FREE PRACTICE | LIFEREADY

Compound Growth Practice

Izzy the Grower explains that compounding includes growth on earlier growth. Saving and investing both set money aside, but investments can lose value. A smooth rate is useful for learning mathematics; markets do not provide steady guaranteed returns. Taxes, fees, inflation, and changing prices affect real outcomes.

Worked hypothetical model

Start with $500, add no money, and assume 4% growth compounded once yearly for three years. Formula: future value = $500 x (1.04)^3 = $562.432, or $562.43 rounded at the end. Hypothetical growth is $62.43.

Year	Start value	Assumed 4% growth	End value
1	$500.00	$20.00	$520.00
2	$520.00	$20.80	$540.80
3	$540.80	$21.632	$562.432

Try a different path

1. Start with $200 and assume 5% yearly growth for two years, with no contributions or fees. Find each year's ending value.

2. The same $200 instead loses 10% in year one and gains 10% in year two. Does it return to $200? Show both steps.

These are invented return paths, not forecasts, product recommendations, or promises. No real investment is named.

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COMPOUND GROWTH PRACTICE

Check, explain, and apply

Answers and the lesson

1. Year one: $200 x 1.05 = $210. Year two: $210 x 1.05 = $220.50. Total hypothetical growth is $20.50. Simple 5% growth on only the original $200 for two years would total $20.

2. Year one: $200 x 0.90 = $180. Year two: $180 x 1.10 = $198. Equal percentage loss and gain do not cancel because the second percentage applies to a different starting value.

Match the tool to the goal

A short-term essential bill needs dependable access to money. An investment's price can fall just when the money is needed. A longer horizon can allow more time to recover, but it does not eliminate risk. Diversification spreads exposure and reduces concentration; it cannot guarantee against loss.

Think before calculating

1. Why should an emergency reserve not depend on the assumption that a risky investment will rise next month?

2. Name two reasons a real result could be lower than this worksheet's smooth model. Explain why 'more years' is not the same as 'no risk.'

Model reasons include fees, taxes, inflation's effect on buying power, losses, and changing returns. Sources: investor.gov/introduction-investing ; investor.gov/introduction-investing/investing-basics/save-and-invest/diversify-your-investments . Educational practice, not individualized financial, legal, tax, or investment advice. Examples are fictional. U.S. rules and account terms can vary.

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