on a project with students. These include:

- How much time will be devoted to the project?
- What economics content resources need to be prepared in advance (textbooks, articles, websites, etc.)?
- Do all students have the skills they need to tackle the project—including basic literacy skills as well as the ability to work in teams, make presentations, and conduct research? If not, is it necessary to preteach some of these skills, make sure students who need it have adequate support, or deal with these challenges in other ways?
- How will student groups be formed?
- How will groups report on their progress and be held accountable? Do report forms or other tools need to be developed?
- Is it necessary to arrange access to the library/media center or computer lab?
- Do parents or administrators need to be informed about the process of Project Based Learning and be assured that time spent on the project is focused on standards-specific learning goals?

In addition to considering the above issues, be sure student handouts and clarifying lesson/mini-lecture materials are ready, or at least underway.

Special notes on handouts and video recordings for this unit:

- Students are formed into two groups, each representing a different island nation. Each group will receive its own set of handouts, so using a different color for each group will help keep this straight.
- Midway through the unit, students are shown a flyer used by opponents of trade. Instead of making several paper copies of this, you could make one or two copies to pass around the room while you project an image of the PDF version.

- A video recording serves as the Entry Event that sets up the project's scenario and provides more information to students at several points. This video is available on the Web at: http://www.teachinteract.com/PBEmedia

Launching the project

1. Students view the first video from Carlos Medine, read the transcript, and discuss it as a whole class.

The video message is 3.5 minutes long and contains several important details. In order to more carefully analyze this message, students should also read a transcript.

> *A transcript of the first video from Carlos Medine may be found in the* ***Student Materials****.*

The transcript can be projected so it can be read by the whole class. Alternatively, copies of the transcript can be duplicated and passed out to students.

Potential Hurdle

It is essential that the entire class be able to read and comprehend the Entry Document. If necessary, employ usual literacy-building strategies.

Potential Hurdle: As this video/transcript sets up the scenario and the problem to be solved, it is essential that the entire class be able to read and comprehend the text. If necessary, employ the same literacy-building strategies you would normally use for this kind of material.

Synopsis of Video Message: The video shows Carlos Medine, President of the Trilateral Trade Consortium, welcoming students as economic leaders of their two rival islands, Hatfield and McCoy. He tells students the war between their neighboring islands of Abbydale and Springfield has ended, making it possible for Hatfield and McCoy to establish trade with them. Mr. Medine explains that they will eventually negotiate a trade agreement with Abbydale or Springfield, based on an analysis of which goods and services each island wants to produce. He advises them to prepare for criticism by researching answers to questions about trade. He notes that they will be given two resources after the video: "Research Questions and Technical Report TLC #02-540," and Table 1, "Hours Needed to Produce Each Good."

Economics Content Note

Be sure that students understand that trade is not a "game" meant to cheat others out of resources, but occurs (under voluntary exchange) because both parties can gain.

Economics Content Note: High school economics classes often use simulations or games to teach trade. These games have students "trade" and "compete" to see who can get the most tokens. Since the tokens usually represent some type of resource, students often leave these lessons thinking that trade is a game meant to cheat others out of resources. This is not true and is not the lesson to be learned about trade under voluntary exchange. Trade occurs because both parties can gain. Be sure students understand this basic underlying premise of market economies. If students start to develop a "gaming" mentality, coach them to see that economic gains come from trade as a voluntary exchange but not necessarily from competitive games in which you try to gain more than your partner.

Framing the inquiry

2. Students develop the initial "Know" list with you (whole-class discussion).

Students must now assess what they already know about the problem posed in the video. This should be done as a whole class by creating a "What Do We Know?" list on chart paper, an overhead transparency, or a computer projector. Ask students to carefully review the video transcript and offer items for the list, making sure to *only record what is in the text, not what might be inferred*. Students should be coached to identify all of the information that the video provides. They should conclude that this information is insufficient to solve the problem, and they need to know (learn) additional things.

Although each class generally produces a unique Know/Need-to-Know List, an example of the type of items that might appear on the first Know list follows.

Example of initial Know List

What do we know?

- We are economic leaders of two island nations, Hatfield and McCoy
- Carlos Medine is President of the Trilateral Trade Consortium (TTC)
- A 100-year war just ended between Abbydale and Springfield, two neighbor islands
- We were neutral during the war, so we couldn't trade with either Abbydale or Springfield
- The TTC spoke to our premiers and they would like us to negotiate a trade agreement with Abbydale and/or Springfield
- Medine says trade will improve relations and economic output for all nations involved
- Our premier will contact us soon about what to do
- We're getting accurate data about how many hours it takes each island to produce things to trade
- We should figure out what we want to produce and what we'd like Abbydale and/or Springfield to produce
- The people of Hatfield and McCoy do not trust each other and are not expected to trade with each other
- Any trade agreements made between Hatfield and Abbydale and/or Springfield will not affect trade agreements made between McCoy and

Abbydale and/or Springfield

- Medine is warning us that many people resist trade and will criticize us
- To prepare for critics, Medine wants us to learn about the benefits of trade
- We have to research some questions about trade
- We will get a paper by the TTC to help our research
- Medine says we should form expert groups to answer each question

Potential Hurdle

If students ask about the negative effects of free trade, let them know that the unit is designed to teach the basic economics—not the politics—of trade. Point out that, in any case, in order to make a sound argument against unregulated trade, one must also have an understanding of the principle underlying its benefits..

Potential Hurdle: Some students may have heard of protests at World Trade Organization meetings or heard about the debate over the pros and cons of free trade. They may ask questions during this unit about the "other side" of the issue of free trade (e.g., its possible—and sometimes real—negative effects, particularly on certain segments in a trading nation's economy). Let them know that this unit is designed to teach the basic *economics*—as opposed to the politics—of trade. The unit's scenario necessarily involves *learning the economic benefits of* free trade, and so students may have to play the role of someone whose views on the issue are different from their own. Point out that this is one of the best ways to learn how to support and defend your own opinion and that, in order to form a sound argument *against* unregulated trade, one must understand the economic principles underlying the benefits of trade. In other words, unless you understand the concept of comparative advantage, you cannot discuss the pros and cons of trade in an informed way. You may have students investigate the "other side" of free trade on their own, or you may explore the issues with the whole class after *The Greater Good* is completed.

3. Students develop the initial Driving Question with you (whole-class discussion).

Once the first video from Carlos Medine is discussed, and you are satisfied that students understand it, lead students in drafting an initial problem statement. This is generally done as a whole-class discussion.

A Driving Question is a succinct declaration of the general problem students are to solve. It takes the following form:

> How can we, as… **[the role(s) being assumed by the students],** do… **[the specific task(s) students must complete],** so that… **[the specific result or goal(s) to be accomplished]?**

The initial Driving Question may be quite different from the Driving Question that will emerge as students think about and work on the problem. This is to be expected. The Driving Question generally evolves as students gain more

insight and knowledge into the problem and its underlying issues. The initial question may look something like:

> How can we, as **economic leaders of our islands,** research **the benefits of trade and figure out which goods and services to produce,** so that **we can negotiate a good trade agreement and respond to criticism?**

At this point, it is okay if the Driving Question is somewhat ill-defined. It is not necessary that the Driving Question contain economic terms or, if it does, use the economic terms correctly. The Driving Question will become more refined as students learn more, and as new developments in the project scenario unfold. The part about "respond to criticism" is not vital for the first phase of the project—it comes into play nearer the end.

4. Students develop the initial Need-to-Know List with you (whole-class discussion).

The next step in the problem-solving process is to coach students to identify information they need to know in order to solve the problem statement. Again, guiding students to pay close attention to all parts of the video transcript, create a "What Do We Need to Know?" list. If students are missing a key piece of information about the problem, the content, or their task, ask questions to elicit items for the list. This is critical because everything students are taught in the unit must spring from this list.

At this point in the problem-solving process, students will probably list things that they actually do *not* need to know. Allow students to do so. The class will return to the Know/Need-to-Know List again later, having learned more about what they need to know to solve the problem, and should recognize irrelevant concerns at that time. A core part of the process of problem based learning is to distinguish what information is and is not necessary to solve the problem. As much as possible, encourage students to identify irrelevant information on their own.

Review the Need-to-Know List soon after it is written and think about how you will answer students' questions. Some may be answered right away, or while coaching small groups. Some will require a more formal clarifying lesson for the whole class. Other questions will be answered through independent research and thought by students. As the problem unfolds, coach students to see that some "need-to-knows" will never be answered and are not actually necessary for developing a reasonable solution to the problem.

Although each class generally produces a unique Know/Need-to-Know List, an example of the type of items that might appear on the list follows.

Example of initial Need-to-Know List

What do we need to know?

- What is the Trilateral Trade Consortium (TTC)?
- Where are Hatfield, McCoy, Abbydale, and Springfield?
- Why did Abbydale and Springfield fight a war, and who won? Why did it end?
- What does it mean to "remain neutral" in a war?
- What are we going to be—Hatfield or McCoy—and when will we know?
- What exactly are "economic leaders"?
- What is a "premier"?
- Why do many people resist trade?
- How much power does Carlos Medine have?
- What is a trade agreement?
- Are there really "many benefits" from trade?
- Do we have to—or can we—do more research or do we just read the TTC's paper?
- Why don't Hatfield and McCoy trust each other?
- How do TTC analysts know how long it would take to produce things?
- How will this data help us decide what to trade?

Potential Hurdle

Tell students that while the names and the places used in this unit are fictional, the scenario s themselves resemble authentic situations.

Potential Hurdle: After viewing this video, students may wonder if Carlos Medine and the Trilateral Trade Consortium—and the island nations he refers to—really exist. Tell them the names are fictitious, but they should be reminded that the scenarios were developed to resemble authentic situations.

Problem-solving and learning activities

5. Students receive memo with three questions to research and are divided into three expert groups.

*The memo from Carlos Medine with three questions to research may be found in the **Student Materials**.*

Give each student a copy of the memo from Carlos Medine of the Trilateral Trade Consortium and read it aloud as a whole class. Discuss the memo to be sure everyone understands his or her task.

Remind students that this research will help answer some of the "need to knows" students listed after viewing the video.

Optional Activity: The first research question in the memo describes an activity that you may wish to *do with the whole class*, before the expert groups start to find answers to their questions. In this activity, students look at the labels on their clothing and other possessions to see where they were made—and a whole class of students creates a greater range of examples of trade.

Divide students into three "expert groups" and assign each group one of the questions from the memo to answer. Be sure each group contains a good mix of student skill levels.

6. Students read report on free trade and protectionism and write answers to the question assigned to their expert group (as individuals or in pairs).

*The report on Free Trade and Protectionism may be found in the **Student Materials**.*

Give each student a copy of "Technical Report TCL 302-540, Free Trade and Protectionism: A Critical Review" from the Trilateral Trade Consortium. Note that this report will help them answer their research questions. Students may also use a textbook or resources from the library or the Internet. You may give students time in class to work on this task, or assign it as homework, and have students do it individually or in pairs.

7. Students share and discuss answers to three questions about free trade and protectionism (whole-class discussion).

Once students have written answers to their research question, ask members of each expert group to share their answers, either as an oral report to the class, or more informally when you discuss each question. Collect their written answers to check for understanding and to assign Credit/grades if you wish.

Economics Content Note: The questions and research are designed to get students thinking about trade and some of the benefits we as a nation and individuals gain from trading with other countries. Because the questions could easily be answered by intuition (e.g., we get cheaper stuff from other countries because we use overseas sweatshop labor), students must ground their answers in the ideas contained in the report or from their economics text and research. Students should not be expected to fully understand all the concepts, instead they should realize that trade has benefits and costs and that economic gains can be made from it.

Economics Content Note
Although students may be able to answer these questions using intuition, they must still ground their answers in ideas from the report, or from their economics text and research..

8. *Optional:* Students revise the Know/Need-to-Know List (whole-class discussion, or as individuals).

If you and/or students wish to revisit the Know/Need-to-Know List, items now could be added based on the research on free trade and protectionism. You could take the time for a whole-class discussion, or you could simply ask students to note this individually. Move any items that are now "known" from the "Need-to-Know" to the "Know" side of the list, or mark them with a check. In addition, students might have some new items for the Need-to-Know List.

9. Divide students into two groups, the island nations of Hatfield and McCoy.

Divide the class into two groups of the same size and with a balanced mix of student skill levels. Tell them which island nation's economic leaders they now are: Hatfield's or McCoy's. Emphasize that, since they are rivals and trade negotiations are conducted in "closed-door" meetings, they will need to meet on different sides of the room and not talk about their nation's plans with students from the other nation. Tell them not to reveal the "secret information" contained in their island's production data table.

10. Students receive Table 1 for their island, are told to keep it secret from students in the other island, and review it with you (whole-class discussion).

> *Table 1 for Hatfield and Table 1 for McCoy may be found in the **Student Materials**.*

Table 1, "Hours Needed to Produce Each Good," is the first piece of information given to the students to help them trade with Abbydale and Springfield. This table tells students how many hours are needed to produce each good that might be traded. If students ask about the availability of other goods, they can be told that the list of goods in Table 1 represents the goods that are currently being produced on the islands. Other goods are imported and their availability will not change.

Have students look over Table 1 and explain that each island has different natural, human, and capital resources. This creates differences in production costs (hours in Table 1). Students can readily see these different costs of production by adding the hours used to produce each good to find the "Total Hours Needed for Production" (final row of Table 1) for each island.

> *A completed version of Table 1 for the teacher may be found in the **Teacher Materials**, in "Table Answer Keys."*

Give students a few minutes to calculate the total hours needed for

production, working alone or in pairs. To check for accuracy, you could do Springfield and Abbydale together as a class, then task students to compare calculations for their own island with a partner from the same island—*but do not ask students to report out these numbers, since this information should be kept secret from their rival island.*

Note that students, as economic leaders preparing for trade negotiations, now "know" some things about their island's production compared to Abbydale and Springfield, for example:

- It takes Springfield 211.5 total hours and Abbydale 445 total hours to produce what they need to be self-sufficient
- It takes McCoy 178.5 total hours to produce what it needs to be self sufficient
- It takes Hatfield 170 total hours to produce what it needs to be self sufficient
- Springfield is an efficient producer of printers (2.5 hours) and films (8 hours)
- Abbydale is *relatively* most efficient at producing shipping (6 hours)

Economics Content Note: Students should be aware that Table 1 shows them absolute costs of producing a good—the "absolute" amount of resources needed for production. It tells them how many resources (labor hours) must be given up to produce each good. *They should readily see that it takes some island nations longer than others to produce certain goods.* For example, it takes Springfield fewer hours to produce clothing design (5) than Abbydale (24), Hatfield (23) or McCoy (12). Students should also understand that the differences in productivity—labor used to produce a given output—stem from resource differences between the islands. Students should also be able to link the concept of absolute advantage to production—that is, the island that has the lowest cost of producing a good (i.e., uses the least labor) has an absolute advantage in producing the good because it uses the fewest resources in doing so.

Economics Content Note
Table 1, which shows the "absolute" amount of resources, allows students to see that some islands take longer than others to produce each good. They should understand that resource differences also affect productivity, and that the island with the lowest cost in producing the good has an absolute advantage in production.

11. Provide Clarifying Lesson #1 on *resource productivity and use.*

This lesson can be provided to students using a combination of mini-lectures and selections from a textbook and other print and online resources, some of which may be assigned as homework. See "Economics Review" for information to include in a mini-lecture.

Economics Content Note: In this lesson emphasize the following economic ideas and thinking:

Economics Content Note
Emphasize that a country's resources determine its production, that resources more productive than others are worth more, that a country's absolute advantage comes from using fewer resources than another, and that tradeoffs in production must occur when all resources are being used.

- The quality and quantity of a country's resources determines how much it can produce.
- Some resources are more productive than other resources.
- Resources that are more productive are worth more.
- An absolute advantage exists when a country uses fewer resources than another in producing a good.
- If a country is using all its resources (i.e., none are unemployed), tradeoffs in production must occur.

12. Students receive Table 2 for their island and calculate opportunity costs (in small groups).

*Table 2 for Hatfield and Table 2 for McCoy may be found in the **Student Materials**.*

Have students work again in small groups to complete Table 2, "Opportunity Costs of Production and Comparative Advantage."

Economics Content Note
Reinforce the distinction between absolute advantage, indicated by the hours used in production on Table 1, and comparative advantage, which students can determine with the help of Table 2 by calculating opportunity cost.

Economics Content Note: Use Table 2 to reinforce the distinction between absolute advantage, which is shown by the hours used in production in Table 1, and comparative advantage, which is shown by the opportunity cost of production in Table 2. Students must ultimately be able to see that the numbers in Table 2 represent the key to trade because they will determine which country has the lowest opportunity cost of producing the goods.

Students compute opportunity cost using a three-stage process:

1. Look on Table 1 to find which good in each column (on each island) uses the fewest hours in production (the "lowest-cost" good)
2. Determine how many hours it takes to produce this good
3. Divide the hours needed to produce each good by the hours it takes to produce the "lowest-cost" good.

Fill in the table by doing this for each of the islands to see how much of the lowest-cost good must be given up on each island to produce other goods.

For example:

1. For Hatfield, the lowest-cost good is construction.
2. It takes Hatfield 2 hours to produce construction.
3. It takes Hatfield 8 hours to produce fruits and vegetables, which when divided by hours, equals an opportunity cost of 4 hours.

That is, 4 hours of construction must be given up in order to produce 50 pounds of fruits and vegetables.

Now have students do the final step to complete Table 2: circle the lowest number in each row. This shows which island has the lowest opportunity cost—that is, the comparative advantage—for producing that good.

> *A completed version of Table 2 for the teacher may be found in the **Teacher Materials**, in "Table Answer Keys."*

Potential Hurdle: The tables will be much more meaningful if students see them as a means to determining the information needed to trade with Abbydale and Springfield than if they see them as worksheets for computations. This may take frequent reminders and coaching to show students how the information on these tables is necessary for effective trading.

Potential Hurdle
You may have to remind and coach students to see the tables not as worksheets for computations, but as information necessary for determining effective trading.

Economics Content Note: Once students circle the lowest number in each row of Table 2 they should be able to readily see and understand the concept of comparative advantage. Use Table 1 to illustrate the tradeoffs made in production for each island without trade, and Table 2 to illustrate the tradeoffs made in production when countries do trade. Comparative advantages stem from production differences between countries. Because the opportunity cost—what production must be given up—of producing each good differs for each country, gains exist from specializing production and trading for goods that are not produced. The nation produces what it does relatively best and trades for goods it does not produce. For this exchange to work, the island with the comparative advantage—the lowest opportunity cost—produces the good for all nations and trades the goods for other goods that other countries produce. When countries specialize production in goods that have the lowest relative cost (i.e., opportunity cost of production is lower) and trade for goods that other countries produce at lower relative cost, the total amount of production increases. As a result of this process, overall efficiency is increased—the same resources can be used to produce more goods.

Economics Content Note
Comparative advantage stems from production differences between countries due to differing opportunity costs. Gains exist from specialization and from trading for what that country cannot itself produce with the lowest relative cost. Total production therefore increases, as does overall efficiency.

4. Provide Clarifying Lesson #2 on *comparative advantage*.

This lesson can be provided to students using a combination of mini-lectures and selections from a textbook and other print and online resources, some of which may be assigned as homework. See "Economics Review" for information to include in a mini-lecture.

Economics Content Note: In this lesson emphasize the following concepts:

- Specialization

Economics Content Note
In this lesson emphasize the concepts of specialization, trade, and comparative advantage (including its computation).

- Trade
- Comparative advantage (concept)
- Comparative advantage (computation)

5. Students individually write first Project Log entry, answering the following questions:

What is the difference between comparative advantage and absolute advantage? Why is comparative, not absolute advantage, used to determine which goods we produce and trade?

Project Log entries do not have to be long, but they do need to be completed for Project Based Learning to be most effective. They may be assigned either as in-class tasks or as homework.

6. Review individual Project Log entries to assess understanding of economic concepts.

*For tips on reviewing Project Logs, see "Use Formative Assessments" in Chapter Two discussion of **Teaching Strategies for Project Based Economics**.*

Economics Content Note
The Project Log should demonstrate whether students understand and can correctly use the concepts of specialization, trade, and comparative advantage.

Economics Content Note: This Project Log is designed to check whether or not students understand and can correctly use the concepts of specialization, trade, and comparative advantage. These concepts lie at the core of the unit and are key to understanding why gains from trade are possible—but they are difficult concepts to master. Table 2, Clarifying Lesson #2, and the project log all provide students with an opportunity to see how specialization of production in relatively low cost goods (those for which the country holds a comparative advantage) produces gains from trade. Students should understand these concepts well enough to be able to readily apply them to different situations. For example, students should see that it does not matter if a country has a trade deficit, since importing more goods than what is exported merely reflects voluntary exchange from which all benefit. If students do not have an in-depth understanding of these concepts, Clarifying Lesson #3 can be used for reinforcement.

7. Provide Clarifying Lesson #3 on *specialization and trade.*

This lesson can be provided to students using a combination of mini-lectures and selections from a textbook and other print and online resources, some of which may be assigned as homework. See "Economics Review" for information to include in a mini-lecture.

Economics Content Note: In this lesson emphasize the following concepts:

- Specialization
- Trade
- Comparative advantage
- Money as a medium of exchange
- Trade deficits

Economics Content Note
In this lesson, emphasize the concepts of *specialization, trade, comparative advantage, money as a medium of exchange,* and *trade deficits*.

Potential Hurdle: Students may have trouble seeing that a comparative advantage does not exist when opportunity costs are identical for two or more countries. Students should be coached to see that in these cases production could occur on one or more islands.

Potential Hurdle
Students should be coached to see that when opportunity costs are identical for two or more islands, production could occur on one or more.

8. Students receive Table 3 for their island and determine reduction in hours with specialization and trade (in small groups).

Table 3 for Hatfield and Table 3 for McCoy may be found in the ***Student Materials****.*

In Table 2, students were asked to designate the island that is the low-cost producer of each good. Table 3, "Why Trade is Good," will show students how many resources are saved with specialization and how much production can increase using the same resources. In this table, students compute the total cost of producing the goods with specialization and trade by filling in the cost of production by the island that is the low-cost producer (identified in Table 2). By comparing the total cost of production with specialization and trade (Table 3) with the total cost that each island bears without trade (Table 1), students will see that specialization and trade lowers the total cost of production for all countries.

For example *(Remember, do not reveal the actual numbers for Hatfield and McCoy to students, who must not know the other island's production data)***:**

- Table 2 shows that Springfield has the lowest opportunity cost for clothing design—2.0 hours.
- In Table 1, Springfield only needed *5 hours* for clothing design of 25 garments, which is much lower than what Hatfield and McCoy needed.
- In Table 3, students enter *5 hours* in the row for clothing design, because they can trade for that with Springfield.

A completed version of Table 3 for the teacher may be found in "Table Answer Keys" in the ***Teacher Materials****.*

Potential Hurdle
Students may need coaching to see that hours saved can be used to increase either the number of goods, research and development, or leisure.

Potential Hurdle: Students will readily see that hours, and hence costs, are reduced with specialization and trade. However, they may need some coaching to see that the hours saved can be used either to increase the number of goods and services produced by putting the resources back into production, to increase research and development of new goods and services, or to increase leisure (i.e., laborers can produce the same amount by working less).

Economics Content Note
Students should understand that specialization and trading for goods not produced yields an economic advantage.

Economics Content Note: Students should now be comfortable with the notion that specializing production and trading for goods that are not produced yields an economic advantage. If they are not, they will have difficulty understanding how to complete Table 3. Should this occur, reinforce the concepts of comparative advantage, specialization, and trade.

9. Students view second video from Carlos Medine, and read the transcript (whole-class discussion)

The video message is 2.5 minutes long and contains several important details. In order to more carefully analyze this message, students should also read a transcript.

> *A transcript of the second video from Carlos Medine may be found in the **Student Materials**.*

Synopsis of Second Video Message: The second video message from Carlos Medine tells students that they will not be able to trade with Abbydale or Springfield because war between them has broken out once again. The premiers of Hatfield and McCoy, however, have decided to try to put aside their mutual distrust and negotiate a trade agreement between their islands. This switch in trading partners occurs so that students realize the trading difficulties that arise when the production costs are unknown (i.e., under uncertainty)—as is often the case in the real world when nations negotiate trade agreements.

Potential Hurdle
Students must be well-grounded in the economic reasoning behind trade before negotiating with their rival, and not see trade as a means of cheating a country out of its resources.

Potential Hurdle: Students must be well-grounded in the economic reasoning behind trade before negotiating with their rival. For curriculum goals to be met, students cannot view trade as trying to cheat one country (or person!) out of resources.

10. *Optional:* Students revise the Driving Question with you (whole-class discussion).

This step is optional because the basic problem has not changed too much—it's only the trading partner that has changed. After watching the second video from Carlos Medine, ask students if they think they need to revise the Driving Question. The new statement could be something like:

How can we, as **economic leaders of our islands,** put aside our distrust **and decide which goods and services to produce,** so that **we can negotiate a trade agreement that benefits both nations?**

11. *Optional:* Students revise the Know/Need-to-Know List with you (whole-class discussion, or as individuals).

Revisit the Know/Need-to-Know List as a whole class and move any items that are now "known" from the "Need-to-Know" to the "Know" side of the list, or mark them with a check. In addition, students should have some new items for the Need-to-Know List. You could take the time for a whole-class discussion, or you could simply ask students to note this individually.

The revised Know/Need-to-Know List might include the following new items:

Sample items for revised Know/Need-to-Know List

What do we know?

- *(previously listed items)*
- Abbydale and Springfield are at war again
- We will not be able to negotiate any trade agreements with them
- Our premiers now want to have a trade agreement
- The TTC likes this idea
- Our premiers have bad attitudes about each other's people
- Both premiers think trade is good for production and efficiency and will benefit both islands
- We need to decide what each island will produce, but not how much—TTC economists will do that
- We have 15 minutes to negotiate
- The agreement must be fair and honest and benefit both of us
- We should try to overcome our distrust—but still be careful

What do we need to know?

- *(previously listed items)*
- Why did the war start again?
- Why do our premiers suddenly want us to trade? Are they going to profit?

- Will trade be good for both islands' production and efficiency?
- How do we negotiate?
- Who do we negotiate with?
- Why do we distrust each other so much?
- When do we start?
- Can we plan what to do in advance?

12. Students decide which goods would be most efficient to produce by their island (in small groups).

Before starting negotiations for trade, form students from the same island into small groups of 3 to 5. They need to decide which goods they want to produce, which goods they want the other island to produce, and which goods they are uncertain whether to produce or not. Ask them to use information from Table 2, where they circled the island with the comparative advantage in producing each good. They should try to trade the items their island has the comparative advantage in producing for other items that they do not produce as efficiently.

Economics Content Note
Student decisions should be grounded according to comparative advantage. They should understand that they want to produce goods with the lowest opportunity costs and trade for the those with the highest opportunity costs.

Economics Content Note: Make sure students ground their decision according to their comparative advantage. While students might choose to produce goods for non-economic reasons, they should understand the costs of not choosing to produce only the goods for which they have a comparative advantage. Should students not understand the criteria for deciding which category each good falls into, they should be coached to see that production costs differ and that they want to produce goods with lowest opportunity costs and trade for those goods with the highest opportunity costs.

13. Students negotiate trade agreements using the "Trade Agreement" worksheet (in foursomes, two from each island).

*The "Trade Agreement" worksheet may be found in the **Student Materials**.*

Two students from McCoy should be paired with two students from Hatfield to negotiate the trade agreement. Give each group of four one copy of the "Trade Agreement" worksheet and remind students to use the information from the tables to determine which goods their island wants to trade. To help students begin trade, have them offer their lowest-cost good in exchange for their highest-cost good.

Limit the negotiation of trade to a maximum of 15 minutes. In the "real world" trade deadlines are imposed, so the 15-minute limitation simulates this

experience. It also provides students with an example of why all the gains from trade might not be realized under time constraints. During the debriefing, students should be coached to see that gains from trade exist even with "real world" imperfections of uncertainty in cost structures and time limitations.

Students should also recognize that the offer and counteroffer in negotiation elicits information about costs. Because economic gains can be made with specialization and trade, both parties have an incentive to let the other island know which goods they want to produce, but they do not necessarily have the incentive to let them know how low their costs are.

At the end of the 15-minute negotiations, students should sign their trade agreements and turn them in to you (acting as "Carlos Medine's assistant").

> *A sample of one potential "Trade Agreement" may be found in the* **Teacher Materials**.

Economics Content Note: Gains from trade can be illustrated using a blank "Trade Agreement." Students may use this as a worksheet to calculate the hours of production needed after trade. If negotiations are grounded in cost considerations, the total hours needed to produce the goods will be fewer than those needed by either Hatfield or McCoy if they produced the goods alone (Table 1). If hours in production increase, the computations can be used as a springboard to show how trade that is not grounded in low-cost production is inefficient.

Economics Content Note
Gains from trade can be illustrated using a blank "Trade Agreement" as a worksheet to calculate the hours of production needed after trade. Properly grounded negotiations should result in fewer total hours needed than Hatfield or McCoy if they produced the goods alone; if hours increase, use the numbers to show that trade otherwise is inefficient.

14. Students view video from Ellis McClure on disadvantages of trade and discuss it as a whole class.

The video message is 3:15 minutes long and contains several important details. In order to more carefully analyze this message, students should also read a transcript.

> *A transcript of the video infomercial from Ellis McClure may be found in the* ***Student Materials***.

After students have completed their trade negotiations, they should be brought together and shown the infomercial by Ellis McClure, who presents students with arguments against trade. Tell students this infomercial has been shown on television on both islands, and they need to be aware of it as economic leaders and trade negotiators—and remind them that Carlos Medine warned about this in his first message. Ellis McClure speaks for the employed workers of the island and informs his viewers that, in the short run, some employed workers will lose their jobs with trade.

Economics Content Note: Ellis McClure's emphasis on tariffs, quotas, and voluntary restraint agreements ignores the opportunity costs (in terms of

Economics Content Note

The emphasis on tariffs, quotas, and voluntary restraint agreements ignores long-term opportunity costs that must also be weighed before students make a decision.

foregone goods and services) that will be borne in the long run with trade barriers. Students should be coached to see that using trade barriers to restrict trade has a cost and that they should weigh the costs and benefits of their actions before making a decision.

15. Students review flyer against trade (whole-class discussion).

*A copy of the flyer may be found in the **Student Materials**.*

As part of his infomercial, Ellis McClure tells students that lobbying groups have prepared a flyer on why trade is harmful. Because this flyer will ultimately be used to discuss their task in the last stage of the problem, lead a discussion with students focusing on the flyer's strengths (e.g., highlighting relevant information) and weaknesses (e.g., biased and misleading information). Since students do not know at this point in the problem that they will be required to make a flyer, the discussion should be couched in terms of a general analysis and presentation of material—not a specific "how you need to make your flyer" lesson. Later, you can tell students this is an example of what *not* to do—i.e., use non-economic arguments.

Optional: You and your students may wish to add items to the Know/Need-to-Know List at this point.

16. Provide Clarifying Lesson #4 on *benefits and costs of tariffs, quotas, and voluntary restraint agreements*.

This lesson can be provided to students using a combination of mini-lectures and selections from a textbook and other print and online resources, some of which may be assigned as homework. See "Economics Review" for information to include in a mini-lecture.

Economics Content Note

In this lesson, emphasize the long-term benefits and short-term costs of trade, ways to inhibit or prohibit trade, and using benefits and costs to determine policy.

Economics Content Note: In this lesson emphasize the following ideas and economic ways of thinking:

- the benefits of trade in the long run
- the short-term costs of trade
- ways to inhibit/prohibit trade
    - tariffs
    - quotas
    - voluntary restraint agreements (aka voluntary export restraints)
- using benefits and costs to determine policy

17. Students individually write second Project Log entry, answering the following question:

What are the benefits and costs of restricting trade?

Project Log entries do not have to be long, but they do need to be completed for Project Based Learning to be most effective. They may be assigned either as in-class tasks or as homework.

Economics Content Note: The Project Log is designed to ensure that students see the potential short-term costs of trade. While in the long term, specialization and trade will produce economic gains for all countries involved, these benefits will be fully realized only after resources can be fully employed in the industries in which the island nation has a comparative advantage. In the short run, resources cannot necessarily be redeployed from their current use into the use that will produce the maximum gains from trade.

Economics Content Note
The Project Log is designed to show students the potential short-term costs of trade. While specialization and trade will produce long-term benefits for all if resources are fully employed according to each's comparative advantage, these resources cannot necessarily be redeployed in the short run to produce the maximum gains.

18. Review individual Project Log entries to assess understanding of economic concepts.

For tips on reviewing Project Logs, see "Use Formative Assessments" in Chapter Two discussion of ***Teaching Strategies for Project Based Economics.***

19. Students view third video from Carlos Medine, and read the transcript (whole-class discussion).

The video message is 2 minutes long and contains several important details. In order to more carefully analyze this message, students should also read a transcript.

A transcript of the third video from Carlos Medine may be found in the ***Student Materials****.*

Carlos Medine, in his third video message, presents students with the final twist in the problem. He informs students that mass protest has erupted on both islands over their trade agreement and, as the economic leaders of their islands, they must prepare a flyer that justifies why trade benefits their nations.

20. Students finalize the Driving Question with you (whole-class discussion).

Revisit the Driving Question one last time, to incorporate the final twist in the problem. The final Driving Question should be something like:

How can we, as **economic leaders of our islands,** create a flyer **that uses economic theories to justify free trade and address protesters' concerns,** so that **common citizens understand the benefits of trade?**

21. Students finalize the Know/Need-to-Know List with you (whole-class discussion).

For one last time, revisit the Know/Need-to-Know List as a whole class and move any items that are now "known" from the "Need-to-Know" to the "Know" side of the list, or mark them with a check. In addition, students should have some new items for the Need-to-Know List.

The final Know/Need-to-Know List might include the following new items:

Sample items for final Know/Need-to-Know List

What do we know?

- *(previously listed items)*
- Lots of people are protesting after we negotiated our trade agreement
- Labor union members and environmentalists have taken to the streets
- We need to make a flyer for a public relations campaign
- Our flyer must explain economic theories in common terms
- We need to show the benefits of trade and explain how it's for the "greater good"
- We must consider each group's concerns
- They will ignore fancy slogans and slick graphics
- We cannot change the trade treaties
- Mr. Medine hopes we can calm people down

What do we need to know?

- *(previously listed items)*
- What are "unprotected industries"?
- What is an "agitator"?
- Will trade really hurt the environment or workers?
- How can we explain economic theories in words common citizens understand?

- Can we use pictures?
- What does "greater good" mean?
- What happens if people don't calm down?

22. Share supplied rubric with students to guide their work.

*A rubric for the flyer may be found in the **Teacher Materials**, in "Assessment Tools."*

Give a copy of the rubric to each student, or display it on an overhead or computer projector so every student can read it. Discuss the rubric with students to be sure they understand that they will be assessed primarily on their knowledge of economics. Their writing and graphic-design skills, while important, are given less weight on the rubric. If you are altering the rubric's point scheme to conform to your own grading system, be sure to maintain the emphasis on knowledge of economics.

Presentation, assessment, and debrief

23. Students create flyer defending the trade agreement (individually, in pairs, or in small groups).

Students can develop their flyers individually, in pairs, or in the small mixed-island groups that negotiated the trade agreement. If students create the flyers individually, it will give you an opportunity for individual assessment in addition to the multiple-choice test included with this unit.

In developing this flyer, students should be coached to see that Ellis McClure's flyer is an example of a political message presented in flyer form. Remind students as they write their flyers to draw upon any research they undertook describing the benefits of trade, including the report handed out earlier, "Free Trade and Protectionism: A Critical Review," added to what they have learned from mini-lectures, textbooks, and other resources about economic theories, principles, and concepts. To coach students in how to create an effective flyer, discuss the basics of presenting information in this format, as described on the rubric. You could also direct students to online resources such as Microsoft Office, which has a PowerPoint "Template for Recommending a Strategy."

For other ideas for what students could create instead of a flyer, such as a TV commercial storyboard or proposal for a web page, see "Teaching Tips" below.

Economics Content Note: Creating the flyer serves two purposes. First, it helps students learn the art of persuasion—but not "slick" propaganda—using complex theories and principles. Second, it helps students understand the benefits and costs of trade by forcing them to present an argument defending their trade agreement to groups opposed to it.

Economics Content Note
Creating the flyer helps students learn the art of persuasion while presenting and defending an argument for their trade agreement.

Potential Hurdle

Remind students to use economic principles in their flyer, and that the flyer should reflect the viewpoint on trade of an island nation, not the U.S.

Potential Hurdle: Remind students they are the economic leaders of Hatfield or McCoy and their flyer is supposed to use economic principles to deflect criticism of their trade agreement. Students often forget that they are an island nation and, as a result, develop a flyer on trade from the viewpoint of the United States.

24. Students present and compare flyers (whole-class discussion).

Have students present their flyers for each other's review. Because it may be difficult for a whole class to see a flyer shown from the front of the room—and there may not be enough time for each flyer to be presented with an oral explanation—you might as an option consider using a "gallery walk" as an effective alternative strategy. Have students post their flyers around the room, then have students walk around to look closely at as many as possible. Or, you may just have students pass their flyers around for review, using a system to make sure each flyer is reviewed by a sufficient number of peers. Ask students to refer to the rubric and record notes about what they see, noting strengths, weaknesses, proper use of key economic terms, particularly good explanations of economic concepts, good use of visuals and design, etc. In addition to the rubric, you could also create a checklist of economic terms students are to look for, with room to write comments on how accurately and effectively the terms are used.

25. Use supplied rubric to assess flyers.

> *The rubric for the flyer may be found in the **Teacher Materials**, in "Assessment Tools."*

As you review the students' flyers, use the rubric to help you note any areas of weakness that reveal incomplete or incorrect understanding of key economic concepts. Clarify these during the debrief to follow.

26. Conduct a debrief to clarify and consolidate students' understanding of key economic concepts (as necessary).

It is critical that the debrief phase of the project not be ignored. This is the time when students, as a whole class, reflect on and receive feedback on both the economic content of the project and the process of solving the problem presented in the scenario. The debrief is in two stages; the first focuses on economics content, and the second focuses on the process of learning in PBL.

Begin the content-focused part of the debrief by discussing how the project helped students better understand economics. The discussion could be guided by questions such as:

- After listening to other students' solutions to the problem presented in the scenario, is there anything that you think you left out or would have done differently?
- What new ideas or economic concepts did you learn in this project?
- What economic concepts do you still not understand?

The economics content-focused debrief is a vital opportunity for clarifying any remaining conceptual misunderstandings evident in student work, or correcting inaccurate statements made during presentations.

Economics Content Note: Since the goal of this project is to place trade negotiation within the context of opportunity costs, comparative advantage, and specialization, be sure students understand the following:

- The relationships among production costs, specialization, comparative advantage, and economic gains from trade. Comparative advantages arise because the opportunity cost of production differs among nations and, because of these differences, gains can be made from trade.
- Short-term costs also arise from trade and nations must weigh the long-term benefits against those costs when structuring trade policy.

Economics Content Note
Be sure that students understand the relationships among production costs, specialization, comparative advantage, and economic gains from trade; and the short-term costs from trade must be weighed against any long-term benefits.

27. Manage student reflection on the 21st-century skills practiced and the process of learning in PBL.

Students should have a chance to discuss the process of learning in PBL, and to reflect on their use of 21st-century skills such as critical thinking, collaboration, and presentation. This part of the debrief could be done with a series of questions, for example:

- Did you find it to be difficult when there are several possible "right answers" to the Driving Question? Why?
- How does it feel to go through some parts of the project without specific directions, to make some of your own decisions?
- How much do you think you learned in terms of skills like working as a team and making a presentation?

Finally, ask students for feedback on how the project was structured, with questions such as:

- Did you need more resources to help you solve the problem—more lecture time, more readings, more time on the computer?
- Did you need more help in learning how to work together in your group?

- Did you have enough time for each step of the unit?
- Are there any suggestions you would make for improving how the unit is taught?

28. Use supplied multiple-choice test to assess individual students' knowledge of key economic concepts.

*The multiple-choice test for this unit may be found in the **Teacher Materials,** in "Assessment Tools."*

29. Make notes on adjustments to the unit to improve student learning for the next time the unit is taught.

Teachers inevitably recognize how to make *The Greater Good* more effective after they have taught it. We encourage you to note these thoughts quickly, so you can review your ideas for improvement the next time you teach the unit.

Teaching Tips

Before a *Project Based Economics* unit is published, it is taught numerous times by experienced high school economics teachers. We include below their advice about avoiding potential problems in *The Greater Good*.

- Do not try to change the data on hours of production. The goods selected and the hours of production illustrate the potential for specialization and provide intuitively appealing examples of how comparative advantage arises in each country. Without interconnections between the goods produced and the data, students might have more difficulty seeing the relationships between production, opportunity costs, comparative advantage, specialization, and trade.
- Do not try to make the lesson more "interesting" by using trading tokens or by having students make gains for their island at the expense of the other island. By portraying trade as a game that is to be "won," students will not see that economic gains result from trade and that voluntary exchange can often benefit *all* parties involved.
- We also caution against turning the Trade Agreement negotiation into a game of "who uses the fewest hours in production." Comparing each island's hours of production after trade is not a realistic portrait of "most gained" from trade since McCoy begins trade needing more hours to produce goods than does Hatfield.

Extensions to the Unit

Consider the following economics content-related extensions:

- This unit is also a good opportunity to illustrate that trade can facilitate economic development in a third-world country. Trade does not necessarily mean exploitation of a third-world country. It can mean gains for both countries since the third-world country can use the gains from trade to invest in and develop its economy.
- To provide choices or as an alternative to a flyer created on paper, students could create a storyboard for a television infomercial, or a proposal for a page on a website. This should contain the same information and serve the same purpose as the flyer. Both of these media are plausible in the project's scenario—leaders of island nations might communicate with citizens in this way. They would probably not, in such an urgent situation, produce a lengthy TV program, which would take time and might not be watched by a large enough portion of the population. You may also consider having students write a newspaper op-ed piece.

Economics Review

What is Trade?

Trade occurs because nations can specialize and produce the goods they make at lower costs and trade for those goods they produce at a relatively higher cost. Total output increases over what would occur if items were produced only within one country. Nations can increase output by specializing in goods and services they produce with greatest relative efficiency and trading for goods they cannot produce as efficiently. *Trade is not undertaken as a competition to see who can connive another nation (or person) out of its resources.* With trade, current resources are used more productively and output is increased for at least two reasons.

The distribution of economic resources—land, labor, capital, and entrepreneurship—is uneven between countries. For example, some nations have better access to land resources while other nations have better access to human capital (labor). By increasing the supply of a resource through trade (i.e., having the country with relatively better access to a particular resource produce the goods), goods relying on one particular input for production can be made at a lower cost.

Efficient production of different goods may require different technologies. Technology is simply a way of combining resources. For example, clothing can be designed using many laborers (fashion designers and stitchers) or using relatively little labor and much capital (computer-designed and machine-produced). These are different technologies. Some goods are produced with relatively labor-intensive technologies (e.g., education, health) while others routinely rely on relatively capital-intensive technologies (e.g., airline transport). Nations hold an advantage in using certain technologies and, as a result, producing goods that use these technologies can lower costs.

The relevance of these points can be seen in the production schedules of Hatfield and McCoy ("Hours Needed to Produce Each Good," Teacher Table 1). The following table, which shows the island with the lowest opportunity costs for each good, suggests that McCoy has a larger, better-educated labor force than does Hatfield, while Hatfield has better land resources. As a result, McCoy can produce goods that rely heavily on educated labor at a relatively lower cost, while Hatfield can produce goods that rely heavily on land resources at a relatively lower cost.

Production with Specialization by Lowest Opportunity Cost of Production

Hatfield	McCoy	Same Cost
Fruits & vegetables	Science technology	Farm equipment
Advertising	Communications technology	Recording artists
Meat & poultry	College education	Printing
Energy	Chemists	
Construction	Films	
	Clothing design	
	Shipping	

Note that opportunity costs in farm equipment, recording artists, and printing, are the same on both islands. As a result, no gain from trade exists in these areas.

It is important to emphasize that economic efficiencies from different production costs can and do change over time. These changes can alter the relative efficiency with which goods can be produced. For example, Hatfield can invest heavily in its labor force and have more-educated citizens than does McCoy, while McCoy could discover untapped land resources.

Specialization and Production: Computations of the Relative Costs

To understand why McCoy should specialize and produce some goods and why Hatfield should specialize and produce other goods, we need to understand how differences in costs of production can lead to comparative advantages in production. We can illustrate this principle with an example that is not linked to this problem.

Suppose a dentist's office needs two kinds of services: working on teeth and typing correspondence. The dentist can earn $50 an hour seeing patients and can hire an assistant for $15 an hour. The dentist can service 4 patients in an hour and type 80 words a minute. The assistant can service no patients and type only 40 words a minute. In this case the dentist has an *absolute advantage* at both servicing patients and typing. That is, the dentist is more productive in both endeavors.

However, this does not mean the dentist should type. To type would require the dentist to take time from servicing patients, at an opportunity cost of $50 an hour (the amount earned from being a dentist). If the dentist took an hour off from servicing patients to type 4800 words (80 words a minute times 60 minutes) he would lose $50. He only has to pay the assistant $30 to type those 4800 words since it would take the assistant 120 minutes—2 hours—to complete this task (4800 words divided by 40 words is 120 minutes). Since the assistant is paid $15 an hour and it requires 2 hours of typing, the dentist is

better off paying the assistant $30 (15 times 2) and earning the $50 servicing patients. The dentist has a *comparative advantage* in servicing patients while the assistant has a comparative advantage at typing. This is because the dentist has a higher opportunity cost of typing (i.e., servicing patients) than does the assistant. As a result, the dentist should specialize in servicing patients and the assistant should specialize in typing.

Let's look at how this specialization can be applied to two countries, Northland and Southland. Each country has different costs of producing wheat and radios. All wheat and radios are alike and interchangeable. The productivity of workers in each country is shown in the table below:

Cost of Production

Country	Wheat	Radios
Northland	10 units per day	4 per day
Southland	5 units per day	3 per day

Opportunity Costs of Production

Product Location	Opportunity Cost *(W is wheat and R is radio)*	Opportunity Cost per Unit
Wheat in Northland	10W = 4R	$^{2}/_{5}$ radio (0.4R)
Wheat in Southland	5W = 3R	$^{3}/_{5}$ radio (0.6R)
Radios in Northland	4R = 10W	$^{5}/_{2}$ wheat (2.5W)
Radios in Southland	3R = 5W	$^{5}/_{3}$ wheat (1.67W)

Lower opportunity cost per unit of wheat implies a comparative advantage in Northland.
Lower opportunity cost per unit of radios implies a comparative advantage in Southland.
R = Radios W = Wheat

Note that Northland's workers are more productive at both manufacturing radios and harvesting wheat. Northland has an *absolute advantage* in both wheat and radios. However, because a worker cannot do two things at one time, countries must allocate labor away from one good to produce the other good. To maximize its gains from trade, each country must choose to produce according to its *comparative advantage*.

The key to computing comparative advantage is to measure the opportunity costs of production for each country (see above table, "Opportunity Costs of Production"). In the case of Northland and Southland, the choices are simple. To produce wheat, a country must forego production of radios, and vice versa. The opportunity cost of wheat is radios foregone and the opportunity cost of radios is wheat foregone.

In our two-country example, we can use simple algebra to compute the opportunity cost of wheat and radios within each country. Once we compute

the opportunity cost of production within each country, we can compare the opportunity costs between countries to establish each country's comparative advantage.

Of course, in the real world, where goods are produced with a wide variety of resources, computing comparative advantage is difficult. Fortunately, prices established in a free market automatically generate specialization according to comparative advantage. This is because market prices of resources reflect the value of those resources in alternative uses—their opportunity cost. Competition ensures that the prices of goods within a country equal the sum of the opportunity costs of the resources used in their production. In the above example, wheat will be relatively more expensive in Southland than Northland because more radios must be foregone in their production (i.e., the opportunity cost is 0.4 Radios in Northland and 0.6 Radios in Southland). Radios will be relatively more expensive in Northland than Southland because more wheat must be foregone in production (i.e., the opportunity cost is 2.5 Wheat in Northland and 1.67 Wheat in Southland). If each specializes and produces only one good, wheat will be produced in Northland and radios will be produced in Southland.

Please note: The numeric example in *The Greater Good* uses hours of labor as the basis for establishing costs of production. The example above uses goods. Dollars are often the unit used to quantify production costs. Using goods or hours as units of measure of opportunity costs is often easier for students to understand. Using dollars, however, has the advantage of enabling students to quickly compute prices and terms of trade. If this is a desired curriculum goal, simply replace the word "hours" with the word "dollars" throughout the unit.

Terms of Trade

This unit illustrates that it pays to trade based on one's comparative advantage. We can illustrate the gains from trade using the example of wheat and radio production in Northland and Southland to establish the terms of trade. The "terms of trade" is the rate at which goods are exchanged between countries. In the previous example, the incentives created by the different opportunity costs of production within Northland and Southland will create favorable terms of trade for both countries.

One country's offer of trade and another country's acceptance (i.e., negotiation) determine terms of trade. Willingness to accept an offer occurs because its terms permit a country to increase consumption of one good without giving up consumption of another good. The opportunity costs suggest that the relative prices of wheat and radios in Northland are such that a radio costs the equivalent of 2.5 units of wheat. In Southland, a radio

costs 1.67 units of wheat. Likewise, wheat costs $^2/_5$ a radio (or 0.4) in Northland and $^3/_5$ a radio (or 0.6) in Southland. *If each unit is a dollar*, the price of a radio would settle between $1.67 and $2.50. Northland would be willing to pay any price lower than the cost of producing a radio in its country—$2.50—and Southland would be willing to accept any price that was higher than the cost of producing the radio in its country—$1.67. Likewise, the price of wheat will be somewhere between $0.40 and $0.60.

Barriers to Trade

Economic theory argues that free trade is an ideal because of the efficiency that it affords. Total output is increased and prices are decreased. However, much of the trade that occurs between nations is managed or constrained by government policies. In our Northland and Southland example, if trade occurs, firms producing radios in Southland and wheat in Northland will close and workers in these industries will lose their jobs. Thus, even though Northland and Southland as a whole will gain from trade, specific individuals will lose and be quite upset. They will not only boycott the celebration of trade, they will also actively seek to discourage it.

The study of trade must therefore be placed along side the fact that some individuals have a vested interest in restricting trade. In particular, workers and firms in industries that compete with imported products want to restrict trade. This microeconomic resistance to trade arises because imports typically mean fewer jobs and less income in some domestic industries. At the same time, however, exports represent increased jobs and income in other industries. Producers and workers in industries that export goods gain from trade. Thus, on a microeconomic level, trade reveals identifiable gainers and losers. Trade not only alters the mix of output but also redistributes income from importing-competing industries to export industries. It is this redistribution that creates political and economic friction.

We must remember the average consumer enjoys a higher standard of living as a result of trade. Because trade increases efficiency and total output in trading nations, countries as a whole enjoy a greater number of goods and services. This may be of small consolation to the producer or worker who ends up without a firm or a job. Using restrictions helps the firms and the workers in these industries but sacrifices economic efficiency and output. A summary of the tradeoffs created from these restrictions follows this lesson.

Methods Used to Restrict Trade

The microeconomic losses from trade create a clamor for trade restrictions: Tariffs, Quotas, and Voluntary Restraint Agreements.

Tariffs

One of the most visible restrictions on trade is a tariff, a special tax imposed on imported goods. Tariffs reduce trade by making goods from other countries more expensive for people in the country imposing the tariff. By making goods more expensive, they become less competitive with domestically produced goods. In our example of Northland and Southland, radios that sold for $1.67 without tariffs and had a tariff imposed of $0.85 (or anything more than $0.83) would sell for more than the domestically produced radios, which sell for $2.50. Imported radios will not be consumed at the higher price. The domestic firm producing radios would not shut down and workers in the radio industry would not lose their jobs.

Quotas

Quotas act as a barrier to trade by restricting the quantity of a particular good that can be imported. In the United States, goods that have been subject to quotas include oil, sugar, meat, dairy products, textiles, cotton, peanuts, steel, cloth diapers, and ice cream. Approximately 12 percent of our imports are subject to import quotas. Quotas, like all trade barriers, are subject to retaliatory actions by other countries. Quotas are a much greater threat to market economies than are tariffs because quotas preclude additional imports at any price.

Voluntary Restraint Agreements

A slight variation on quotas has been used in recent years—voluntary restraint agreements. This form of barrier asks producers in foreign countries to limit their exports "voluntarily." Voluntary restraint agreements have been negotiated with producers in Japan, South Korea, Taiwan, China, and the European Economic Community. Korea, for example, agreed to reduce its annual shoe exports to the United States from 44 million pairs to 33 million pairs. Taiwan reduced its shoe exports from 156 million pairs to 122 million pairs per year. All of these "voluntary restraint agreements" represent an informal type of quota. The difference between the two is that quotas are imposed rather than negotiated and that voluntary agreements often contain provisions for later increases in sales.

U.S. Trade Policies

Trade policy is a continuing conflict between the economic benefits from trade associated with comparative advantage and protectionism against competition from abroad. Free trade promises more output, greater efficiency, and lower prices. At the same time, free trade threatens profits, jobs, and wealth in specific industries, which are "protected" with tariffs, quotas and voluntary restraint agreements.

The ability to execute policy is explicitly granted to Congress. The Constitution grants Congress the power "to regulate commerce with foreign nations" and to "lay and collect…duties." Presidential authority over trade policy is dependent on Congress and, for about 150 years, Congress decided each tariff, item by item.

Perhaps the culmination of Congressional authority over trade with foreign nations was the Smoot-Hawley Tariff Act of 1930, which set tariffs for more than 20,000 manufactured and agricultural items. In a classic move of protectionism, Smoot-Hawley increased tariffs for most items, and was passed despite the protests of 35 countries and thousands of economists. The policy of high tariffs created retaliation and restrictions on American trade by other countries and heightened the Depression by restricting markets for U.S. goods and services. At the time of its passage, the U.S. was a creditor nation that exported more goods than it imported.

The Reciprocal Trade Agreements Act (RTAA) of 1934 was a direct result of Smoot-Hawley. This act delegated to the president extensive authority to cut tariffs on his own by as much as 50 percent, if he could negotiate reciprocal agreements with other countries. By incorporating most-favored nation clauses in reciprocal agreements, the tariff reduction applies not only to the specific nation negotiating with the U.S. but also are generalized to all "most-favored nations." Note: a country receiving most-favored nation status is not favored over others in trading. Rather, countries with such status receive the same "most-favored" tariff treatment. Without most-favored nation status, a country's exports to the U.S. are much less competitive.

The RTAA laid the basis for a fundamental shift away from protectionism and toward free trade. This shift was manifested after World War II by the General Agreement on Tariffs and Trade (GATT) and, more recently, by the North American Free Trade Agreement. Both of these efforts produced considerable debates on free trade but resulted in congressional approval (NAFTA in 1992 and the latest round of GATT in 1994).

GATT

In 1947, the General Agreement on Tariffs and Trade (GATT) was signed by 12 of the world's largest trading nations. The GATT pact committed these nations to pursue free-trade policies and to extend equal access ("most favored nation" status) to domestic markets for all GATT members. GATT is based on three cardinal principles. First, equal, nondiscriminatory treatment exists between all member nations. Second, reduction of tariffs is by multilateral negotiation, a shift from the RTAA that gave rise to only bilateral trade negotiations (i.e. between two nations). Third, import quotas are eliminated.

The GATT goal of lowering trade barriers is achieved through periodic

"rounds" of multinational trade agreements. The latest round (the eighth) began in Uruguay in November 1986 (the "Uruguay" round). Each round entails extended negotiations about how to reduce trade barriers. While earlier rounds focused on manufactured goods, the Uruguay Round extended trade agreements to farm products and "intellectual property" (e.g., copyrighted books, music, and computer software). After nearly eight years of negotiations, 117 nations initiated a final agreement on April 15, 1994. Included in this agreement was a further reduction in import tariffs, an expansion of the scope of free-trade rules to agriculture and services, and the creation of a new organization, the World Trade Organization, to police and enforce trade rules.

When GATT was first signed in 1947, tariff rates in developed countries averaged around 40 percent. The first seven GATT rounds pushed tariffs down to an average of 6.3 percent and the Uruguay round lowered them to 3.9 percent.

NAFTA

The North American Free Trade Agreement (NAFTA) set the stage for economic integration among the United States, Canada, and Mexico by reducing trade barriers. The ultimate goal of NAFTA was to eliminate all trade barriers among these three countries. At the time of signing (December 1992), tariffs among the three countries averaged eleven percent in Mexico, five percent in Canada, and four percent in the United States. NAFTA requires that all tariffs between the three countries be eliminated within 15 years and requires the elimination of specific non-tariff barriers.

Arguments For and Against Restrictions to Trade

For restrictions	Against restrictions
Domestic employment	
Restricting imports of foreign-produced goods increases spending on domestic ally produced goods. This boosts the domestic level of income, production and employment.	While imports may eliminate some domestic jobs, they also create others. Domestic trade barriers may invite retaliation from trading partners, reduce jobs in export industries, and make most individuals worse off.
Foreign labor	
Domestic firms and workers must be shielded from the need to compete with countries where wages are low. Otherwise, cheap imports will flood domestic markets, prices of domestic goods will fall, and the domestic wages of workers will be pulled down. This will reduce the level of living for our nation's workers.	When countries trade, they both benefit, even if one partner is "rich" and another is "poor." Domestic consumers gain from being able to buy goods they want at lower prices. The domestic level of living rises when more, lower-priced goods are available. Because wages are based on worker productivity, domestic wages may be higher because the workers are more productive with better technology and business infrastructure.
Infant industries	
Protection is needed to allow new domestic industries to establish themselves. Young domestic industries need to be shielded from the competition of more mature and efficient foreign firms so they have a chance to develop, become efficient, and compete.	Rather than imposing trade barriers, government subsidies could be used as more effective ways to stimulate production in select industries. The danger of barriers is that they will persist after the industry matures.
Military self-sufficiency	
Protection is needed to preserve or strengthen industries that produce goods and materials essential for defense or war. Given the economic and political uncertainty in the world, maintaining self-sufficiency in strategic goods and materials is more important than other goals (like efficiency).	The self-sufficiency argument is open to serious abuse. Most industries could claim they contribute to national security and ask to have barriers imposed to protect them. Steel, gas, food, shelter, radios (and other communication) and virtually all goods we use on a daily basis could be viewed as essential.
Environment	
We should be prohibited from trading with poor countries that have lax environmental laws. Trade only reinforces production that pollutes the air and water and destroys our natural resources. The environment is too fragile to withstand this abuse.	Do we have the right to deny food to individuals in a poor country because we won't trade with them? Ultimately, trade increases the level of living for all and, once a country becomes richer, it often becomes more environmentally aware.

Demonstrating Gains from Trade

Computations in the Student Tables

The computations in this problem show students how producing goods with lower opportunity costs and trading for goods with relatively higher production costs can increase a country's total production. This is explicitly done in two stages. In the first stage, students are given Table 1, "Hours Needed to Produce Each Good," which tells them how many hours their island and their trading partners use to produce each good. Although the students are only given hours for their island and for Springfield and Abbydale, **Teacher Table 1** shows the hours needed to produce each good on all four islands. Remember: students who represent Hatfield should not know the costs of production on McCoy and those who represent McCoy should not know the costs of production on Hatfield.

Students use the information in Table 1 to compute data for Table 2, "Opportunity Costs of Production" (for answers see **Teacher Table 2**) in each island. These computations tell the students how much they must give up in order to produce each good. Students should be coached to see the differences between absolute production and opportunity costs. The absolute cost—**Teacher Table 1**—is the hours it takes to produce a good. The relative (opportunity) cost—**Teacher Table 2**—is how much production of one good must be given up to produce another good.

The good that requires the fewest hours to produce is the item that we use to measure opportunity costs. The lowest-cost good represents the maximum production that must be given up to make any other good. For Hatfield, construction is the lowest-cost good because it requires only two hours to produce. For McCoy, science technology is the lowest-cost good at three hours. For Springfield, printing is the lowest-cost good at 2.5 hours. For Abbydale, shipping is the lowest-cost good at six hours. Although we report the cost of production in hours, the unit of measure could be anything. Some teachers like to use quantities, some like to use dollars. The unit of measure is not important. It is the concept of opportunity cost that is important.

The *opportunity* cost of production on each island determines which island should produce each good. Comparing opportunity costs between either McCoy or Hatfield and Springfield and Abbydale shows that the lowest opportunity cost of producing each good differs among the islands. For example, as **Teacher Table 2** shows, the opportunity cost of producing fruits and vegetables is four for Hatfield, eight for McCoy, eight for Springfield, and 4.5 for Abbydale. For the students who represent the island of Hatfield, and trade with Springfield and Abbydale, Hatfield will be the low-cost producer of fruit and vegetables because it must give up only four hours of producing something else. For the students who represent the island of McCoy, and

trade with Springfield and Abbydale, Abbydale will be the low-cost producer of fruit and vegetables because it must give up only 4.5 hours in production. **Teacher Table 2** designates the low-cost producer with an asterisk (*) for the countries of Hatfield, Springfield, and Abbydale and in bold for the countries of McCoy, Springfield, and Abbydale. Students are asked to circle the low-cost producer of each good.

Students can clearly see how specialization reduces costs with Table 3, "Why Trade is Good" (for answers see **Teacher Table 3**). This table shows how many hours are needed to produce each good once islands have specialized production in the low-cost goods. The total cost to produce these goods is simply the summation of the hours used in production. The total cost of production is 170 for Hatfield, 178.5 for McCoy, 211.5 for Springfield, and 443 for Abbydale (**Teacher Table 1**). By computing hours used for the low-cost producer (i.e., with trade), students see the cost of production is less than the total hours used for all countries with trade (168.5 for countries trading with Hatfield and 156.5 for countries trading with McCoy).

In the final stage of the problem, students are asked to negotiate trade when the hours needed to produce each good by the trading partner are not known. Although they know the hours used on their island, they can only speculate about the other island's hours. *Students should offer to trade goods that are lowest-cost to produce in exchange for goods that take the greatest hours to produce. This should lead to trade.* **Teacher's Sample Trade Agreement** uses an X to designate the island that will produce the good if trade is grounded in cost considerations. However, as **Teacher's Sample Trade Agreement** shows, there are some goods (farm equipment, recording artists, and printers) that have the same opportunity cost of production in both Hatfield and McCoy. While students should agree on who produces goods where opportunity costs differ, there will be no consensus on trading for the goods with equal opportunity costs. Once the problem has ended and the hours of production for both Hatfield and McCoy are revealed, students should realize gains from trade would not occur for goods that have equal opportunity costs of production.

Teacher Table 1

Hours Needed to Produce Each Good

Industry	Quantity Produced on Each Island	Hours Needed to Produce Each Quantity			
		Hatfield	McCoy	Springfield	Abbydale
Fruits and vegetables	50 pounds	8	24	20	27
Clothing design	25 garments	23	12	5	24
Chemists	50 prescriptions	17	8	22.5	20
Farm equipment	30 machines	12	18	20	21
Advertising	5 slogans	10	18	12	30
Science technology	10 innovations	19	3	25	66
Communication technology	300 phone calls	21	10	27	28
Energy	1 million kilowatts	6	12	15	20
Shipping	20 tons	4	4	5	6
Construction	50 buildings	2	6	7.5	27
College education	30 courses	15	9	23	48
Films	15 scenes produced	14	20	8	45
Meat and poultry	50 pounds	6	15	9	36
Recording artists	30 tapings	10	15	10	27
Printers	100 copies	3	4.5	2.5	18
Total Hours Needed for Production		170	178.5	211.5	443

Have students sum the total hours needed for production on each island to show them how many resources must be used by each island to produce the designated goods.

Remember to distinguish between absolute and comparative advantage when examining Table 1. It is clear from Table 1 that Hatfield and McCoy have an *absolute advantage* over Abbydale in producing each good. That is, the hours used to produce each good is lower in Hatfield and McCoy than Abbydale. For some goods, Hatfield and McCoy have an absolute advantage over Springfield.

However, examining absolute advantage does not tell what production must be given up for each good—the opportunity cost of producing. By comparing the opportunity costs of producing goods across countries, we can determine the country with the comparative advantage in production—the one that has to give up the least to produce the good (i.e., lowest opportunity cost).

Absolute advantage tells us which country uses the least amount of resources to produce a good. This is shown, in Table 1, by the spending the fewest hours producing a particular good. The low-cost producer has the absolute advantage in production.

Comparative advantage tells us which country gives up less production to make the good. One way to compute this is to identify the "cheapest" good to produce and see how much of that good you must give up to produce other goods. The "cheapest" good is the one that uses the fewest resources (i.e., costs less). Because laborers (and other resources) can be used to produce a single good, producing other goods means you are not producing something else. By comparing these opportunity costs across countries (Table 2), we can determine which country has the comparative advantage—the lowest opportunity cost of producing the good.

Teacher Table 2

Opportunity Costs of Production/Comparative Advantage: How Long it Takes Each Island to Produce Each Good as Compared to Its Lowest-Cost Good

An asterisk (*) designates the low-cost producer among Hatfield, Springfield, and Abbydale. **Bold** designates the low-cost producer among McCoy, Springfield, and Abbydale.

Industry	Quantity Produced on Each Island	Opportunity Costs Within Each Island			
		Hatfield	McCoy	Springfield	Abbydale
Fruits and vegetables	50 pounds	4.0*	8.0	8.0	**4.5**
Clothing design	25 garments	11.5	4.0	**2.0***	4.0
Chemists	50 prescriptions	8.5	**2.7**	9.0	3.3*
Farm equipment	30 machines	6.0	6.0	8.0	**3.5***
Advertising	5 slogans	5.0	6.0	**4.8***	5.0
Science technology	10 innovations	9.5*	**1.0**	10.0	11.0
Communication technology	300 phone calls	10.5	**3.3**	10.8	4.7*
Energy	1 million kilowatts	3.0*	4.0	6.0	**3.3**
Shipping	20 tons	2.0	1.3	2.0	**1.0***
Construction	50 buildings	1.0*	**2.0**	3.0	4.5
College education	30 courses	7.5*	**3.0**	9.2	8.0
Films	15 scenes produced	7.0	6.7	**3.2***	7.5
Meat and poultry	50 pounds	3.0*	5.0	**3.6**	6.0
Recording artists	30 tapings	5.0	5.0	**4.0***	4.5
Printers	100 copies	1.5	1.5	**1.0***	3.0

The key to understanding this table is to remember that hours spent producing goods are "costs of production." Knowing this, we can show each island's opportunity cost of producing each good by dividing the hours used to produce each good by the hours it takes to produce the good with the lowest cost. The low-cost good can be used as the basis for measuring opportunity costs because it tells us the maximum amount production we must give up in order to produce other goods.

For example, in Hatfield, construction is the lowest-cost good since it takes only two hours to produce. That means that construction can be used to measure the cost of producing other goods. It costs two times as much to produce meat and poultry ($^4/_2$) as it does construction in Hatfield. In McCoy, science technology is the lowest-cost good since it takes only three hours to produce. It costs 2.7 times as much for chemists' products ($^8/_3$) as it does science technology in McCoy. In Abbydale, the lowest-cost good to produce is shipping. It takes six hours to ship. Shipping is now the benchmark measure of cost. Meat and poultry cost six times as much as shipping ($^{36}/_6$).

When they finish entering all the numbers, students should circle lowest number in each row**, to indicate the island that has the comparative advantage**—the lowest opportunity cost of producing the good. If the countries produce only those goods in which they have a comparative advantage (i.e., specialize) and trade for goods in which other countries hold a comparative advantage, the *total cost* of producing all goods will *decrease* (Teacher Table 3).

Teacher Table 3

Why Trade is Good: Reduction in Hours With Specialization and Trade

Industry	Quantity Produced on Each Island	Hours If the Island With the Lowest Opportunity Cost Produces the Good and Trades With:	
		Hatfield	McCoy
Fruits and vegetables	50 pounds	8	27
Clothing design	25 garments	5	5
Chemists	50 prescriptions	20	8
Farm equipment	30 machines	21	21
Advertising	5 slogans	12	12
Science technology	10 innovations	19	3
Communication technology	300 phone calls	28	10
Energy	1 million kilowatts	6	20
Shipping	20 tons	6	6
Construction	50 buildings	2	6
College education	30 courses	15	9
Films	15 scenes produced	8	8
Meat and poultry	50 pounds	6.9	9
Recording artists	30 tapings	10	10
Printers	100 copies	2.5	2.
Total Hours Needed for Production		**170**	**178.5**

"Total Hours Needed for Production" can be computed using a two-stage process. First, identify the hours needed to produce each good (Table 1) if the island with the lowest opportunity cost of production (Table 3) produced the good. Second, sum the hours needed to produce all goods if each island specialized production and traded for goods that it did not produce.

The total hours needed for production with specialization and trade will be less than the total hours that each island would use if it produced all of the goods (Table 1).

Sample Trade Agreement

Who Will Produce Each Good?

Industry	Hatfield	McCoy
Fruits and vegetables	**X**	
Clothing design		**X**
Chemists		**X**
Farm equipment	**?**	**?**
Advertising	**X**	
Science technology		**X**
Communication technology		**X**
Energy	**X**	
Shipping		**X**
Construction	**X**	
College education		**X**
Films		**X**
Meat and poultry	**X**	
Recording artists	**?**	**?**
Printer	**?**	**?**

Icebreaker to begin trade: Have students begin trade by offering to trade the low-cost goods for high-cost goods.

Students should complete the table by marking an X next to the goods that each island will produce. In the table above, the island with a comparative advantage has an X and goods with equal opportunity costs have a "?".

During the debriefing, students should be told which goods each island would produce if the hours spent in production in both countries were known. With perfect information, countries would produce the goods with the lowest opportunity cost.

_____

Economic leaders—Hatfield

_____

Economic leaders—McCoy

Concept Definitions

The curriculum is designed to teach the following concepts:

Absolute advantage: The comparison among producers according to their productivity or cost of producing a good or service. The producer with the lowest cost of production holds the absolute advantage.

Comparative advantage: Having a lower relative (comparative) cost than another producer. A **comparative cost** is the amount of production of one product that must be reduced to increase the production of another (opportunity cost). This can be determined by comparing the opportunity cost of production between producers. The producer with the lowest opportunity cost of production holds the comparative advantage.

Costs: The measure of what has to be given up in order to produce something. Total costs include both **opportunity costs**, the cost of alternative uses of resources, and **direct costs**, or total money outlays.

Export and import: A good that is produced by one country but sold in another country. The good is an **import** in the country in which it is sold and an **export** in the country in which it is produced.

Free trade: The absence of artificial (e.g., government-imposed) barriers to trade among individuals and firms

Market economy: An economic system (method of organization) in which only the private decisions of consumers, resource suppliers, and producers determine how resources are allocated

Opportunity costs: The real sacrifice involved in achieving something. The value of the alternative that would have to be foregone in order to achieve a particular thing.

Protectionism: A policy (e.g., tariff or quota) that is designed to protect domestic producers of a good from the competition of foreign producers

Quota: A limit imposed on the quantity of a good that can be brought into a nation from a foreign nation

Resources (factors of production): Land, labor, capital, and entrepreneurial ability that are used to produce things to satisfy human wants

Scarcity: A condition where less of something exists than people would like if the good had no cost. Scarcity arises because resources are limited and cannot accommodate all of our unlimited wants.

Specialization: The use of resources to produce one or a few goods and services. This is in contrast to the use of resources to produce many different goods and services.

Tariff: A tax imposed on a good that is from a foreign country. In the United States only the federal government can impose tariffs.

Tradeoff: An exchange relationship denoting how much of one good (or resource) is needed to get another good (or resource)

Voluntary exchange: The giving (or transfer) of one thing for something else in return. The exchange process is undertaken in accordance with one's own free choice.

Voluntary restraint agreement (also known as a "voluntary export restraint"): Exporting countries agree to voluntarily limit their exports to the target country

Assessment Tools

Rubrics

We have provided a rubric for each major product or performance required in this unit. All rubrics may be used as written, or adapted by the teacher to fit particular needs. Rubrics serve two major purposes. First, they provide guidance to students, describing the characteristics of good quality work—and because of this, rubrics should be shared with students while they are preparing how to demonstrate what they have learned. Second, rubrics provide teachers and others with a framework for assessment and feedback.

We have divided our rubrics into three levels of quality. If teachers wish to express these levels on a numeric point scale, we suggest that "Exceeds Standards" equals a 4 or 5, "Meets Standards" equals a 3, and "Does Not Meet Standards" equals a 1 or 2. We intentionally did not include a scoring system based on percentages or letter grades, since evaluation and reporting methods vary greatly among teachers. However, we have suggested what we believe to be the proper weight given to each category, with the emphasis on the application of content knowledge.

The rubrics for each unit do not include extensive detail about the qualities of a good oral presentation, or of good writing and other products such as electronic media. Rubrics for writing and other media products may be found in various print resources and websites, or developed by teachers, schools, and districts.

The Greater Good: Rubric for Written Flyer on Trade Agreement

Component and the Recommended Value	Exceeds Standards (score 4–5)	Meets Standards (score 3)	Does Not Meet Standards (score 1–2)
Understanding of the Problem (10%) ***Key Aspects:*** • The need to defend their trade agreement by responding to labor and environmental concerns • The need to explain economics so "common citizens" understand, and to avoid "slick" graphics and propaganda techniques	Solution to the problem addresses all key aspects clearly, accurately and completely. Solution to the problem is completely consistent with the scenario as presented; the parameters of the problem have not been altered and/or facts "made up" to avoid grappling with key aspects of economics.	Solution to the problem addresses all key aspects clearly and accurately. Solution to the problem is generally consistent with the scenario as presented; the parameters of the problem have not been altered significantly and/or facts "made up" to avoid grappling with key aspects of economics.	Solution to the problem does not address most or all key aspects, or does so unclearly or inaccurately . Solution to the problem is not consistent with the scenario as presented; the parameters of the problem may have been altered and/or facts "made up" to avoid grappling with key aspects of economics.
Understanding of Economics (70%) ***Key Points:*** • How free trade benefits "the greater good" in each country • The role of the concepts of specialization, comparative advantage, opportunity cost, and absolute advantage	All key points are discussed clearly, accurately and completely using economic thinking, theory, and vocabulary. Concerns about job loss and environmental harm are addressed thoroughly and persuasively, with clear and detailed economic arguments.	Most key points are discussed clearly and accurately, using economic thinking, theory, and vocabulary. Concerns about job loss and environmental harm are for the most part addressed, with clear economic arguments.	Most or all key points are omitted and/or are not discussed clearly and accurately using economic thinking, theory, and vocabulary. Concerns about job loss and environmental harm are not addressed, and/or economic arguments are not clearly explained; emotional or non-economic arguments may be used instead.
Quality of Writing and Design (20%)	Explanations of economic theories are written in a clear, easily understood style that does not use "fancy slogans." Writing is free of mechanical and grammatical errors. Its appearance is professional in the use of layout, color, graphic elements, headings, and text; it is easy to see and understand.	Explanations of economic theories are for the most part written in a clear, easily-understood style that does not use "fancy slogans." Writing is free of significant mechanical/grammatical errors. Its appearance shows attention to the use of layout, color, graphic elements, headings, and text; it is easy to see and understand.	Explanations of economic theories are not written in a clear, easily-understood style; it may include "fancy slogans." Writing has significant mechanical and grammatical errors. Its appearance is not clear in the use of layout, color, graphic elements, headings, and text; not neat and/or easy to see and understand.

Test for *The Greater Good*

Answer Key

1. In four hours, the Island of Hatfield can produce 100 buildings or 50 tons of shipping. This relationship describes:
   - A an absolute advantage
   - B a comparative advantage
   - (C) a tradeoff
   - D a scarce good

2. If North Korea has virtually no free-trade partners:
   - (A) their trade partners are subject to quotas and tariffs
   - B other countries can import and export goods from the North Korea without government regulation
   - C North Korean trade agreements are ineffective
   - D North Korea is able to produce at its most efficient levels

3. A store can sell either cookies for $2 apiece or cakes for $10 apiece. If it chooses to sell cookies, what are the cakes?
   - A less profitable
   - B tradeoff
   - (C) the opportunity cost
   - D more profitable

4. If the Island of McCoy wants to specialize in producing certain goods, it:
   - A must have a domestic demand for the goods
   - (B) will probably need to import other goods
   - C should follow a protectionist policy
   - D will eventually use all its resources

5. In free trade:
   - A tariffs are allowed
   - B quotas are allowed
   - C protectionism is allowed
   - (D) no tariffs or quotas are allowed

6. A country faces scarcity if:
   - A trade barriers create economic efficiencies
   - B taxpayers refuse to pay more taxes
   - (C) it has a limited amount of land
   - D the government runs at a deficit

7. A government has to decide if it should spend money on schools or a missile defense system. To do this with economic efficiency it must examine its:
   - A absolute advantage in production
   - B quota system
   - C national security concerns
   - (D) opportunity costs of production

8. The U.S. produces more technical goods for export than other countries because:
   - (A) it has resources better used for technical goods
   - B it knows how to set quotas
   - C of national security concerns
   - D of trade barriers

9. One economic tradeoff the Island of Hatfield has to face is whether to:
   - A produce energy or food
   - B impose trade barriers or free trade
   - C trade with the Island of McCoy or not trade with them
   - (D) all of the above

10. The Island of Hatfield produces wagons in half the time as the Island of McCoy. This means:
   - A no matter what, the Island of Hatfield should specialize in wagon production
   - B the Island of Hatfield has a quota system
   - (C) the Island of Hatfield has an absolute advantage in energy production
   - D not enough information is provided

11. The Island of Hatfield can't produce unlimited technology because of:
   - A absolute advantage
   - (B) scarcity
   - C free trade
   - D protectionism

12. If the Island of Hatfield wishes to open free trade with the Island of McCoy, it:
   - (A) must eliminate all trade barriers
   - B must implement quotas first
   - C can only import and export certain goods
   - D must sign a non-aggression pact

13. When considering free trade, what contributes to a country's comparative advantage?
   - A production costs
   - B the other country's production costs
   - C trade barriers
   - (D) both A and B

14. It takes the Island of Hatfield 19 hours to process coconuts and the Island of McCoy 3 hours to process coconuts. Who has the absolute advantage?
   - A Hatfield
   - (B) McCoy
   - C neither
   - D not enough information is provided

15. Which of the following is not an example of an economic tradeoff for an Hawaiian island? It can:
    - A produce 500 pounds of coffee or 100 pounds of pineapples
    - B impose trade barriers or have free trade
    - C specialize its production or not
    - (D) produce both coffee and pineapple

16. The world can't produce unlimited amounts of oil. This illustrates the principle of:
    - (A) scarcity
    - B absolute advantage
    - C comparative advantage
    - D inadequate substitute products

17. If you choose to take a job at Pizza Hut at $10 an hour rather than Dominos at $12 per hour, the job at Dominos is the:
    - A better choice
    - B tradeoff
    - (C) opportunity cost
    - D comparative advantage

18. When a country uses its resources to produce only a few goods, this is called:
    - (A) specialization
    - B a quota
    - C a tariff
    - D protectionism

19. Eliminating all trade barriers is an example of a:
    - A voluntary restraint system
    - B quota system
    - C tariff system
    - (D) free-trade system

20. If the Island of Hatfield is more efficient at producing energy and advertising than fruits and vegetables, it:
    - (A) should specialize in those goods
    - B will starve because it can't produce enough fruits and vegetables
    - C should become more efficient in producing fruits and vegetables
    - D both B and C

21. When no taxes exist on goods imported into or exported from a country, that country has:
    - A a comparative advantage
    - (B) a free trade policy
    - C a trade agreement
    - D an absolute advantage

22. Absolute advantage is affected by:
    - A protectionism
    - B quotas
    - (C) resources
    - D free trade

23. The Island of McCoy chooses to produce clothing instead of fruits. This is an example of:
    - A labor inefficiency
    - B opportunity cost
    - C scarcity
    - (D) tradeoffs

24. When deciding to specialize production of a good, the Island of Hatfield must consider its opportunity cost. An opportunity cost is:
    - A the amount of money lost by not producing all other goods
    - (B) the next best production alternative
    - C the amount of money it costs to produce the good
    - D the amount of money made from exporting the good

25. The World Trade Organization encourages:
    - A the least efficient countries to build trade barriers
    - B countries to protect the rights of workers
    - (C) trade among member countries
    - D governments to use a single currency

26. Protectionism:
    - A restricts imports into a country
    - B protects some domestic jobs
    - C may include quotas and tariffs
    - (D) all of the above

27. If a country wants to specialize in the export of certain goods, it should have:
    - A access to the necessary resources for production
    - B a comparative advantage in production
    - C an absolute advantage in production
    - (D) both a and b

28. If the U.S. has a scarce amount of resources:
    - A workers must be protected
    - B the U.S. should impose tariffs
    - (C) there are not as many goods as people want
    - D workers must work harder

29. Using Table 1 below, which island has a comparative advantage in producing advertising?
    - A Hatfield
    - B McCoy
    - (C) Springfield
    - D Abbydale

Table 1: Hours Needed to Produce Goods

Industry	Quantity	Island of Hatfield	Island of McCoy	Island of Springfield	Island of Abbydale
Farm equipment	30 machines	12	18	20	21
Advertising	5 slogans	10	18	10	30
Science technology	10 innovations	19	3	25	6
Energy	1 million kilowatts	6	12	15	20
Shipping	20 tons	4	4	5	6
Construction	50 buildings	2	6	7.5	27
Meat and poultry	50 bounds	6	15	9	36
Recording artists	30 tapings	9	15	10	27
Printing	100 copies	3	4.5	2.5	18

30. Using Table 1 above, which island has the absolute advantage in producing meat and poultry?
    - (A) Hatfield
    - B McCoy
    - C Springfield
    - D Abbydale

31. Using Table 1 above, for what good does the Island of Hatfield have both an absolute and comparative advantage?
    - (A) energy
    - B recording artist
    - C printer
    - D not enough information is provided

32. Using Table 1 above, which island should produce advertising?
    - A Hatfield
    - B McCoy
    - (C) Springfield
    - D Abbydale

33. Using Table 1 above, which island should produce printing?
    - A Hatfield
    - B McCoy
    - (C) Springfield
    - D Abbydale

Transcript of First Video Segment of Carlos Medine

VOICE-OVER NARRATOR: Present at this meeting today are the economic leaders of the islands of Hatfield and McCoy and Mr. Carlos Medine, the President of the Trilateral Trade Consortium. President Medine is about to describe a recent event that could potentially open up new trade avenues for these two islands.

CARLOS MEDINE: Welcome to all of you. Because you are the economic leaders of the two islands of Hatfield and McCoy, it's my privilege to be able to address you today with some important information. As most of you know, the 100-year-old war between your neighboring islands of Abbydale and Springfield has finally come to an end. Because each of your islands chose to remain neutral during the war, you have not been able to trade with them. But now that peace is here, both of you are free to begin trade—trade that will improve relations and economic output for all of the island nations involved.

Today, I discussed this matter with the premiers of your two islands. Each of them wants you to negotiate a trade agreement with Abbydale or Springfield or both. My aides will soon be distributing information that will help you reach such an agreement quickly.

This data will tell you the number of hours it takes each island to produce the items to be traded. Use these numbers to figure out which goods and services you want to produce yourselves and which you want Abbydale or Springfield to produce. Our economic analysts at the Trilateral Trade Consortium are extremely thorough in their research, so you can rest assured that the hours are estimated accurately.

It's been brought to my attention that the people from your own two islands do not trust each other. That's unfortunate, but because of this hostility, the people of Hatfield will not be expected to trade with the people of McCoy. Also, any trade agreements between Hatfield and Abbydale or Springfield will not affect trade agreements made by McCoy, and vice versa.

I'm sure you all know that many people resist trade, any kind of trade, so don't be surprised if you hear instant criticism when you begin talking about opening up your island to trade. To prepare for this, you should probably familiarize yourself with the many benefits that can result from trade. I realize that most of you are economists, but because you've been isolated for so many years, it's possible that you're not aware of the many arguments favoring trade. With that in mind, I've asked my aides to develop a series of questions for you to research. By focusing on these questions in economic theory, you should quickly see how trade could benefit both of your islands.

The quickest and best way for you to gain expertise in this area is to form "expert" groups that address each question. My aides are also distributing a technical paper developed by the Trilateral Trade Consortium that might help your research efforts.

Your premiers will be contacting you soon to tell you how to proceed with the trade negotiations. We at the Trilateral Trade Consortium wish you well.

Memo

From the Office of
Carlos Medine, President
Trilateral Trade Consortium

My staff has compiled three questions and resource materials that should help you prepare for deflecting criticism about your upcoming trade with Abbydale and Springfield. It is probably most efficient for you to form expert groups to research and write answers to each question. Each expert group can research one question and share its findings with other groups. In this way all economic leaders on your island will be well-versed in the principles and concepts of free trade. Your reasoning and answers to each of the questions must be clear and correct for you to be able to debate the criticism against opening trade. In fact, without understanding the economics of trade, your island may not be able to realize all of the potential gains from trade.

The questions to be addressed are written below. To help guide your research, I have attached Technical Report TLC #02-540, written and distributed by the Trilateral Trade Consortium, to help educate individuals and countries on the benefits and concerns of free trade.

Why do goods come from other countries?

Look at the labels on your shirts, sweaters, jackets, or backpacks. Notice these products are made in countries other than the United States. Explain why so many products we use come from different countries.

Why do we employ workers from other countries?

The workers in the United States can enter data more efficiently than can the workers in India. Yet, we send much of our data to India to be entered. Why is this? List and discuss the benefits to workers in the United States from people in India doing data entry.

Why do countries destroy natural resources?

Costa Rica has rich rain forests and plentiful natural resources, but it has workers with little education. The easiest way for Costa Rica to earn income in international markets is to cut down the rain forests, turn them into grazing lands, and sell the wood products. Explain why preventing Costa Rica from cutting down rain forests would hurt their economy.

TECHNICAL REPORT SERIES
International Trade Focus

Free Trade and Protectionism: A Critical Review

Technical Report TLC #02-540

The Trilateral Trade Consortium

Abstract

As consumers or producers, we have an interest in trading with other countries. As consumers, trade allows us to get a greater abundance and variety of products at lower prices. As producers, trade allows us to increase our profits by increasing our production through exports. While there are tremendous economic benefits to free trade, there are political benefits to developing policies that restrict trade. A country uses protective tariffs, quotas, or voluntary restraints to preserve or strengthen certain industries, including those that could be essential for defense or war. In an uncertain world, the political-military objectives of self-sufficiency may need to take precedence over economic objectives of efficiency in the allocation of world resources.

Free Trade and Protectionism: A Critical Review

Technical Report TLC #02-540

The Trilateral Trade Consortium

Every time we walk into a record store, restaurant, or any other place of business to buy something, we trade. It does not matter whether the goods we are buying were produced across the street or across the Rio Grande. Trade simply involves exchanging one set of items for another. In most cases, money is the medium used to exchange goods. International trade, or trade among countries, does not differ from trade with other people in the same country. The key to understanding trade is to remember why it takes place. The reason people trade, either within one country or between countries, is because they believe they would be better off by trading. When we consider the alternative—everyone producing whatever they want themselves—trade makes sense.

The process of importing (bringing goods into the country) and exporting (sending goods to other countries) creates a bigger variety of goods and services because it permits countries to specialize in what they do best. By specializing in the goods it can produce the most efficiently—for the lowest possible cost—a country can increase production. By distributing those goods to firms and individuals throughout the world, businesses have the opportunity to increase sales and profits. Increased profit often means increased wages for the work force and additional investment in plants and equipment. Increased efficiency often means lower prices for consumers.

Without trade, countries become isolated. The isolation reduces the number of goods and services as compared to countries that do trade. This can be seen in former Soviet-bloc countries. Once they opened their borders to trade, the number of goods available, the quality of goods, and the production of exported goods all increased.

The benefits from trade can be explained using the economic principles of absolute and comparative advantage. For example, suppose dentists are better at filling teeth and typing letters than are their assistants because it takes dentists less time to perform these functions. In economic language, dentists have an "absolute advantage" both in filling cavities and typing. If we stopped here, we might say dentists should do both because they are better at both. However, trade benefits everyone, even when one person (or country) has an absolute advantage in producing almost everything. The gains from trade depend on a concept that economists call "comparative advantage."

According to comparative advantage, dentists should specialize in their strongest skills, filling cavities, and assistants should specialize in typing. With this specialization, more will be produced than if each tried to do both tasks alone. If they earn wages based on how much they produce, they will both be better off by specializing in their strongest skills because they now produce more. Specializing in what they do best and then trading their service for the other things they need will make both parties better off.

The Benefits of Free Trade

To benefit from international trade, countries must specialize, as the dentist and the assistant did. Because countries have only a finite quantity of resources, producing more of one good means they have to produce less of another. Every country has a unique combination of resources (land, labor, capital, and entrepreneurship) just like the dentist and the assistant have unique talents and knowledge. The amount and type of resources in a country determines what goods and services it can produce most efficiently.

Through trade, countries exchange goods they produce more efficiently for goods that other countries produce more efficiently. Just like both the dentist and the assistant benefited from free trade when they specialized in what they produce most efficiently, countries benefit from specialization and trade. It can be a win-win situation for all participating countries because everyone has more and standards of living are raised.

The Costs of Free Trade

Because trade benefits all countries, we might expect that everyone would be in favor of free trade and permit goods and services to flow freely across borders. However, there are people who want to erect barriers against trade, usually for reasons of "protectionism."

Protectionists—those who favor restraints on trade—argue that opening borders to trade with other countries will cause people to lose their jobs. Because a country will not produce some goods once they specialize and trade, some jobs will initially be lost with trade. However, over time, trade creates new jobs in the industries in which production is specialized.

Another reason often given for erecting barriers to trade is to "protect" certain industries. The argument is that new or young industries must have time to establish themselves from the competition of more mature industries abroad. Arguments are also made that production in certain industries, like military goods, is essential in times of world conflict. Erecting barriers to trade will shelter these industries from international competition so that domestic production of the goods will occur.

An example may best illustrate how trade barriers work. Suppose the United States imposes high tariffs (taxes) on imported steel to protect the U.S. steel industry from foreign competition to 1) save the jobs of the steel workers, and 2) ensure that we have steel in case economic or military conflicts occur. By limiting competition, the price of steel will rise, profits for owners of steel mills will increase, and thousands of jobs in the U.S. steel industry will be saved.

Higher steel prices also means that U.S. firms using steel to produce their goods (automobiles, for example) will have increased costs. Some of these costs will be passed on to consumers in the form

of higher prices, others will result in lower profits and job losses. Also, because people have to pay more for cars (for example) when steel prices go up, they have less money to spend on other things they want to buy—CDs, clothing, food, or entertainment. Industries and consumers that have nothing directly to do with steel production will suffer.

A similar argument for creating barriers to trade focuses on protecting the nation's workers from the competition of cheap foreign labor in low-wage countries. Trade barriers will, in fact, increase wages for domestic workers in the short run. However, better management and technology; better roads, bridges, and communications; and more productive workers are efficient ways to maintain high wages.

For example, suppose the U.S. computer industry has to pay workers $12 per hour to assemble computers but the Mexican computer industry only has to pay $2 per hour. At first it seems like the U.S. computer manufacturers should move to Mexico for its cheap labor. However, technology may be so good in the U.S. that workers can produce 55 computers per hour while Mexican workers can only produce 5 computers per hour. Even without counting the benefits of a more advanced transportation system, better communication and management, and a more stable economic and political environment, the computer manufacturer is better off staying in the U.S. than moving to Mexico.

Finally, some individuals argue that trading with poorer countries that have lax environmental laws endangers the earth's environment. This too may be true in the short run. Most poor countries that can barely feed their people put a lower priority on preserving the environment and a higher priority on production of staple goods, such as food. As production in poor countries grows, pollution and environmental destruction could get worse in the short run. However, over time as they continue to grow, accumulate wealth, and satisfy their basic needs, countries will have more resources and, perhaps, a greater commitment to environmental preservation.

Summary

Arguments can be made for and against free trade. However, over time, the economic benefits of free trade are greater than the costs. Trade creates specialization in production, increased efficiency, and more goods and jobs. Prices of goods and services are lower and consumption is greater. Of course, in the short run, some costs may result. However, these costs are relatively small compared to the higher level of living in our nation and for our trading partners.

The Island of HATFIELD

Table 1: Hours Needed to Produce Each Good

Industry	Quantity Produced on Each Island	Hours Needed to Produce Each Quantity		
		Hatfield	Springfield	Abbydale
Fruits and vegetables	50 pounds	8	20	27
Clothing design	25 garments	23	5	24
Chemists	50 prescriptions	17	22.5	20
Farm equipment	30 machines	12	20	21
Advertising	5 slogans	10	12	30
Science technology	10 innovations	19	25	66
Communication technology	300 phone calls	21	27	28
Energy	1 million kilowatts	6	15	20
Shipping	20 tons	4	5	6
Construction	50 buildings	2	7.5	27
College education	30 courses	15	23	48
Films	15 scenes produced	14	8	45
Meat and poultry	50 pounds	6	9	36
Recording artists	30 tapings	10	10	27
Printers	100 copies	3	2.5	18
Total Hours Needed for Production				

The Island of HATFIELD

Table 2: Opportunity Costs of Production/ Comparative Advantage:

How Long It Takes Each Country to Produce Each Good as Compared to Its Lowest-Cost Good

Industry	Quantity Produced on Each Island	Opportunity Costs Within Each Island		
		Hatfield	Springfield	Abbydale
Fruits and vegetables	50 pounds			
Clothing design	25 garments			
Chemists	50 prescriptions			
Farm equipment	30 machines			
Advertising	5 slogans			
Science technology	10 innovations			
Communication technology	300 phone calls			
Energy	1 million kilowatts			
Shipping	20 tons			
Construction	50 buildings			
College education	30 courses			
Films	15 scenes produced			
Meat and poultry	50 pounds			
Recording artists	30 tapings			
Printers	100 copies			
Total Hours Needed for Production				

Numbers for each island tell us how much goods cost to produce compared to other goods produced on the same island. ***Circle the lowest number in each row,*** to show which island has the lowest opportunity cost—the comparative advantage—for producing that good.

Table 3: Why Trade Is Good

Reduction in Hours With Specialization and Trade

Industry	Quantity Produced on Each Island	Hours If the Island With the Lowest Opportunity Cost Produces the Good
Fruits and vegetables	50 pounds	
Clothing design	25 garments	
Chemists	50 prescriptions	
Farm equipment	30 machines	
Advertising	5 slogans	
Science technology	10 innovations	
Communication technology	300 phone calls	
Energy	1 million kilowatts	
Shipping	20 tons	
Construction	50 buildings	
College education	30 courses	
Films	15 scenes produced	
Meat and poultry	50 pounds	
Recording artists	30 tapings	
Printers	100 copies	
Total Hours Needed for Production		

Table 1: Hours Needed to Produce Each Good

Industry	Quantity Produced on Each Island	Hours Needed to Produce Each Quantity		
		McCoy	Springfield	Abbydale
Fruits and vegetables	50 pounds	24	20	27
Clothing design	25 garments	12	5	24
Chemists	50 prescriptions	8	22.5	20
Farm equipment	30 machines	18	20	21
Advertising	5 slogans	18	12	30
Science technology	10 innovations	3	25	66
Communication technology	300 phone calls	10	27	28
Energy	1 million kilowatts	12	15	20
Shipping	20 tons	4	5	6
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Recording artists	30 tapings	15	10	27
Printers	100 copies	4.5	2.5	18
Total Hours Needed for Production				

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Farm equipment	30 machines			
Advertising	5 slogans			
Science technology	10 innovations			
Communication technology	300 phone calls			
Energy	1 million kilowatts			
Shipping	20 tons			
Construction	50 buildings			
College education	30 courses			
Films	15 scenes produced			
Meat and poultry	50 pounds			
Recording artists	30 tapings			
Printers	100 copies			
Total Hours Needed for Production				

Numbers for each island tell us how much goods cost to produce compared to other goods produced on the same island. ***Circle the lowest number in each row,*** to show which island has the lowest opportunity cost—the comparative advantage—for producing that good.

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Advertising	5 slogans	
Science technology	10 innovations	
Communication technology	300 phone calls	
Energy	1 million kilowatts	
Shipping	20 tons	
Construction	50 buildings	
College education	30 courses	
Films	15 scenes produced	
Meat and poultry	50 pounds	
Recording artists	30 tapings	
Printers	100 copies	
Total Hours Needed for Production		

Transcript of Second Video of Carlos Medine

VOICE-OVER NARRATOR: Carlos Medine, the President of the Trilateral Trade Consortium, is speaking again today with the economic leaders of the islands of Hatfield and McCoy.

CARLOS MEDINE: Once again, I want to welcome you all to this meeting. There are some important developments that you need to know about.

I know you're presently in the process of negotiating trade agreements for the first time with Abbydale and Springfield. But I'm sorry to have to tell you that their strained relationship has led to yet another outbreak of their bitter war. That means that, for your own peace and safety, neither of you will be able to negotiate any trade agreements with either of them.

But there is hope. The premiers of each of your islands—Hatfield and McCoy—have contacted me to express interest in developing a trade agreement between your two islands. And this seems like a good idea to us at the Trilateral Trade Consortium.

There are, of course, a few obstacles. For instance, the premier of McCoy is concerned about negotiating trade with what he thinks are the shifty and dishonest people of Hatfield. And the premier of Hatfield is reluctant to trade with McCoyians because he thinks they are sneaky and untrustworthy. We need to try to overcome these attitudes.

Both of your premiers believe that trade will be good for both production and efficiency. If you can negotiate a good trade agreement, in spite of the fact that you don't trust one another, it would benefit both islands.

So now I want you to negotiate a trade agreement that will yield the best possible terms for both. Determine what will be produced by one of you and what your neighboring island will produce. Don't be concerned about how MUCH will be produced. We'll have our economists at the Trilateral Trade Consortium work that out once you've completed the negotiations.

All of you here are the economic leaders of both Hatfield and McCoy islands. You are responsible adults and know what's best for your island. And today you'll have the unique opportunity to negotiate a fair and honest trade agreement that will benefit both of you.

You'll have 15 minutes to develop this agreement. Please sit at the table my assistant assigns you at that meeting and be prepared to negotiate on behalf of your island.

And, most important, please try to overcome your distrust in order to develop this agreement. But, at the same time, be very cautious about what you agree to on behalf of your people.

Our thanks to all of you.

Trade Agreement

Who Will Produce Each Good?

Industry	Hatfield	McCoy
Fruits and vegetables		
Clothing design		
Chemists		
Farm equipment		
Advertising		
Science technology		
Communication technology		
Energy		
Shipping		
Construction		
College education		
Films		
Meat and poultry		
Recording artists		
Printer		

This trade agreement designates which island will produce each good. Production levels will be established once agreement has been reached. By signing this agreement, you indicate consensus about which island will undertake production of the good.

_____

Economic leaders—Hatfield

_____

Economic leaders—McCoy

Transcript of Video Infomercial by Ellis McClure

Hi, I'm Ellis McClure. You probably remember me from my best-selling books, *A Farewell to Work* and *All Quiet on the Trading Floor.*

I'm here to talk with you today about trade between our neighboring islands and what it will do to all of us. I'm speaking on behalf of the employed workers of your islands. They've asked me to give you the real facts behind all this talk about opening up trade between the islands.

The most important thing you need to know about trade is that it's not about "opportunity cost" or any of those other buzzwords you might hear people using. It's really all about jobs. Just remember this: if we make trade agreements with other nations, our own employed workers will become *un*employed workers. That's a fact, and it's that simple.

If we start trading, our people—our fathers, mothers, sisters and brothers, our kids—will lose their jobs. Should one island's chemists, clothing designers, and farmers become unemployed so the other island's workers can produce what they produced? NO! You can't let it happen.

You'll hear economists argue that in the long run there won't be unemployment, even if we do trade. Well, as another economist once said, in the long run we're all dead. Right *now*, in the short run, we'll lose our jobs. These ivory-tower economists will tell you that workers in, say, communication technology will simply change occupations as employment opportunities grow in other industries when trade takes effect.

That's just not true. It just doesn't work that way. A communications technician is not a scientist, a construction worker, or a college professor. People aren't machines. They can't just be rebuilt quickly for a new purpose. Think about what *you* would do if *you* suddenly had to switch jobs. And can we really enjoy the more plentiful goods that are promised by trade advocates, if we know our fellow citizens are out of work and suffering? No!

You know what will happen if we begin trade? Whoosh! Our jobs will disappear. That's what trade will do for us: lost jobs, lost income, lost opportunities. We can't let that happen. A country should do what's best for its people—its working people.

Working people are not alone in their fight against trade. You'll hear many environmentalists and politicians speak out against it too. Here's a flyer that's being distributed by environmentalists that clearly lays out the facts about how trade will harm our natural resources and pollute the air we breathe, and our land, and our water. We cannot allow the pro-traders to destroy our environment and our jobs.

So, I'm here to ask you to look at the facts and judge for yourselves. Let's protect our precious environment and our jobs by *restricting* trade—with tariffs, quotas, and voluntary restraint agreements. If you, the people, won't do it, who will?

Thank you.

Flyer Outside

TRADE
with other
countries will

DESTROY
our quality
of life and

WASTE
our precious
natural resources

The Committee to Save Our Island

is a non-profit
organization dedicated
to preserving our way of
life and our environment.

We encourage all
citizens of our
beautiful island to call
and write our government
offcials protesting the use
of national resources to
expand trade.

Committee to
Save Our Island

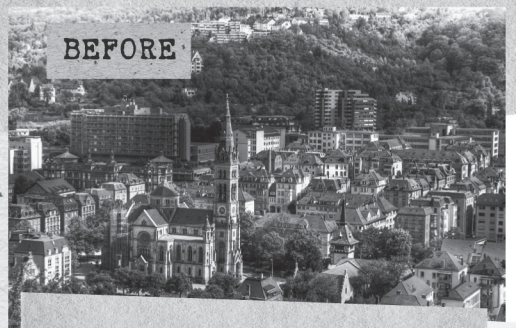
The Ugly Truth About Trade

Greedy business tycoons, determined to make obscene profits, will plunder our environment and use our precious resources to produce goods for sale in other countries. The people of our island do not need or want these products! But advocates of expanded trade aren't concerned about our needs and wants. Their only concern is the bottom line, and they will pollute our air, pour chemicals into our water, cut down our forests, and clog our ports in pursuit of higher profits.

Will Trade Benefit Us?

No! Trade will make rich business tycoons richer. But it will not benefit our people or our island. It will deplete our resources and destroy our way of life. Our children will inherit a polluted, overcrowded country.

Imagine the Consequences



Our Capitol City...

Overrun by Corporate Interests

Our Beautiful Port...

If we Expand Foreign Trade

Our Pristine Forest...

If we Increase Trade

Don't let this happen...

TRADE

Say NO to increased trade!

Flyer Inside

Transcript of Third Video of Carlos Medine

VOICE-OVER NARRATOR: Carlos Medine, the President of the Trilateral Trade Consortium, is speaking once again with the economic leaders of the islands of Hatfield and McCoy about what that has just occurred after a trade agreement was negotiated between the two islands.

CARLOS MEDINE: I have some very disturbing news to report to you. Mass protest has erupted over the trade agreement you negotiated with each other. Union members, environmental groups, and agitators of all types have taken to the streets in opposition to your recent trade plan. Their primary concerns include the loss of jobs in unprotected industries and possible environmental destruction.

It is imperative that you prepare a flyer addressing the concerns of these groups. Your flyer will be distributed to the members of these groups in a public relations campaign to smooth over the recent tensions.

Your flyer must explain the solid economic theories that guided your negotiations and must take into consideration each group's concerns. Remember: the members of these groups do not possess the vast economic knowledge that you do. Explain the economic theories in terms that the common citizen can understand.

Also remember that these groups know all about political propaganda and will ignore fancy slogans and slick graphics. Using economic theory, you must show them the real benefits your island will gain from trade; otherwise, your agreement will be judged a failure by many important people.

Your trade negotiations at this time have become binding treaties. You cannot change them. Your flyers must explain how the "greater good" has been served.

Once again I thank you and trust that what you develop will bring about a clear understanding of the economic facts of your trade agreement and that this will help calm the unexpected and disturbing unrest that we are now witnessing. All our hopes lie with you!

Name: _____ Date: _____

Test for *The Greater Good*

Please circle the letter of your answer.

1. In four hours, the Island of Hatfield can produce 100 buildings or 50 tons of shipping. This relationship describes:

   A an absolute advantage
   B a comparative advantage
   C a tradeoff
   D a scarce good

2. If North Korea has virtually no free trade partners:

   A their trade partners are subject to quotas and tariffs
   B other countries can import and export goods from the North Korea without government regulation
   C North Korean trade agreements are ineffective
   D North Korea is able to produce at its most efficient levels

3. A store can sell either cookies for $2 apiece or cakes for $10 apiece. If it chooses to sell cookies, what are the cakes?

   A less profitable
   B tradeoff
   C the opportunity cost
   D more profitable

4. If the Island of McCoy wants to specialize in producing certain goods, it:

   A must have a domestic demand for the goods
   B will probably need to import other goods
   C should follow a protectionist policy
   D will eventually use all its resources

5. In free trade:

   A tariffs are allowed
   B quotas are allowed
   C protectionism is allowed
   D no tariffs or quotas are allowed

6. A country faces scarcity if:

   A trade barriers create economic efficiencies
   B taxpayers refuse to pay more taxes
   C it has a limited amount of land
   D the government runs at a deficit

7. A government has to decide if it should spend money on schools or a missile defense system. To do this with economic efficiency it must examine its:

   A absolute advantage in production
   B quota system
   C national security concerns
   D opportunity costs of production

8. The U.S. produces more technical goods for export than other countries because:

   A it has resources better used for technical goods
   B it knows how to set quotas
   C of national security concerns
   D of trade barriers

9. One economic tradeoff the Island of Hatfield has to face is whether to:

   A produce energy or food
   B impose trade barriers or free trade
   C trade with the Island of McCoy or not trade with them
   D all of the above

10. The Island of Hatfield produces wagons in half the time as the Island of McCoy. This means:

    A no matter what, the Island of Hatfield should specialize in wagon production
    B the Island of Hatfield has a quota system
    C the Island of Hatfield has an absolute advantage in energy production
    D not enough information is provided

11. The Island of Hatfield can't produce unlimited technology because of:

    A absolute advantage
    B scarcity
    C free trade
    D protectionism

12. If the Island of Hatfield wishes to open free trade with the Island of McCoy, it:

    A must eliminate all trade barriers
    B must implement quotas first
    C can only import and export certain goods
    D must sign a non-aggression pact

13. When considering free trade, what contributes to a country's comparative advantage?

    A production costs
    B the other country's production costs
    C trade barriers
    D both a and b

14. It takes the Island of Hatfield 19 hours to process coconuts and the Island of McCoy 3 hours to process coconuts. Who has the absolute advantage?

    A Hatfield
    B McCoy
    C neither
    D not enough information is provided

15. Which of the following is not an example of an economic tradeoff for an Hawaiian island? It can:

    A produce 500 pounds of coffee or 100 pounds of pineapples
    B impose trade barriers or have free trade
    C specialize its production or not
    D produce both coffee and pineapple

16. The world can't produce unlimited amounts of oil. This illustrates the principle of:

    A scarcity
    B absolute advantage
    C comparative advantage
    D inadequate substitute products

17. If you choose to take a job at Pizza Hut at $10 an hour rather than Dominos at $12 per hour, the job at Dominos is the:

    A better choice
    B tradeoff
    C opportunity cost
    D comparative advantage

18. When a country uses its resources to produce only a few goods, this is called:

    A specialization
    B a quota
    C a tariff
    D protectionism

19. Eliminating all trade barriers is an example of a:

    A voluntary restraint system
    B quota system
    C tariff system
    D free trade system

20. If the Island of Hatfield is more efficient at producing energy and advertising than fruits and vegetables, it:

    A should specialize in those goods
    B will starve because it can't produce enough fruits and vegetables
    C should become more efficient in producing fruits and vegetables
    D both B and C

21. When no taxes exist on goods imported into or exported from a country, that country has:

    A a comparative advantage
    B a free trade policy
    C a trade agreement
    D an absolute advantage

22. Absolute advantage is affected by:

    A protectionism
    B quotas
    C resources
    D free trade

23. The Island of McCoy chooses to produce clothing instead of fruits. This is an example of:

    A labor inefficiency
    B opportunity cost
    C scarcity
    D tradeoffs

24. When deciding to specialize production of a good, the Island of Hatfield must consider its opportunity cost. An opportunity cost is:

    A the amount of money lost by not producing all other goods
    B the next best production alternative
    C the amount of money it costs to produce the good
    D the amount of money made from exporting the good

25. The World Trade Organization encourages:

    A the least efficient countries to build trade barriers
    B countries to protect the rights of workers
    C trade among member countries
    D governments to use a single currency

26. Protectionism:

    A restricts imports into a country
    B protects some domestic jobs
    C may include quotas and tariffs
    D all of the above

27. If a country wants to specialize in the export of certain goods, it should have:

A access to the necessary resources for production
B a comparative advantage in production
C an absolute advantage in production
D both A and B

28. If the U.S. has a scarce amount of resources:

A workers must be protected
B the U.S. should impose tariffs
C there are not as many goods as people want
D workers must work harder

29. Using Table 1 below, which island has a comparative advantage in producing advertising?

A Hatfield
B McCoy
C Springfield
D Abbydale

Table 1: Hours Needed to Produce Goods

Industry	Quantity	Island of Hatfield	Island of McCoy	Island of Springfield	Island of Abbydale
Farm equipment	30 machines	12	18	20	21
Advertising	5 slogans	10	18	10	30
Science technology	10 innovations	19	3	25	6
Energy	1 million kilowatts	6	12	15	20
Shipping	20 tons	4	4	5	6
Construction	50 buildings	2	6	7.5	27
Meat and poultry	50 bounds	6	15	9	36
Recording artists	30 tapings	9	15	10	27
Printing	100 copies	3	4.5	2.5	18

30. Using Table 1 above, which island has the absolute advantage in producing meat and poultry?

A Hatfield
B McCoy
C Springfield
D Abbydale

31. Using Table 1 on the previous page, for what good does the Island of Hatfield have both an absolute and comparative advantage?

    A energy
    B recording artist
    C printer
    D not enough information is provided

32. Using Table 1 above, which island should produce advertising?

    A Hatfield
    B McCoy
    C Springfield
    D Abbydale

33. Using Table 1 above, which island should produce printing?

    A Hatfield
    B McCoy
    C Springfield
    D Abbydale

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