Price = The Interaction of Supply and Demand

WEDNESDAY, FEBRUARY 17
THURSDAY, FEBRUARY 18
Chapter 4: Section 1
Understanding Demand

What Is Demand?

- Markets are where people come together to buy and sell goods and services.
  - **DEMAND** is the buying side of a market.
  - **SUPPLY** is the selling side of a market.
- **Demand** refers to the willingness and ability of buyers to purchase a good or service.
  - Both willingness and ability must be present; if either is missing, there is no demand.
- **Quantity demanded** is different from demand. Quantity demanded is the number of units of a good purchased at a specific price. Quantity demanded is always a number.
What Does the Law of Demand “Say”?  

- The law of demand says that as the price of a good **increases**, quantity demanded of the good **decreases**, and as price of a good decreases, quantity demanded of the good **increases**.
- Quantity **demanded** refers to the number of units of a good purchased at a specific price.
  - Basically, it says that when the price goes up, the quantity demanded goes down—and when the price goes down, the quantity demanded goes up.
  - Do you notice anything about the relationship between price and quantity demanded? They move in opposite directions.
Why is the law of demand important, and what does it mean to you? It shows that you, and other consumers, are willing to purchase fewer goods as the price goes up. And it shows that you are willing to purchase more goods as the price goes down.
Why Do Price and Quantity Demanded Move in Opposite Directions?

- Price and quantity demanded move in opposite directions because of the law of **DIMINISHING MARGINAL** utility.

- The law of diminishing marginal utility states that as a person consumes additional units of a good, the utility gained from each additional unit of the good **DECREASES**.

  - **Diminishing** means decreasing
  
  - **Marginal** means additional
  
  - **Utility** means satisfaction
Another Example of the Law of Diminishing Marginal Utility

Disneyland Ticket Prices

As the number of days increases, the price per day decreases. Why?

<table>
<thead>
<tr>
<th>Select One</th>
<th>Magic Morning</th>
<th>Ages 10+ per day</th>
<th>Ages 3-9 per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Day Ticket</td>
<td></td>
<td>$99.00</td>
<td>$93.00</td>
</tr>
<tr>
<td>2-Day Ticket</td>
<td></td>
<td>$92.50</td>
<td>$86.00</td>
</tr>
<tr>
<td>3-Day Ticket</td>
<td>✓</td>
<td>$78.34</td>
<td>$74.67</td>
</tr>
<tr>
<td>4-Day Ticket</td>
<td>✓</td>
<td>$65.00</td>
<td>$61.25</td>
</tr>
<tr>
<td>5-Day Ticket</td>
<td>✓</td>
<td>$55.00</td>
<td>$51.80</td>
</tr>
</tbody>
</table>

Upgrade to a Park Hopper Ticket

Enjoy same-day admission to both Disneyland Park and Disney California Adventure Park each day when you upgrade your ticket to a Park Hopper Ticket.

- No Upgrade (one park per day)
- Park Hopper Ticket +$56.00 (+$56.00/ticket)
The Law of Demand in Numbers and Pictures

- We can actually show how the law of demand works by listing prices and quantities demanded in a table, and by plotting those numbers in a graph.

- A demand **schedule** is a numerical chart showing the law of demand.

- A demand curve is a(n) **graphical** representation of the law of demand.
The Law of Demand in Numbers and Pictures

- A(n) **INDIVIDUAL** demand curve represents an individual’s demand.

- A(n) **MARKET** demand curve is the sum of all individual demand curves added together.
17. Yesterday the price of a good was $10, and the quantity demanded was 100 units. Today the price of the good is $12, and the quantity demanded is 87 units. Did quantity demanded fall because the price increased, or did the price rise because quantity demanded fell?

The increase in price is the cause, and the fall in quantity demanded is the effect.
18. What does the law of diminishing marginal utility have to do with demand?

- The law of diminishing marginal utility states that individuals eventually obtain less utility from additional units of a good, so it follows that they will buy larger quantities of a good only at lower prices. The law of demand states that individuals will buy more of a good at lower prices.
19. Assume that the law of demand applies to criminal activity. What might community leaders do to reduce the number of crimes committed in the community.

- Answers will vary. Students might mention that increasing the punishment for a crime (price) is likely to decrease people’s willingness to commit the crime (demand).
What Is Supply?

Supply refers to the willingness and ability of sellers to produce and offer to sell a good.
What Does the Law of Supply Say?

- The **law of supply** states that as the price of a good **increases**, the quantity supplied of the good **increases**, and as the price of a good decreases, the quantity supplied of the good **decreases**.

- Price and quantity supplied move in the same direction, or have a(n) **direct** relationship. As one factor rises, the other rises, too.

- **Quantity supplied** is the number of units of a good produced and offered for sale at a specific price.
Supply in Tables and Graphs

A supply schedule is a numerical chart showing the law of supply.

A supply curve is a graphical representation of the law of supply.

<table>
<thead>
<tr>
<th>Price (dollars)</th>
<th>Quantity supplied (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
</tr>
</tbody>
</table>

Supply curve
The law of supply does not hold for goods that can no longer be produced. They supply curve for this type of good is **vertical**.

Examples = Stradivarius violins (produced more than 250 years ago), and **theater tickets**

The **law of supply** does not hold when there is no time to produce more of a good. The supply curve for this type of good is vertical.
A Firm’s Supply Curve and a Market Supply Curve

- A firm’s supply curve is a supply curve for that particular firm. A market supply curve is the sum of all firms’ supply curves.

Parts (a), (b), and (c) show the supply curves for firms A, B, and C, respectively. The market supply curve, shown in (d), is the sum of the firms’ supply curves.
Moving to Equilibrium

Supply and demand work together to determine price. For example, they work together to determine the price of corn at an auction.

Only at a price of $4 is the quantity demanded equal to the quantity supplied.

When:
Quantity supplied (Qs) > Quantity demanded (Qd) = Surplus
Qd > Qs = Shortage
Qd = Qs = Equilibrium
A **surplus** occurs when the quantity supplied of a good is greater than the quantity demanded. Surpluses occur only at prices **above** equilibrium price.

Prices fall when there is a surplus because suppliers hope to sell their **inventory**, or the excess stock of goods that they have on hand.
A **shortage** occurs when the quantity demanded of a good is greater than the quantity supplied. Shortages occur only at prices **below** equilibrium price. A shortage is the opposite of a surplus.

Prices **rise** when there is a shortage. Buyers will offer to pay a higher price to get sellers to sell to them rather than to other buyers.
Moving to Equilibrium

At $15, a surplus occurs. Quantity supplied (150) is greater than quantity demanded (50). Price falls.

A price of $10 results in neither a surplus nor a shortage. Quantity supplied (100) is equal to quantity demanded (100). Equilibrium occurs.

At $5, a shortage happens. Quantity demanded (150) is greater than quantity supplied (50). Price rises.
A market is considered to be in **equilibrium** when the quantity of a good that buyers are willing and able to buy is **equal** to the quantity that sellers are willing and able to produce and offer for sale. When a market reaches equilibrium, quantity demanded equals quantity supplied.

- The **equilibrium quantity** is the amount of a good that is bought and sold in a market that is in equilibrium.

- The **equilibrium price** is the price at which a good is bought and sold in a market that is in equilibrium.
Does It Matter if Price Is at Its Equilibrium Level?

- When price is at its equilibrium level, there are no shortages or surpluses of any goods or services. All buyers and sellers are happy with the market.

Price Is a Signal

- Price serves as a signal that directs the allocation of resources toward producing the product with the highest demand.
What Are Price Controls?

- Sometimes the government prevents markets from reaching an equilibrium price. It may do so by setting a price ceiling or a price floor.

- A price ceiling is a price that is set lower than the equilibrium price. Buyers and sellers cannot legally buy and sell a good for more than this price. A government may set a price ceiling if it wants to make a good cheaper for consumers to buy.

- The government can also set a price floor, which is a price that is set above the equilibrium price. Buyers and sellers cannot legally buy and sell a good for less than this price. A government may set a price floor to assist a certain group of producers.

Price Controls and the Amount of Exchange

- Price ceilings and price floors have the unintended result of reducing the amount of trade in the economy.
A price ceiling creates a shortage and reduces the quantity of a good bought and sold. Example: Rent Control

A price floor creates a surplus and reduces the quantity of the good bought and sold. Example: Minimum Wage

Price ceiling

Price floor