

Name

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Subject/Grade Level

Advanced Placement Microeconomics/ Grade 12

Title/Topic of Lesson

International Trade/ The International Trade Game

Essential "Guiding Question" for Lesson

How does the range of economic development from First to Third World countries affect international interactions and trade?

Sunshine State Standards Addressed in the Lesson

SS.912.E.3.2

Examine absolute and comparative advantage, and explain why most trade occurs because of comparative advantage.

SS.912.E.3.3

Discuss the effect of barriers to trade and why nations sometimes erect barriers to trade or establish free trade zones.

SS.912.E.3.5

Compare the current United States economy with other developed and developing nations.

Learning Objectives

- Students will be able to apply economic concepts and vocabulary terms to the real world application of International Trade.
- Students will be able to identify the opportunity cost, supply and demand, elasticity, incentive and price determinants (price of inputs) in the simulation.
- Students will be able to preview the concepts of cartels, oligopolies, game theory and imperfect information that will be discussed further in the coming weeks.
- Students will be able to create a holistic conceptualization of the current topic of comparative advantage, trade, market power, and world inequality that together creates the topic of international trade.
- Students will be able to move away from a typical textbook account of international trade and forced to consider alternative motives that might prompt economic behavior by experiencing the emotions of envy, greed, frustration and desire to escape poverty by any means necessary that come with production and trade in an unequal world.
- Students will be able to pinpoint the areas/concepts with which they are struggling and self-assess their improvement following the lesson.

Context

Prior to this activity, the students have covered the topics of a market economy, opportunity cost, comparative advantage, supply and demand, elasticity and cross-price elasticity and price determinants. This activity will reinforce those concepts as well as build on our unit of study focused on trade. Leading to this lesson, students have been studying international trade based on the concepts of comparative advantage, tariffs, opportunity cost, market power and world

inequality, as studied in microeconomics. This lesson will pull together concepts that have been isolated over several chapters allowing for this simulation of the real world to also demonstrate the truth that all economic concepts work together in the real world to create one world economy. These simulations are incredible helpful in bringing theories life. The best way to learn is to experience, and this game will allow the students to experience international trade.

Students are divided into teams, each of which acts as a separate 'country', with between two and ten students in each team. Countries compete against each other to 'manufacture' paper shapes (circles, triangles, rectangles, etc.) and sell them to an international commodity market trader at posted prices, which vary with supply and demand. The objective for each country is to make as much money as possible. There are three types of country in a game: two rich industrialized countries; two middle-income countries; two low-income countries. Students are not told this; they find out as they play the game.

Student Grouping

Heterogeneous Teams of Four: Students will be assigned to one of six teams are of mixed ability, sex and race. These six teams will represent the six countries in the simulation. Throughout the entire lesson, this grouping of students will remain although movement around the room will be expected.

Special Positions: In order to conduct a smooth simulation, several students will be filling “special positions” and therefore not grouped in one of the six countries.

- Observers
- Trader
- Trader’s Assistant
- Game Leader (Teacher)

Methods

Simulation:

The class will participate in a simulation of a international trade to demonstrate the forces and concepts of the world economy.

Direct Instruction: Following the simulation, direct instruction mixed with discussion will reinforce the metaphors and illustrations the simulation provided on the subject of international trade. This debriefing session will include reviewing, foundation, and previewing information as this simulation displays nearly every aspect of the world economy.

Activities

Opening:

To open, a schedule will be projected on the board. The teacher will remind the students of the upcoming vocabulary quiz, unit test, and notebook check. The teacher will clear up any questions/issues and “check-in” to make sure the students are keeping up with the flow of the unit schedule.

Students will be provided a “Progress Tracking Sheet” (as occurs before every test). Before the simulation, the “learning goal” of the lesson will be displayed for the students to copy onto their

tracking sheet. Students will then reflect and assess their understanding up to this point and record three concepts or concerns that need attention before the test. This sheet will then be put aside until the end of class.

Main Activity:

The teacher will pass out the prepared country envelopes for each group (See “Materials” section for details).

The dynamic of the game requires that there is no preamble explaining the purpose of the game and no summary from the game leader explaining what the game is supposed to illustrate. It is important for the students to work out what they should do. In order to make sure that they game leader does not mistakenly give something away, a prepared script will be read.

- “Each of the groups is a team and represents a country. The objective for each country is to make as much money for itself as possible by using the materials in the envelope. No other materials can be used. Use the materials to manufacture paper shapes. You can choose to make any of the shapes shown on the diagrams on the wall. All shapes must be cut with clean sharp edges and must be of the exact size specified on the diagrams. The shapes can then be sold to the trader in batches, who will check them for accuracy and exchange them for cash. Inaccurate shapes will be rejected or bought for a cheaper price. You can manufacture as many shapes as you like - the more you make, the richer you will become. You must not cut up your envelope!
You can move around the room. If you hear me whistle [demonstrate], you must immediately stop what you are doing and pay attention. If there is any dispute, I will settle it. My word is final! No physical force is to be used in the game.”

At the beginning of the game there is be a lot of confusion and students will have many questions, such as “Where can I get scissors?” “Why do we only have one piece of paper?” “Can we buy things from other countries?” “Can we have a loan?” The teacher must resist answering these questions. Just repeat the same script from the beginning of the game. After a minute or two they should begin moving around the room and trading but the initiative should not come from the game leader. The rich countries will probably begin making shapes as they have all the materials and equipment that they need, but they will soon run out of raw materials (paper) and probably try to buy some paper from other groups.

Role of Observers: Observers will report back to the game leader on what is going on in the game. The observers will provide information that will be helpful during the debriefing session. The game leader will prepare the observers as to what to look for throughout the game:

- What is happening to the scissors?
- Do rich countries form a scissors cartel?
- Do they sell one pair to a country?
- Do they hire them out?
- How are groups negotiating the prices of paper and other materials?
- Are there any alliances?
- Any cheating or deals?
- Is there any malpractice, i.e. stealing paper, or other materials?

- In the case of stealing the game leader will impose a punishment as the “World Police,” depending on the crime, punishments may include suspending the from production for 5 minutes, confiscating materials or fining them. (If this lesson is used with a calm class I may have allow the countries to develop their own policing policy)

Role of Commodity Trader: The trader must carefully measure the shapes submitted by each country, and reject any that have not by cut out. If they have been torn carefully against a ruler or are only slightly too large or small, a reduced price will be given. The trader must keep a close eye on the money and prevent students from stealing it. Shapes that have been sold should be put into an envelope, also out of the reach of students.

Depending on the performance of the class: loans may be available:

- Interest rates will be 50%
- Trader’s assistant will keep a record of them
- At the end of the game, when the money is totaled, the trader will announce how much must be deducted (outstanding loan plus interest) from each team

Role as Game Leader (Teacher): The teacher will keep in constant contact with the trader. The teacher will find out which shapes are being sold in large quantities (most likely the triangles and rectangles) and which are not being sold nearly at all (probably the circles and semi-circles). The game leader, after a certain period of time will blow the whistle and announce that, owing to the forces of supply and demand, the prices of certain shapes have changed. This change in price will allow for an illustration of price elasticity of demand and price elasticity of supply to be discussed in the debriefing session. Cross-price elasticity will also be illustrated by the value of particular tools increasing as the price of particular shapes increase (if Circles increase in value, the compass’s value will increase as well).

Depending on the performance of the class: Extra dimensions may be added:

Development of new technology:

- The game leader may give small sticky notes to one of the low income countries, without indicating for purpose they may be used
- The game leader then goes to the rich or middle-income countries and informs them that the value of a standard shape is tripled if it has a sticky note attached to it, and that these sticky notes are in the possession of one of the low-income countries.
- This scenario could stimulate the discovery of raw materials in a developed country, which are then developed by a multinational corporation investing in the country and bringing its expertise and technology with it, or exploit the low income country to obtain its new resource.

Increase capital:

- Sell a pair of scissors by auction.
- The game leader will announce the auction 5 minutes prior and request one representative from each country. Although the low-income countries may wish to buy these scissors they will most likely be unsuccessful in the auction.

Introduce more raw materials:

- As the game progresses, paper will rapidly run out. Trade in paper is likely to take place, with the price of paper rising in terms of the shapes that can be made from it.
- The game can be prolonged by introducing more paper (simulating the discovery of more raw materials). This can be done in two ways:
 - Give some of the paper to one or both of the low-income countries
 - Or, sell more paper in an auction. In this case, announce the auction 5 minutes prior and request one representative from each country to attend.
 - “How will the price at the auction reflect the value of the shapes that can be made from it?”
 - “Will the bidders collude to drive down the price?”

Ending the game:

The students will be given a 5-minute warning of when the game will end. There will most likely be a flurry to make shapes with their remaining paper and bring those to the commodity trader. The whistle will end all trades.

Countries will be asked to answer these three questions:

- What was in their envelopes when they opened them?
- What tools do they currently own?
- How much money do they have? (consult with the trader for any outstanding loans)

Closing:

To close, a class discussion will facilitate “Debriefing Session.” The teacher will lead a discussion that will allow for each metaphor of the simulation to be related to economic vocabulary and concepts. The questions below will be the questions posed to spark the discussion necessary to cover each economic concept.

Debriefing Session:

Stage One:

- Draw students’ attention to similarities and differences between the results from different groups.
- Did the groups with the same resources perform in a similar way?
- How much of the difference between the groups was due to strategies pursued?
- How much of the difference between the groups was due to the initial endowment?
- How did you feel about the game as it developed? Was it fair?

To the successful countries:

- How did you achieve your success?
- What problems did you experience and what strategies did you use to overcome them?

To less successful countries:

- What factors limited your success?
- What strategies did you pursue?
- Which strategies failed and why?
- Now that you have learned to play the game, what would you have done differently?

To countries that formed alliances:

- Why did you form the alliance?
- How well did it work?

- Why prevented it from breaking up?

Stage Two:

- In what ways does the game simulate the real world and ways in what ways is it unrealistic?
- Ask the low-income countries: How does this make you feel about the real world?

Stage Three:

(May be continued in following lessons depending on time)

This stage will be used to go through a comprehensive list of economic topics that were simulated by this game:

- *Specialization and division of labor.* How did teams divide up the tasks? Was it more efficient to have some students cutting out the shapes, while others lined up to sell the shapes, while others negotiated, and others scouted around to see what other teams were doing and whether there were opportunities that could be of benefit.
- *Supply and demand and the determination of price:* Why did prices vary as they did in the game?
- *Prices as signals and incentives.* How did teams respond to price changes? How elastic was their supply and why? Did anticipated price changes affect the production of shapes or when they were taken to the trader?
- *Imperfect information and acting on expected prices.* How do price expectations influence production and the timing of sales? On what basis are price expectations formed? Do people learn from experience?
- *Derived demand and the price of inputs.* How did the prices of shapes affect the price of various pieces of equipment or their rental value (input prices)? Do the same principles apply to pencils (in relatively plentiful supply) and scissors (in relatively short supply)?
- *Bidding and auctions.* What determines the price at auctions? What determines whether there will be any collusion between bidders and what would be the outcome of that collusion?
- *Opportunity cost:* What was the cost in terms of lost time, value from shapes, lack of access to equipment, etc. of particular decisions? *World inequality.* You could refer to the distribution of resources in the world and ownership patterns. What determines whether inequality is likely to increase or decrease over time?
- *The law of comparative advantage.* Why do countries specialize in particular products? How does this depend on their resources? How does it relate to opportunity cost?
- *Terms of trade.* What determines the relative price of shapes and how does this relate to resources? Can countries influence the price of shapes?
- *The importance of market power in international trade.* What is the role of multinationals? How do they control markets? Is there anything that developing countries can do to create countervailing power?
- *The importance of resources and technology in determining trade patterns.* Certain equipment is best designed to produce certain shapes. You could show how control over this equipment affects the pattern of trade and can influence prices.
- *Risk and uncertainty.* There are several aspects of the game, which involve uncertainty. These include the likelihood of obtaining equipment, future prices, the outcome of the paper auction, the role of the sticky notes, the effects of negotiations between other countries on their behavior, and whether and what punishment will be imposed by the

leader for 'malpractice'.

- *Cartels and oligopolistic collusion*. What cartels formed? What cartels could have formed, and how would they have affected the balance of advantage in the game?
- *Game theory: strategy, bargaining, trust, etc.* What incentives were there for sticking to agreements and for breaking them? How would the number of people in a team or the number of teams involved in an agreement affect the likelihood of sticking to or breaking an agreement? How did risk attitudes determine strategy?

Following the debriefing session, the students will complete the “Progress Tracking Sheet”. First, by re-writing the learning goal, then reassessing understanding, and lastly, recording any concepts or concerns that still need attention.

Important Questions to Ask:

See “Debriefing Session”

Materials

Envelopes For Countries:

Rich Countries: A1, A2

- 2 pairs of scissors
- 2 rulers
- 1 compass
- 1 template square (the exact size of two large triangular shapes)
- 1 protractor (the exact size of the semi-circular shape)
- 2 pencils
- 1 sheet of printer paper
- 6 x \$100 notes

Middle-income countries: B1, B2

- 2 pencils
- 1 ruler
- 10 sheets of printer paper
- 3 x \$100

Low-income countries: C1, C2

- 2 pencils
- 4 sheets of printer paper
- 2 x \$100

Trader Envelope:

- Template of shapes with their prices
- Banknotes:
 - 30 @ \$50
 - 60 @ \$100
 - 20 @ \$500
 - 40 @ \$1000
- Pencil
- Large envelope for keeping completed shapes “secure”

Envelope for Game Leader

- Whistle
- 6 sticky notes
- 10 sheets of printer paper
- Pencil sharpener
- 2 scissors
- Script for “starting the game”

Observers:

- Spiral Notebook
- Pencil

Evaluation

Students will be evaluated in two ways. First, student responses and discussion points will allow for the teacher to assess comprehension. Second, as a form of formative assessment, the students will be self-evaluating comprehension. The student progress tracker (attached below) will allow each student to assess their own progress to date in learning the concepts discussed in the lesson as well as self-evaluate their progress following the lesson. This will help the students take responsibility for the information still posing issues as well as provide a record for the teacher to reflect on following the lesson to aid in future lessons and the material that requires more focus.

Period: _____

Last Name: _____

First Name: _____

Please write the learning goal for this activity below:

I would like to track your progress to date in learning the above concepts. You will record your self-rating in the boxes below. You will record your rating before and after the lesson.

Start of class (select 0-4)

End of class (select 0-4)

How well do you think you understand the concepts in this learning goal? Key

- 0. I have no idea what you are talking about
- 1. I understand some of the concepts, but I am struggling a bit
- 2. I understand these concepts but could still use a little help
- 3. I understand these concepts very well
- 4. I have this mastered and can explain it to a fellow classmate

Start of class: I would like you to reflect on your understanding of this specific learning goal.

Please answer the following so I can work with you to better understand.

I have no idea about _____

I still struggle with _____

I feel I understand but would still like to know more about _____

Please write any additional thoughts you have:

- 1.
- 2.
- 3.

Please fill this out at the END of class and turn it in to me.

Again, please write the learning goal for this activity below:

After the in class activity, how well do you think you understand the concepts in this learning goal? Go back to your original rating space and write a new (it can still be the same rating or a lesser rating) rating. Did your rating change or stay the same? Write why you choose your new rating.

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<p><i>As you reflect on today's learning goal, what is the most interesting thing you learned in class today?</i></p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Was this simulation helpful?

Would you benefit from one-on-one assistance?

Script: “Starting the Game”

“Each of the groups is a team and represents a country. The objective for each country is to make as much money for itself as possible by using the materials in the envelope. No other materials can be used. Use the materials to manufacture paper shapes. You can choose to make any of the shapes shown on the diagrams on the wall. All shapes must be cut with clean sharp edges and must be of the exact size specified on the diagrams. The shapes can then be sold to the trader in batches, who will check them for accuracy and exchange them for cash. Inaccurate shapes will be rejected or bought for a cheaper price. You can manufacture as many shapes as you like - the more you make, the richer you will become. You must not cut up your envelope!

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