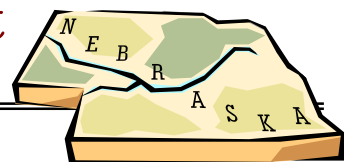


Lesson 5: Competition and Market Structure



Overview: The entrepreneur will operate in a market that may, or may not, have others selling the same or similar products. If the entrepreneur is the only seller of the product, then the market structure is called a monopoly. If there are many sellers, then the market structure is called competitive. In this lesson students will play a game that is like a competitive market. While playing the game, it is intended that students will “discover” that the price of the product is determined by the interaction of suppliers of the product and demanders of the product. Thus the entrepreneur, as one of the sellers, does not have a great deal of power to determine the price at which they sell. This can be important information for the entrepreneur because if the existing price in a competitive market is lower than the unit costs of production, then that would not be a good market to enter because only losses will result.

Economic Concepts:

Supply and Demand
Profit
Shortage
Surplus

Objectives: The students will be able to:

- 1) Calculate profit from the sale of an item.
- 2) Explain why the price of a product in a competitive market is balanced by the forces of supply and demand.

Nebraska Standards:

SS/H—8.3.5, 12.4.21, 12.4.26
R/W—005.01D, 005.02A, 005.03A, 005.03B, 005.04A, 006.01B,
006.02A, 006.03A, 006.03B, 006.04A
Mathematics—005.02C, 005.05A, 005.05B, 005.06C

Materials:

- 1) A standard deck of playing cards, where the following cards are used:
black cards (spades or clubs) 2, 2, 3, 4, 5, 6, 6, 7, 8
red cards (hearts or diamonds) 10, 10, 9, 8, 7, 6, 6, 5, 4.
- 2) A baseball hat or a pair of sunglasses that can be displayed as an example of the items that the students are buying or selling.
- 3) Nine copies of Activity Sheet 5-1, where the directions for each group are cut into separate piles.
- 4) Eighteen copies of Activity Sheet 5-2 (the earnings sheet for each player).
- 5) Three copies of Activity Sheet 5-3 (the trade verification sheet).
- 6) An overhead transparency of Activity Sheet 5-4

Time required: 1 or 2 class periods

Procedure:

- 1) Divide the students into 3 groups, where two of the groups will have 9 people each, and one group will have two people. One group of 9 is the demand, or buyer, group. Another group of 9 is the supply, or seller, group. The last group is the recorder group. Give each group the appropriate directions from Activity Sheet 5-1.
- 2) Inform the buyers and sellers that each will get a card that represents either
 - A. the maximum amount the buyer can pay for the item, or
 - B. the minimum the seller can sell the item for.
- 3) Once each buyer and each seller is given a card (they should not show what is on the card to others) they all meet in the center of the room.
 - A. Each buyer (seller) is free to negotiate a trading price with any seller (buyer) – **but only in increments of 50 cents.** (so prices can only be like \$1.00, or \$1.50, or \$2.00, or \$2.50 and so on.)
 - B. Buyers and sellers may want to call out prices at which they would buy or sell and see if that helps in making a trade.
 - C. When a buyer and seller agree on a price, they both report to the recorder table, where the trade is verified to make sure the price is allowable as set forth by the buyer and seller rules. If a trade is no good, send the two back to the market.

- D. Allow about 3 minutes for trading to occur. Some will not be able to make a trade, and that is ok.
- E. The recorders will use Activity Sheet 5-3 to record the trade information. The recorders will keep the cards in separate piles and at the completion of the round collect the cards from all players, shuffle each pile separately and then redistribute them to the players at the beginning of the next round. Sellers (buyers) stay sellers (buyers) all the time, but may not get the same card in the future.
- F. Each buyer and seller will use Activity Sheet 5-2 to record their own transaction. Say the trade is at a price of \$5.50. If the seller has the card 3, then they would record $5.50 - 3.00 = 2.50$. If the buyer had the card 10, then they would record $10 - 5.50 = 4.50$.
- G. Play the game for 5 or 6 rounds.
- H. After all the rounds are played have each player add up their earnings and reward the buyer and the seller with the highest earnings with a small prize. This may give the students an incentive to do the math and record the prices.

4) After the game has been played and rewards given out, put the transparency of Activity Sheet 5-4 on the overhead.

- A. Explain the supply curve in the market is a reflection of the cost of producing units of the product. Plus, each entrepreneur does not have the same cost. Point out that when the price is, say \$4, that only the sellers with the cards 2, 3, and 4 will make any money at all or break even. Every other seller would lose money and would thus not supply. A similar story holds for other prices.
- B. Explain the demand curve in the market is a reflection of the value consumers put on a unit of the product. Plus, each consumer does not place the same value on the unit. Point out that when the price is, say \$8, that only buyers with cards 10, 9, and 8 value the product enough to buy the product. Every other buyer would give up more than the item is worth. A similar story holds for other prices.
- C. Explain that when prices are higher than \$6, where supply and demand meet, some sellers do not sell because enough buyers do not value the good at those high prices. The **surplus**, amount sellers would have left over at prices higher than \$6, leave sellers unhappy and in order to sell the units they will lower the price.

- D. Explain that when prices are lower than \$6, some buyers will not get to buy because sellers do not have prices high enough to cover their costs. The **shortage**, amount buyers do not get at prices lower than \$6, leave buyers unhappy and in order to buy the item they will offer more for the item.
- E.** Explain that the entrepreneur in a competitive market can't charge any price that might be desired. The market forces of supply and demand influence what can be charged.

Assessment:

- 1) If sellers are charging more than buyers are willing and able to pay, a(n) _____ of product will result.
- A. surplus*
 - B. shortage
 - C. equilibrium
 - D. diminishing return
- 2) If sellers are charging less than buyers are willing and able to pay, a(n) _____ of product will result.
- A. surplus
 - B. equilibrium
 - C. over stocking
 - D. shortage*

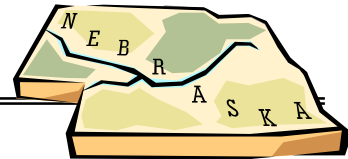
Footnote

1. This activity is based on the work of Charles A. Holt, *Classroom Games: Trading in a Pit Market*, Journal of Economic Perspectives, Volume 10, pages 193-203, 1996
2. Also see Lesson 3: "A Classroom Market for Crude Oil." Focus: High School, National Council Economics, New York, NY 2001
3. For more practice and teacher review before teaching this activity, for supply and demand jeans activity on http://ecedweb.unomaha.edu/demand_supply/demand.htm

- 3) Based on the demand chart on Overhead 5-4, as price went up buyers purchased _____ products.
- A. the same amount of
 - B. more
 - C. substitute
 - D. less*
- 4) In the space below, use complete sentences to explain why an entrepreneur cannot charge any price they want to for their products.

Extension Activity:

Divide the class into two groups of students with the buyers and one of the recorders in one group and the sellers and the other recorder in another group. Using the information recorded on the transaction verification sheet, have the group of buyers construct a demand curve from the trading activity and the group of sellers construct a supply curve. Have a spokesperson from each group present their graph to the rest of the class explaining the relationship between price and quantity on each. Then as a class, combine the information from each graph and determine the equilibrium price of the activity.



Buying & Selling on the Market

Buyer Instructions

- 1) You have an earnings sheet.
- 2) In each round of the game you will be given a card. The card value is the maximum dollar amount you would pay for the item in question. So, if you pay less than the card value, you will have “earned” by saving. As an example, say your card is a 9 and you trade at a price of \$5. You would have earned 4 (9 minus 5).
- 3) Negotiate with sellers to try to get the best deal for you. Call out how much you will pay for the item. You can change the amount you call out. **BUT YOU CAN'T BUY AT A PRICE HIGHER THAN WHAT IS ON YOUR CARD.**
- 4) You will play several rounds of the game. If you do not want to make a trade in a round, it is OK. If you do make a trade, go with the seller to the recorder table to have your trade verified, then return to your seat to write down the card value and the trading price on Activity Sheet 5-2.
- 5) Make sure you turn in your card at the end of each round.

Seller Instructions

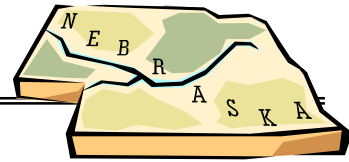
- 1) You have an earnings sheet.
- 2) In each round of the game you will be given a card. The card value is the minimum dollar amount you can accept for the item in question (it is the cost of making the item). So, if you receive more than the card value, you will have earned a profit. As an example, say your card is a 4 and you trade at a price of \$6. You would have earned 2 (6 minus 4).
- 3) Negotiate with buyers to try to get the best deal for you. Call out how much you will accept for the item. You can change the amount you call out. **BUT YOU CAN'T SELL AT A PRICE LOWER THAN WHAT IS ON YOUR CARD.**
- 4) You will play several rounds of the game. If you do not want to make a trade in a round, it is OK. If you do make a trade, go with the buyer to the recorder table to have your trade verified, then return to your seat to write down the card value you had and the trading price on Activity Sheet 5-2.
- 5) Make sure you turn in your card at the end of each round.

Activity 5-1 (cont.)

Recorder Instructions

- 1) Check to see each trade brought to you follows the rules. The trading price must be equal to or more than the seller's card (the black card), and must be equal to or less than the buyer's card (the red card).
- 2) If a trade is good, record both card values and the trading price on Activity Sheet 5-3, and call out to the class the trading price. Keep the two cards in separate piles.
- 3) If a trade does not follow the rules, send the two out to the trading floor. Beware that two buyers (or two sellers) do not try to trade with each other.

Activity 5-2



EARNINGS RECORD SHEET

Name: _____

Seller Earnings

(sellers use this side)

(price) – (cost) = earnings

(price) – (cost) = earnings

(price) – (cost) = earnings

(price) – (cost) = earnings

(price) – (cost) = earnings

(price) – (cost) = earnings

(price) – (cost) = earnings

(price) – (cost) = earnings

first round

second round

third round

fourth round

fifth round

sixth round

seventh round

eighth round

Buyer Earnings

(buyers use this side)

(value) – (price) = earnings

(value) – (price) = earnings

(value) – (price) = earnings

(value) – (price) = earnings

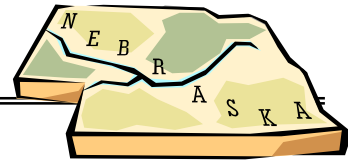
(value) – (price) = earnings

(value) – (price) = earnings

(value) – (price) = earnings

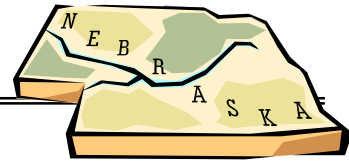
(value) – (price) = earnings

Activity Sheet 5-3



Trade Verification Sheet

Seller Cost	Price of Trade	Buyer Value
(number on the black card)	(more than seller card, less than buyer card, ties ok)	(number on the red card)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



Supply and Demand

