

Supply, Demand, and Market Equilibrium

Course: Economics (Free Enterprise) **Grades:** 9–12 **Time:** ~50 min standard · ~90 min block **Work mode:** Independent · pencil only (calculator allowed) Social Studies

Start Here

This is a **paper economics investigation** about how prices are set in a free market. You will study a **supply-and-demand graph** and a price schedule (a table), then answer questions using a pencil. A **calculator is allowed** but not required. You do **not** need a computer, a textbook, or the internet — **everything you need is printed in this packet**. Work by yourself and do your best thinking. Write in complete sentences where you are asked to explain. If a question is hard, skip it, keep going, and come back. Reading the passages quietly aloud to yourself is allowed and encouraged.

Standard (~50 min): read the Reference and Word Bank, study the graph and table, and do Questions 1–10, then the CER in Question 11. **Block (~90 min):** also complete the block add-ons marked **[BLOCK]**, including the supply-shift scenario in Question 12 and the extended writing in Question 11.

Start Warm Up 5 min

A **market** is any place — a store, a website, a farmers' market — where buyers and sellers meet to trade at a price. Warm up before you read.

1Think of one thing you buy (for example a slice of pizza, a concert ticket, or a phone case). If its **price went up a lot**, would you probably buy **more of it** or **less of it**? Circle one and give **one reason**.

More / Less

2Now think like a **seller**. If you could sell your product for a **much higher price**, would you want to offer **more** of it for sale or **less**? Circle one and give **one reason**.

More / Less

Build Read the Reference 10–15 min

Reference — How markets set a price (written for this packet)

The law of demand. Demand is how much of a good buyers are willing and able to buy at each price. The law of demand says that, all else equal, **when the price goes up, the quantity demanded goes down**, and when the price goes down, the quantity demanded goes up. That is why a **demand line slopes downward** on a price-vs-quantity graph.

The law of supply. Supply is how much of a good sellers are willing and able to offer at each price. The law of supply says that, all else equal, **when the price goes up, the quantity supplied goes up**, and when the price goes down, the quantity supplied goes down. Higher prices give sellers a reason to make and sell more. That is why a **supply line slopes upward**.

Equilibrium. The **equilibrium** is the one price where the two lines **cross** — the amount buyers want to buy exactly equals the amount sellers want to sell. This gives the **equilibrium price** and the **equilibrium quantity**. Left alone, a market tends to settle here.

Shortage vs. surplus. If the price is set **below** equilibrium, buyers want more than sellers offer, so there is a **shortage** (not enough to go around) and price tends to rise. If the price is set **above** equilibrium, sellers offer more than buyers want, so there is a **surplus** (leftover goods) and price tends to fall.

Shifts (a whole line moves). A change in something *other* than the good's own price — like buyers' incomes, tastes, or the number of buyers — can shift the whole **demand** line. If **demand increases**, the demand line moves to the *right*: at the new crossing point the **equilibrium price rises and the equilibrium quantity rises**. Likewise a change in sellers' costs can shift the whole **supply** line. Moving the whole line is a **shift**; sliding to a new point on the *same* line because that good's price changed is only a **movement along** the line — the two are not the same thing.

Type: original explanatory summary · Focus: supply, demand, and market equilibrium · Uses standard, widely taught economics.

Word Bank

supply

how much of a good sellers are willing and able to offer at each price.

demand

how much of a good buyers are willing and able to buy at each price.

equilibrium

the price where quantity demanded equals quantity supplied; the point where the two lines cross.

shortage

when the quantity demanded is greater than the quantity supplied (price is below equilibrium).

surplus

when the quantity supplied is greater than the quantity demanded (price is above equilibrium).

price

the amount of money exchanged for one unit of a good or service.

Supply and Demand: Finding Equilibrium

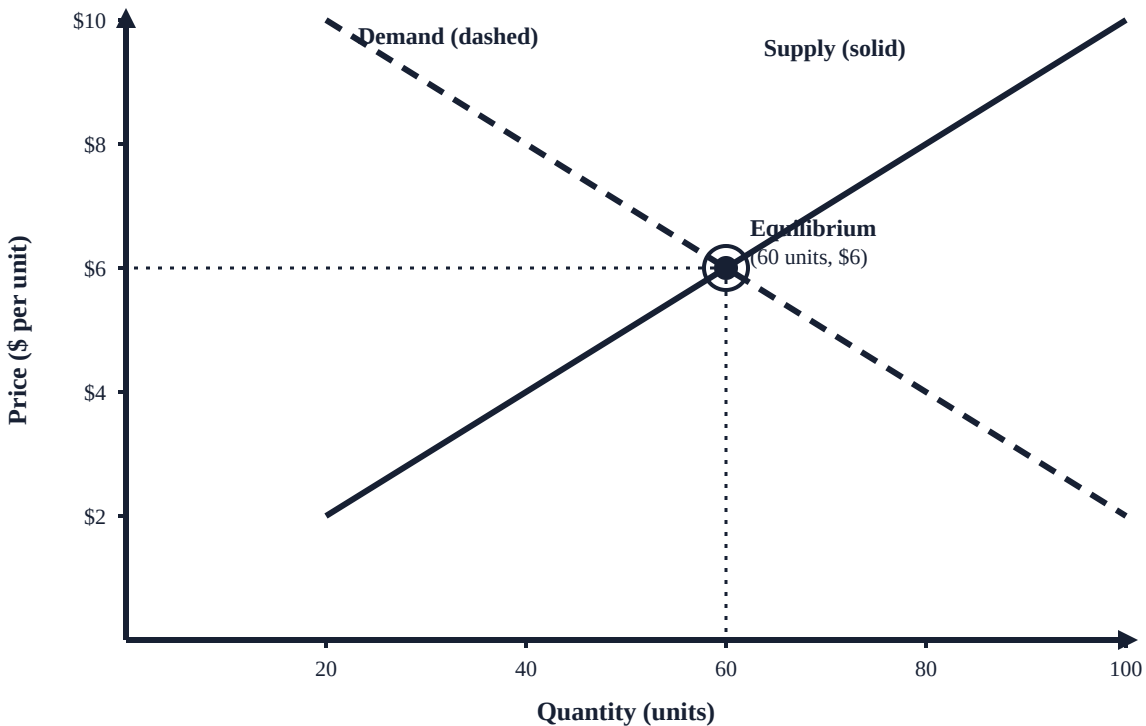


Figure 1. A supply-and-demand graph. Price is on the vertical axis and quantity on the horizontal axis. The **dashed** line is demand (downward); the **solid** line is supply (upward). They cross at the labeled equilibrium — about **60 units** at a price of **\$6**. The lines are told apart by pattern, not color, so the figure reads clearly in grayscale.

3Warm up on the graph. Which line slopes **downward**, and which slopes **upward**? Write the word "supply" or "demand" on each blank.

Downward line: _____ · Upward line: _____

Apply Read the Market 20–25 min

Use both **Figure 1** and the price schedule below. In the schedule, **quantity demanded** is how much buyers want at that price and **quantity supplied** is how much sellers offer at that price.

Price	Quantity demanded	Quantity supplied	Shortage or surplus?
\$2	100	20	
\$4	80	40	
\$6	60	60	
\$8	40	80	
\$10	20	100	

Table 1. A price schedule for one good (original, illustrative). At each price, read across to compare how much buyers want with how much sellers offer.

4Read the equilibrium off the graph. Look at Figure 1 where the two lines cross.

Equilibrium price: \$_____ · Equilibrium quantity: _____ units

5Read the equilibrium off the table. Find the one row in Table 1 where quantity demanded **equals** quantity supplied. What price is it, and what quantity? Explain in one sentence how you knew this was the equilibrium row.

Price: \$_____ · **Quantity:** _____

6Shortage or surplus? Fill in the last column of Table 1 above for the \$2, \$4, \$8, and \$10 rows. Then answer: at a price of **\$4**, is there a shortage or a surplus, and **how many units** is the gap between quantity demanded and quantity supplied?

At \$4 there is a _____ of _____ units.

Hint: subtract the smaller quantity from the larger one to find the gap.

7Predict a shift. Suppose the good suddenly becomes very popular, so **demand increases** (more buyers want it at every price). Using the Reference, predict what happens to the **equilibrium price** and the **equilibrium quantity**. Circle one for each.

Equilibrium **price**: rises / falls / stays the same

Equilibrium **quantity**: rises / falls / stays the same

Explain in one sentence *why*, using the idea that the whole demand line moves to the right:

8Fact or opinion? Write **F** for a statement that can be checked against the graph or table, or **O** for a personal belief or preference.

- ____ a) At a price of \$6, quantity demanded equals quantity supplied.
- ____ b) At \$2 there is a shortage because buyers want 100 but sellers offer only 20.
- ____ c) \$6 is a fair and reasonable price that everyone should be happy with.
- ____ d) This product is the best thing anyone could ever spend money on.

9Evaluate a claim. A store owner claims: *"Raising my price always brings in more total money."* Using the schedule, does this claim hold up?

- Yes — a higher price always means more total money, no matter what.
- Not always — when price rises, the **quantity buyers actually buy falls** (law of demand), so raising the price above equilibrium can leave unsold surplus and does not guarantee more total money.
- The schedule says nothing about how price affects how much buyers buy.

Explain your choice using one detail from Table 1 (for example, compare the \$6 row with the \$10 row):

10Movement vs. shift. A classmate says, "The price of the good went up, so the whole demand line shifted." Is that right? In one or two sentences, explain the difference between **moving along** a line (because the good's own price changed) and a **shift** of the whole line (because something else changed).

Explain Claim–Evidence–Reasoning 10–20 min

Question 11 — Predict and defend an outcome.

When demand for this good rises (more buyers want it at every price), what happens to the equilibrium price? Write a **claim** that answers the question, support it with **evidence** from the graph and the table, then explain your **reasoning** using the law of demand, the law of supply, and equilibrium.

Sentence stems you may use: "When demand rises, the equilibrium price will ____." · "Evidence from the graph is... (the lines cross at... / the demand line moves to the...)." · "Evidence from the table is... (at \$__ the

quantities are...)." · "This happens because at the old price there is now a _____, which pushes the price _____ until the market reaches a new equilibrium."

Claim

Evidence (from the graph and the table)

Reasoning

[BLOCK] Extended writing — connect it back to shortage and surplus:

If you are doing the ~90-minute block, extend your reasoning on the lines below. Explain **step by step** what happens right after demand rises: at the *old* equilibrium price, is there now a temporary **shortage** or a **surplus**? How does that gap push the price toward the **new** equilibrium? Name what happens to the equilibrium **quantity** as well.

Extend Supply-Shift Scenario [BLOCK] · 10 min

12[BLOCK] **Predict a supply shift.** Skip this if you are doing the standard version. Suppose a new machine makes the good **cheaper for sellers to produce**, so **supply increases** (sellers offer more at every price) — the whole **supply** line moves to the **right**. Demand does not change.

Equilibrium **price**: rises / falls / stays the same

Equilibrium **quantity**: rises / falls / stays the same

Explain in two or three sentences why, using shortage or surplus in your reasoning:

Close ACE Wrap-Up 5 min

Articulate

In your own words, explain what **equilibrium** is, as if teaching a friend who missed today.

Connect

Point to one row in Table 1 that shows a **shortage** and one that shows a **surplus**. Name the price in each case.

Extend

Name one real product whose price you have seen go up or down, and give one reason from supply or demand that could explain the change.

Continue Early Finisher optional · ~15 min

If you finish early (no new materials needed):

Draw and label a shift. On the back of this page, sketch your own price-vs-quantity graph with a downward demand line and an upward supply line. Mark the equilibrium point. Then draw a **new demand line to the right** (a demand increase) and mark the **new** equilibrium. Label whether the price and quantity went up or down, and write one sentence explaining why.

Turn in: Hand in this whole packet with your name, class period, and date filled in. Make sure questions 1–11 and the ACE box are answered (skip the items marked [BLOCK] — Question 12 and the block add-on in Question 11 — if you did the standard ~50-minute version). The early-finisher task is optional but turn it in too if you did it.

HS_ECON_SupplyDemand_01 — Supply, Demand, and Market Equilibrium Student Packet