

UNIT 6 · WEEKS 7–8

Investing & Wealth Building

Student Workbook

Name:	_____
	Date started: _____ Date completed: _____

What you will learn in this unit: Compound interest and the Rule of 72 • Stocks, bonds, and mutual funds • Index funds, ETFs, and expense ratios • Roth IRA for teens with earned income • Avoiding financial scams and bad advice • Your personal finance capstone plan

Lesson 6.1 — Compound Interest

KEY VOCABULARY

Term	Write the definition in your own words
Compound interest	
Rule of 72	
Future value	
Time value of money	
Rate of return	
Principal	
Investment horizon	
Doubling time	

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RULE OF 72 PRACTICE

Divide 72 by the interest rate to find approximately how many years it takes for money to double:

Interest rate	$72 \div \text{rate}$	Years to double
4%	$72 \div \underline{\hspace{1cm}} =$	<u> </u> years
6%	$72 \div \underline{\hspace{1cm}} =$	<u> </u> years
7%	$72 \div \underline{\hspace{1cm}} =$	<u> </u> years
10%	$72 \div \underline{\hspace{1cm}} =$	<u> </u> years
12%	$72 \div \underline{\hspace{1cm}} =$	<u> </u> years

COMPOUND INTEREST RACE

Calculate what \$1,000 invested TODAY grows to by age 65 at 7% average annual return:

If I am 13 today (52 years to grow):	$\$1,000 \times (1.07)^{52} =$ \$ <u> </u>
If I am 15 today (50 years to grow):	$\$1,000 \times (1.07)^{50} =$ \$ <u> </u>
If I am 18 today (47 years to grow):	$\$1,000 \times (1.07)^{47} =$ \$ <u> </u>
If I wait until age 30 (35 years):	$\$1,000 \times (1.07)^{35} =$ \$ <u> </u>

Dollar cost of waiting from my current age to age 30 to invest that \$1,000:
 \$ minus \$ = \$ of growth lost by waiting

 Meet the group:

Lucy: invested \$100/month starting at age 16 in a low-cost index fund. She didn't touch it for 49 years. At age 65 at 7% average return, her total contributions of \$58,800 grew to approximately \$525,000.

Joseph: waited until he was 25, then invested the same \$100/month for 40 years. His contributions: \$48,000. At 7%, he ended up with approximately \$262,000. Same monthly discipline, half the result.

Alex: invested \$200/month starting at 17, but withdrew \$5,000 at age 22 for a business opportunity. The math on what that \$5,000 would have become by 65 is painful.

Sofia: has \$2,800 in cash at home, uninvested. At 7% for 45 years, that \$2,800 would become approximately \$52,000. It is currently becoming \$0 in additional value per year.

Calculate the total growth difference between Lucy and Joseph. What is the value of the 9 years Lucy has over Joseph? What specific insight would most change Sofia's mind about investing?

 Lesson Finisher

1. Using the Rule of 72, approximately how many years does it take for money to double at 9% annual return?

- a) 9 years
- b) 6 years
- c) 8 years
- d) 12 years

2. In your own words, why does time matter more than the amount invested

when it comes to compound interest? Use a specific example.

3. You invest \$500 today at 7% annual return. Using the Rule of 72, approximately how many years until it doubles to \$1,000? How many more years until it doubles again to \$2,000?

Show your work:

Lessons 6.2 & 6.3 — Stocks, Bonds & Index Funds

KEY VOCABULARY

Term	Write the definition in your own words
Stock	
Bond	
Mutual fund	
Index fund	
ETF	
Expense ratio	
Diversification	
Dollar-cost averaging	

ASSET CLASS COMPARISON

	Stock	Bond	Index Fund
What it is			
Risk level (low/med/high)			
Typical long-term return			
Recommended for beginners?			

EXPENSE RATIO IMPACT

You invest \$10,000 at 7% for 30 years in two funds:

Fund A at 0% expense ratio → final value ≈ \$76,123

Fund B at 1% expense ratio → final value ≈ \$57,435

Difference: \$_____ — all from choosing a lower expense ratio fund

In your own words, why do financial experts say expense ratios matter so much over time?

Meet the group:

Alex: picked 5 individual tech stocks based on YouTube research. Over 6 months: 2 up 18%, 1 flat, 2 down 31% and 24%. His portfolio is down 8% while the overall market rose 4%.

Lucy: bought a total-market index fund with a 0.03% expense ratio. She hasn't looked at it in 4 months. Up 4%. She's bored. That's the point.

Joseph: bought one "hot stock" his coworker recommended. It's up 40% in 3 months. He's convinced he's found the key to wealth. He's considering putting his whole emergency fund in.

Sofia: keeps asking "but what if the market crashes?" She hasn't invested anything because of this concern. The market has averaged 7–10% annually for 100 years. She's been "waiting to see" for 2 years.

What risk is Joseph taking that Alex is also taking at a smaller scale? What would you tell Sofia about market crashes using what you know about long-term returns and time horizon?

✓ Lesson Finisher

1. Fund A has a 0.03% expense ratio. Fund B has a 1.2% expense ratio. Both track the same index. Which should you choose?

- a) Fund B, because higher fees usually mean better management
- b) Fund A, because lower costs mean more of your return stays invested
- c) It doesn't matter — the expense ratio only affects first-year returns
- d) Fund B, because it is more actively managed and therefore safer

2. In your own words, explain why an index fund is considered a better starting point for most investors than picking individual stocks.

Lessons 6.4 & 6.5 — Roth IRA & Avoiding Scams

KEY VOCABULARY

Term	Write the definition in your own words
Roth IRA	
Traditional IRA	
Tax-free growth	
Earned income	
Custodial account	
Fiduciary	
MLM	
FOMO	

ROTH IRA POWER CALCULATOR

You earn \$2,000 from a summer job and contribute it all to a Roth IRA at your current age.

My current age:

Years to age 65:

\$2,000 × (1.07)^{_____} years: = \$_____ TAX FREE at age 65

Does babysitting, mowing lawns, or a part-time job count as “earned income” for a Roth IRA? YES / NO

What is the key difference between a Roth IRA and a Traditional IRA? Which is better for a teen and why?

SCAM OR LEGIT? WRITE SCAM, LEGIT, OR MAYBE RISKY

- ☐ “I turned \$500 into \$30,000 in 60 days. Buy my course to learn how!” ____
- ☐ Investing \$100/month in a low-cost S&P 500 index fund at Vanguard or Fidelity ____
- ☐ “Join our team! Work from home, unlimited earning potential, be your own boss!” ____
- ☐ Opening a custodial Roth IRA with summer job earnings ____
- ☐ “This crypto coin is guaranteed to 10x in value — get in before it’s too late!” ____

Meet the group:

Sofia: got a DM on Instagram: “I turned \$500 into \$12,000 using this crypto bot. DM me for my free course.” She was genuinely tempted. She screen-shotted it and asked Alex.

Alex: told her it was a scam — guaranteed returns don’t exist, bots don’t work that consistently, and “free courses” are usually funnels. He then showed her his custodial Roth IRA statement: \$2,000 contributed from summer job income, currently worth \$2,187 after 13 months.

Joseph: bought \$300 worth of a new cryptocurrency based on a TikTok recommendation. It dropped 78% in 5 months. He still has \$66 of it “because it might come back.”

Lucy: uses a simple rule: if she can’t explain how the investment makes money in one sentence, she doesn’t invest in it. She can explain index funds. She cannot explain most crypto projects.

*What is Lucy’s one-sentence test and why is it effective? Apply it to Joseph’s TikTok crypto.
What does Alex’s Roth IRA statement reveal about consistent, boring investing?*

✓ **Lesson Finisher**

- 1. To contribute to a Roth IRA, you must have:**
- a) At least \$1,000 in savings first
 - b) Earned income in that tax year (wages, self-employment income)
 - c) Reached age 18 and filed at least one tax return
 - d) A traditional IRA already open
- 2. A friend sends you an investment “opportunity” promising 300% returns in 90 days. List three specific red flags that tell you this is almost certainly a scam.**

Lesson 6.6 — Cryptocurrency & Digital Assets

KEY VOCABULARY	
Cryptocurrency	
Blockchain	
Speculative asset	
Pump and dump	
Exchange risk	
Taxable event	

CRYPTO VS. TRADITIONAL INVESTING

Feature	Index Fund	Cryptocurrency
What you own	Shares of real companies	A digital asset
Value based on	Company earnings & growth	What buyers will pay
FDIC protected	No (SIPC protected)	No protection at all
Historical worst drop	~50% (2008 crash)	~80%+ (multiple times)
Tax on each trade	Yes (capital gains)	Yes (every transaction)

**Meet the group:**

An influencer they all follow posts: “Just bought \$5,000 of CoinX — this is the next Bitcoin. Get in NOW before it’s too late. Link in bio.”

Alex: immediately searches CoinX. Has no results on any credible financial site. The only coverage is other influencers. Decides not to buy.

Joseph: buys \$200 worth immediately using the link. Three days later CoinX drops 60%. The influencer has already moved on to a new coin.

Discussion: What specific red flags did this post contain? What research would you do before buying any investment you see promoted online?

✓ Lesson Finisher

1. You have \$1,000. You fund your Roth IRA fully, build your emergency fund, and have \$50 left. A friend says to put that \$50 into Bitcoin. Using what you know about speculation vs. investing, explain whether this decision makes sense and why?

2. Bitcoin dropped 80% in 2022. If you had \$500 in Bitcoin at the peak, how much would you have had at the bottom? If you had that same \$500 in a total market index fund during the same period (which dropped about 20%), how much would you have had?

Bitcoin: \$_____ | Index Fund: \$_____ | Difference: \$_____

3. True or False:

Trading Bitcoin for Ethereum is not a taxable event because you never converted to cash.

T / F

Explain your answer.

Unit 6 Review — Investing & Wealth Building

This is the final content unit. Everything from Units 1–5 supports this unit.

PART 1 — UNIT SUMMARY

Lesson	Key concepts
6.1 Compound Interest	Time is the most powerful factor • Rule of 72 estimates doubling time • Starting at 16 vs. 25 = hundreds of thousands of dollars difference
6.2 & 6.3 Stocks & Funds	Individual stocks = high risk • Index funds = diversification + low cost • Expense ratios compound just like returns — in reverse • Dollar-cost averaging reduces timing risk
6.4 & 6.5 Roth & Scams	Roth IRA = tax-free growth • Requires earned income • Best account for teens • Guaranteed returns = scam • Boring, consistent investing beats chasing trends

PART 2 — KEY TERMS REVIEW

Term	Your definition
Compound interest	
Rule of 72	
Expense ratio	
Index fund	
Diversification	
Roth IRA	
Dollar-cost averaging	
Earned income	

PART 3 — THE GROUP WEIGHS IN

Meet the group:

All four friends receive a \$2,000 windfall — a gift from a grandparent. They're all 17 with part-time job income. Here's what each one does:

Lucy: opens a custodial Roth IRA (her mom co-signs) and contributes the full \$2,000. She invests in a total-market index fund with a 0.04% expense ratio. She will not touch it for 48 years.

Joseph: spends \$1,200 on new shoes, clothes, and a night out. Deposits \$800 in checking. By the end of the month: \$430 remaining.

Alex: splits it: \$1,000 into his Roth IRA, \$1,000 into his business account for a new pressure washer that generates revenue. Both moves are investments in different ways.

Sofia: adds it to her cash envelope collection. $\$2,800 + \$2,000 = \$4,800$ in cash at home. Earning: \$0.

Discussion: Calculate what Lucy's \$2,000 Roth IRA contribution becomes at 7% by age 65. Do the same for Alex's \$1,000. What has Sofia's \$4,800 in cash cost her in opportunity value over 48 years at 7%?

PART 4 — CAPSTONE — My Personal Finance Plan

Complete this personal financial roadmap using real numbers, real goals, and real timelines. Be specific. This is YOUR plan for YOUR future.

My SMART Financial Goals

1-Year Goal (by _____):

Example: Save \$600 for an emergency fund by depositing \$50/month into a high-yield savings account.

3-Year Goal (by _____):

5-Year Goal (by _____):

My Action Steps — Starting This Week

☐
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One Financial Mistake I Will Avoid:

What Financial Independence Means to Me: