The Rate Seesaw

Why bond prices fall when interest rates rise, how to read a yield curve, and how a Fed decision reaches a mortgage.

Name: _____ Date: _____

OBJECTIVE

Explain the inverse relationship between interest rates and bond prices, calculate a bond's price and current yield, interpret normal and inverted yield curves, and trace how monetary policy moves through the bond market to consumer loan rates.

1. A bond in one sentence

A bond is a loan an investor makes to a government or company. The borrower pays a fixed amount of interest (the coupon) each year, then repays the face value on the maturity date.

A $1,000 U.S. Treasury note with a 4% coupon and a 10-year maturity pays _____ in interest each year, _____ in interest over its full life, and returns _____ at maturity.

2. The seesaw

Maya owns a bond that will pay her $1,040 exactly one year from now ($1,000 face value plus its final $40 coupon). She wants to sell it today. A buyer will only pay a price that earns them whatever NEW bonds are paying right now. Price today = $1,040 ÷ (1 + new market rate).

New market rate	Price a buyer pays today	Above, at, or below $1,000?
2%	_____	_____
4%	_____	_____
6%	_____	_____
8%	_____	_____

a) Finish the rule: when market interest rates go up, the price of a bond someone already owns goes _____.

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b) Current yield = annual coupon ÷ price paid. A bond paying a $50 coupon every year is selling for $800. Its current yield is _____ %. Why is that higher than its 5% coupon rate?

c) Maya's bond has one year left. A 30-year bond with the same coupon would swing much more in price for the same rate change. Why would a longer bond be more sensitive?

3. Read the yield curve

A yield curve plots the interest rates on U.S. Treasury debt from shortest to longest maturity. These two curves are examples, not today's numbers.

Maturity	3 months	2 years	10 years	30 years
Curve A	2.0%	2.6%	3.5%	4.0%
Curve B	5.3%	4.9%	4.2%	4.3%

a) Which curve is "normal" (upward sloping) and which is "inverted"? A = _____ B = _____

b) Why do lenders usually expect a higher rate to lend money for 30 years than for 3 months?

c) An inverted curve means investors will accept less for locking money up long-term. What might that suggest they expect to happen to interest rates and the economy?

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4. Follow the chain

Number these steps 1 to 5 in the order they usually happen after the Fed decides to fight inflation.

	Mortgage and car loan rates, which track Treasury yields, move up.
	The Fed raises its target for the federal funds rate.
	Borrowing and spending slow down, easing pressure on prices.
	Banks pay more to borrow from each other overnight.
	Treasury yields rise as investors expect rates to stay higher.

TRACK IT
Look up today's 10-year Treasury yield and the latest average 30-year fixed mortgage rate (Freddie Mac publishes it weekly). How far apart are they? Is today's yield curve normal or inverted?

DISCUSS
An inverted yield curve has come before most U.S. recessions since the 1970s, but not every inversion was followed by one. Should a warning sign that is usually right, but sometimes wrong, change what businesses or families do?

STANDARD NOTE
SSEMA2 asks students to explain how the Federal Reserve uses monetary policy to influence interest rates. The core worksheet predicts the direction of a rate hike's ripple; this one explains the mechanism in between, the bond market, where most of that ripple actually travels.