

The Canada-US Auto Industry Simulation and Economies of Scale

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Overview:

This activity is an introduction to the Canada-US trade relationship which is the world's largest trade relationship and is unique for trading laterally. Students will learn about the role of trade in the Canada-US auto industries and how economies of scale create a mutually beneficial relationship between the two nations.

Grade Levels:

This activity could be adapted to suit middle and high school classrooms as needed.

Purpose:

- To understand the lateral nature of Canada-US trade
- To understand the concept of Economies of Scale
- To understand the impact that Economies of Scale have on the Canada-US trade relationship

Materials:

- Monopoly Money
- Colored paper (10 white sheets, 4 black sheets, 4 blue sheets)
- 6 stencils. 2 Car stencils, 2 jeep stencils, 2 wheels stencils, 2 window stencils
- 10 scissors
- 4 glue sticks
- 10 pencils

Pre-lesson:

- Ask the students about their knowledge of the auto industry.
- What vehicles do their families or friends own? Where were these vehicles built?
- What do the students know about vehicles such as buses and airplanes? Where are they built? How important are vehicles in our societies?
- Is it important to have a variety of vehicles available to us?

Activity Procedures:

Step 1: Tell the students that in today's activity the class will look at the production of cars.

- Divide the students into three teams (countries), and each team will have the opportunity to purchase raw materials (paper) and machinery (stencils, pencils, scissors, glue).
- Their task is to produce as many cars as possible within a 10 minute timeframe.
- Show the students an example of a finished product (paper car), and tell them that they will need to produce high quality products to satisfy the demands of the consumers in their country.
- Each car will need to pass inspection before it will be allowed to go on the market.
- Each team will receive \$100 in Monopoly money.
- The buyer will need to go to the vendor and purchase the materials their team will need in order to manufacture the cars.
- The prices will be set as following:

Car stencil: \$20

Wheel stencil: \$5

One sheet of paper: \$1

Window stencil: \$5

Scissors: \$5

Glue Stick: \$5

Pencil: \$5

Step 2: Students will need to fill roles in the simulation. The teacher may assign roles, or the students may choose a role they are most comfortable with. The roles are as following:

- 2 vendors who will sell resources and machinery to the workers.
- 3 teams. (Each team will have a manager, a buyer of resources, one quality control inspector, and assembly line workers.)

Step 3: Students work in their teams and create as many cars as possible and the buyer must keep a clear record of all expenditures. Students must produce both SUVs and cars but MAY NOT trade or cooperate with the other team. The goal is to create as many cars as possible within the set amount of time.

Step 4: Once the 10 minutes are finished, production must stop and each team should answer the following questions in a class discussion:

- How many units were you able to make?
- Why?
- How much money did you spend?

As discussion takes place, students need to return all resources and materials (the manager is responsible for this).

Step 5: This is a repeat of Step 3 except that the teams CAN cooperate and trade with each other.

Step 6: After the time is up, discuss the questions in Step 4 as well as the following questions:

- Were the end results different? If so, why?
- What conclusions can we come to based on this activity?

Step 7: The teacher can explain the differences in the end result of the two rounds by concept of economies of scale and how they relate to the Canada-US Auto industry. The teacher may also choose to show Dr. Paul Storer's PowerPoint "Automotive Trade and Economies of Scale" to illustrate these concepts.

Assessment:

To demonstrate their understanding of the lesson, the students will need to complete the following assignment:

Students write a letter to someone (can be a family member, friend, a teacher, etc) OR create a comic strip where they explain the lateral trade relationship between Canada and the US. They must also explain how the auto industries use economies of scale to create a mutually beneficial relationship.

Possible Extra Credit/Extension of Study:

Teachers can use "State Trade Fact Sheets" provided online (and updated annually) at www.canadainternational.gc.ca/buffalo/commerce_can/2010/index.aspx?lang=eng&menu_id=366&menu=L as well as the Statistics Canada website at www.statcan.gc.ca to investigate other aspects of the Canada-US trade relationship and how they apply specifically to teachers' home states.

Student Handout

1. Your task is to create as many vehicles as possible. You may choose to either produce one kind of car, or two different types. You will have 10 minutes to produce your vehicles.
2. Each finished vehicle will look as following:
 - the body of the vehicle will be white
 - each vehicle will have 2 black wheels
 - each vehicle will have a blue window

You will need to produce high quality products to satisfy the demands of the consumers in your country. Each vehicle will need to pass inspection before it will be allowed to go on the market.

3. Everyone on your team will have a role. The roles are as following:
 - one manager: delegate work to the assembly line workers, speak on behalf of the team, is responsible for the final decision of what is purchased and what is produced.
 - one buyer: buy resources and equipment from the vendor and keep track of what was purchased and for how much.
 - one quality control inspector: ensure that all vehicles are of high quality and those that are not are either discarded or sent back to the assembly line workers to be fixed.
 - assembly line workers: use the resources and machinery to produce the vehicles.
4. Each team will receive \$100 in Monopoly money and you will have the opportunity to purchase raw materials (paper) and machinery (stencils, pencils, scissors, and glue).

The buyer will need to go to the vendor and purchase the materials their team will need in order to manufacture the cars. The prices will be set as following:

Car stencil: \$30
Wheel stencil: \$5
Window stencil: \$5
Scissors: \$5
Glue Stick: \$5
Pencil: \$5
One sheet of paper: \$1