

## Week Twenty-Eight: Supply and Demand

**Weekly Focus:** Analysis

**Weekly Skill:** Applying Information

**Lesson Summary:** This week students will be introduced to the economic concepts of supply and demand. Students will then enact these principles in a hands-on simulation of a competitive market.

**Materials Needed:** Projector, Computer, and Internet Access, Hula-Hoop Video, Pearl-Exchange Video Example (for teacher only), Review Sheet, Supply and Demand Reading, Pearl Exchange Student Sheet, Get Out of Class Ticket, Pearl Exchange Teacher Guide, "15 Pearls" (can be pennies, marbles, etc.)

**Objectives:** Students will be able to...

- Demonstrate comprehension of last week's lesson by completing a Possibility Frontier Curve
- Define Supply and Demand
- Track Supply and Demand in a Competitive Market Simulation
- Demonstrate comprehension of supply and demand by completing an assessment "ticket"

**Common Core Standards Addressed:** [CCSS.ELA-Literacy.RST.9-10.7](#), [CCSS.ELA-Literacy.RST.9-10.9](#)

**Notes:** For this lesson, it is very important that you become familiar with the Pearl Exchange activity before conducting it. Make sure to explain the different scenarios at the end of the activity to (1) aid in comprehension of the economic concepts of supply and demand and (2) provide relevance to the activity.

## Week Twenty-Eight: Supply and Demand

### Activities:

#### Warm-Up/Review: Possibility Frontier Curve

Time: 15 minutes

Hand out production possibilities frontier graph and questions. Have students complete and then go over the answers to review "Possibility Frontier Curves" and "Scarcity," "Trade-offs," and "Opportunity Costs" vocabulary.

#### Introduction to a Competitive Market

Time: 30 minutes

- 1) Watch the short hula-hoop video. Discuss when and why the price of the hula hoops changed. How does a competitive market work? Ask students for ideas. They will get a chance to see a competitive market in action the second half of class. Ask students if there is anyone in class who has or would like to start his or her own business. How might they know what product to sell or for how much to sell it?
- 2) Read through the Supply and Demand article with students, going over the graphs together.
- 3) Tell students that they will get a chance to see these supply and demand principles in action the second half of class.

Break: 10 minutes

#### Pearl Exchange Activity

Time: 50 minutes

Before class, teachers should watch the Pearl Exchange Video. 2) Handout the "Seller Surplus/Buyer Surplus Worksheet" to students. 3) Enact the various scenarios of the activity as depicted in the video with your class. The teacher should act as the recorder. After each scenario, calculate the average price and have students fill out their surplus on the worksheet. 4) After the last scenario, have students add up their surplus. Figure out who had the most surplus in the class (you can give a prize if you'd like). 4) Go over the reasons prices rose or fell in each scenario. After 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.** Be sure to go over the terminology of "surplus" and "shortage."

#### Assessment: Ticket "Out" of Class

Time: 10 minutes

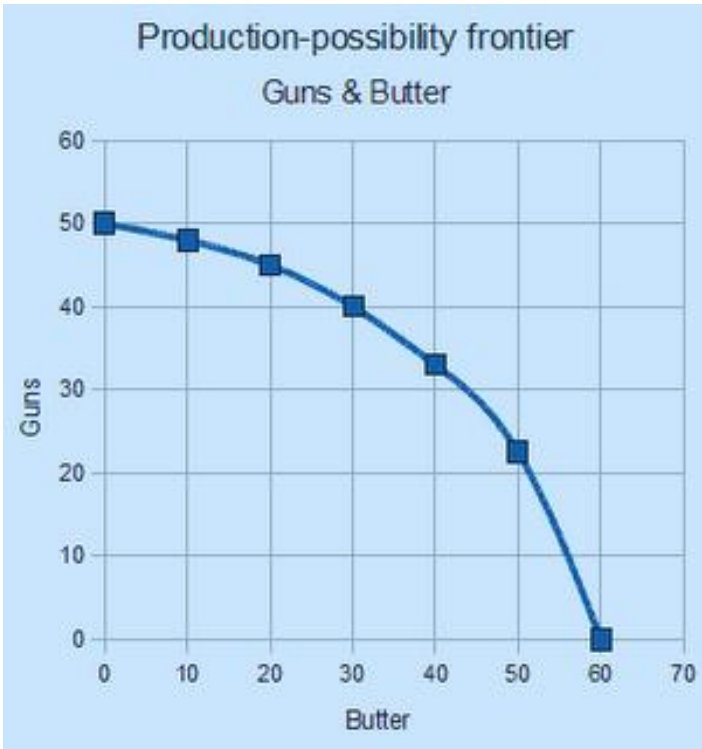
Have each individual complete the "Get out of class" ticket and give to the teacher before they leave.

#### Extra Work/Homework:

Time:

You may choose to give the "Get Out of Class" ticket as homework

**REVIEW**



GUNS	BUTTER
50	
40	
30	
20	
10	
0	60

**Directions:** The graph above shows a chart showing the production of guns and butter a city makes during a year. Use the chart to fill out to finish filling the table out above and then answer the questions below.

- 1) Is it possible for this nation to produce 60 units of butter and 20 units of guns at the same time? Why or why not?
  
- 2) If this nation were producing 20 units of butter and 30 units of guns, would it be using its resources well? Why or why not?

## **SUPPLY AND DEMAND**

( from the Social Studies Help Center online at  
[http://www.socialstudieshelp.com/Economics\\_SupplyDemand.htm](http://www.socialstudieshelp.com/Economics_SupplyDemand.htm))

Understanding the laws of supply and demand are central to understanding how the capitalist economy operates. Since we rely on market forces instead of government forces to distribute goods and services there must be some method for determining who gets the products that are produced. This is where supply and demand come in. By themselves the laws of supply and demand give us basic information, but when combined together they are the key to distribution in the market economy... price.

*What is demand?*

Demand is comprised of three things.

- Desire
- Ability to pay
- Willingness to pay

It is not enough to merely want or desire an item. One must show the ability to pay and then the willingness to pay. If all three conditions are not met then the demand is not real. This, by the way, is the purpose of advertising. While many may want a product it is quite another to be willing to pay. Advertising attempts to move a consumer from mere want to action. These days even condition two may not stand in the way of a consumer. With the advent of credit cards we are able to purchase products without the current ability to pay. Many stores and car dealers even offer on the spot credit though the interest rate may be quite high.

What factors alter your desire, willingness and ability to pay for products? Some factors include consumer income, consumer tastes, and the prices of related products, like substitutes for that product or items that may complement that product.

### The Law of Demand:

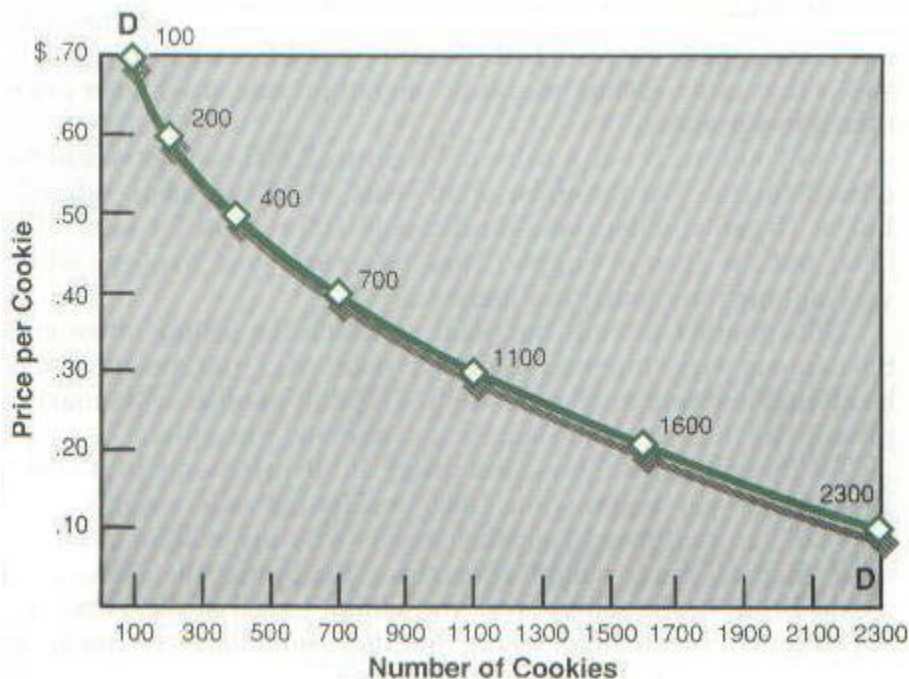
Simply put, the higher the price, the lower the demand and the lower the price, the higher the demand.

In numbers it would look like so:

**Demand Schedule for Cookies**

At a price of	Consumer will buy
.70 cents	100 cookies
.60	200
.50	400
.40	700
.30	1,100
.20	1,600
.10	2,300

Economists also like to look at things graphically. It enables us to see the quantity and price on a limitless scale. To do this we plot what is known as a *demand curve*. The price is always on the vertical axis and the quantity is always on the horizontal axis. If we were to plot our points and draw a demand curve for the cookies it would look like this:



### The Law of Supply-

*Quantity supplied is directly proportional to price.*

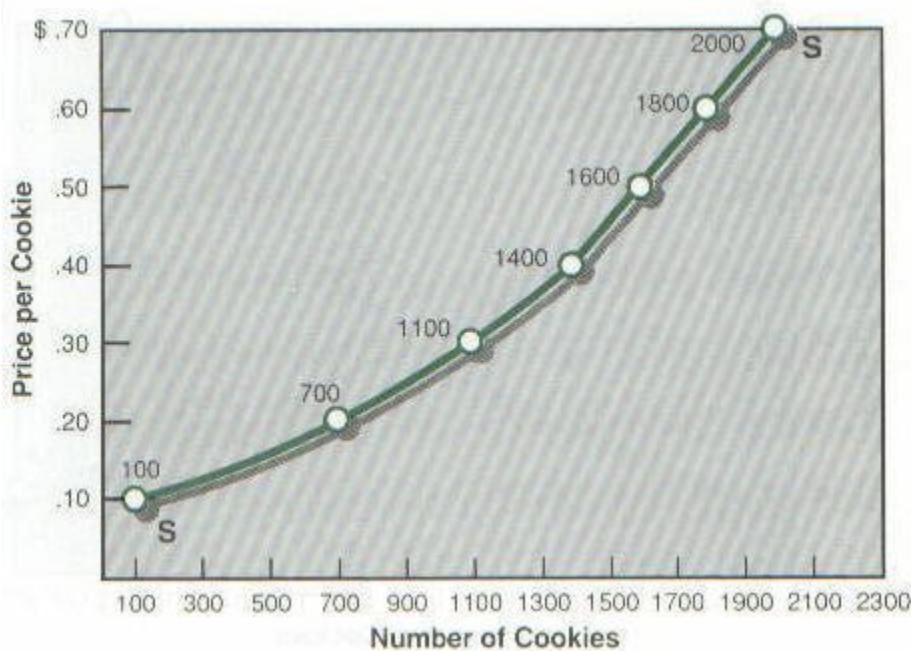
Clearly the law of supply is the opposite of the law of demand. Don't these both make sense to you? Consumers want to pay as little as they can. They will buy more as the price drops. Sellers, on the other hand, want to be able to charge as much as they can. They will be willing to make more and sell more as the price goes up. This way they can maximize profits.

Numerically a supply schedule would look like this:

**Supply Schedule for Cookies**

At a price of	Sellers will offer
.70 cents	2,000 cookies
.60	1,800
.50	1,600
.40	1,400
.30	1,100
.20	700
.10	100

The accompanying supply curve would be drawn like so:





## Week Twenty-Eight: Supply and Demand

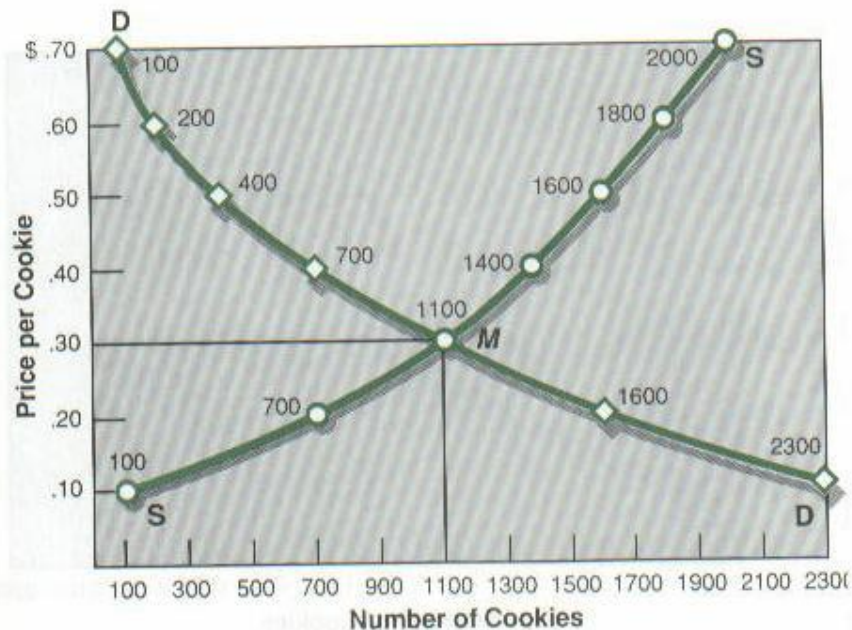
**Market or Equilibrium Price:** Now that we have covered both demand and supply we have to combine both together. The place where what sellers are willing to sell for and buyers are willing to buy for is called *market* or *equilibrium price*. This is the price the product will sell for. *Price is negotiation between the buyers and the sellers.*

To figure out price one has to lay the supply and demand graphs on top of each other.

### Supply and Demand of Chocolate Chip Cookies

Students will buy	At a price of	Sellers will offer
100	.70 cents	2,000
200	.60	1,800
400	.50	1,600
700	.40	1,400
1,100	.30	1,100
1,600	.20	700
2,300	.10	100

When we then plot and draw both curves together we are able to see the market price of the product.



**The market price for cookies in this graph is 30 cents. The quantity sold and bought is 1100 cookies.**

## PEARL EXCHANGE STUDENT SHEET

Name: \_\_\_\_\_

<b>Seller Surplus</b>		<b>Buyer Surplus</b>	
(sellers use this side)		(buyers use this side)	
----- (price) – (minimum) = surplus	<b>Round 1</b>	----- (maximum) – (price) = surplus	
	<b>OR →</b>		
----- (price) – (minimum) = surplus	<b>Round 2</b>	----- (maximum) – (price) = surplus	
	<b>OR →</b>		
----- (price) – (minimum) = surplus	<b>Round 3</b>	----- (maximum) – (price) = surplus	
	<b>OR →</b>		
----- (price) – (minimum) = surplus	<b>Round 4</b>	----- (maximum) – (price) = surplus	
	<b>OR →</b>		

**TOTAL SURPLUS:** \_\_\_\_\_  
 (add up your earnings columns from **both** sides)



## GET OUT OF CLASS TICKET

- 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
  
- 3) In the space below, use complete sentences to explain why an entrepreneur cannot charge any price they want to for their products.

## Pearl Exchange Activity: Teacher's Guide

### Steps for Starting the Game/Explaining the Rules:

- 1) Explain to students that today you will ask them to participate in a simulation of a competitive market. Students will be buyers and sellers both. Handout the Buyers and Sellers Surplus Chart and tell students that they will be filling this out as they go. Explain that they will use both sides, depending on whether or not they are a buyer or seller for each round.
- 2) Tell Students what they're selling/buying: In this scenario it is a rare pearl (feel free to elaborate or switch the good).
- 3) Divide students into buyers and sellers according to the scenarios. Have students go to each side of the room. Hand-out "pearls" to sellers. These can be pennies, marbles, etc.
- 4) Explain that a minimum price will be set for sellers. Sellers MAY NOT sell a pearl for under this price.
- 5) Explain that maximum price will be set for buyers. Buyers MAY NOT buy for over this price.
- 6) Tell students that a deal is reached after a price is agreed upon and an exchange of the good has been made. The buyer and seller should then report to the recorder (teacher) who will write their price on the board.
- 7) Show students where and how to fill out their worksheets to record buying/selling prices and surplus for each round.
- 8) All sessions last for 5 minutes.
- 9) A maximum and minimum will be set for each round. Buyers and sellers SHOULD NOT tell anyone the maximum or minimum. This should be stressed.
- 10) Buyers and Sellers may not buy or sell from the same person in any round.
- 11) If students do not make a sale or are unable to buy an item, the entire maximum or minimum must be deducted from their surplus.

## **Scenarios**

### **Scenario 1: Equilibrium**

There should be an even number of buyers and sellers for this round.

Seller's minimum: \$30

Buyer's maximum: \$130

### **Scenario 2: Equilibrium**

Buyers and sellers should switch roles. There should be an even number of buyers and sellers for this round.

Seller's minimum: \$25

Buyer's maximum: \$125

### **Scenario 3: Supply Decrease (Price Increases, Quantity Decreases)**

In this round, a mysterious virus kills many oysters. Roughly 1/3 of the class should be sellers. 2/3 should be buyers.

Seller's minimum: \$25

Buyer's maximum: \$125

### **Scenario 4: Demand Decrease (Price Decreases, Quantity Increases)**

The price of diamonds (a substitute) decreases. Everyone rushes out to buy diamonds and nobody is left to buy pearls. Roughly 2/3 of the class should be sellers. 1/3 should be buyers.

Seller's minimum: \$125

Buyer's maximum: \$25