Build an Investment Plan: The Cost of Waiting

Design a long-term plan, test it against good and bad markets, and measure what waiting costs.

Unit 6: Investing & Compound Growth | 2–3 class periods | Individual

Name(s) _____ Period ____ Due _____

Introduction

Investing is not about picking a lucky stock — it is about time, consistency, low costs, and matching risk to goals. You will build an investment plan for Priya, project it under several assumptions, measure the cost of waiting 10 years, and evaluate risk honestly.

> Priya, 23, has an emergency fund and no high-interest debt. She can invest $200 per month and wants financial independence options by age 60. She is choosing among a savings account, a bond fund, a balanced fund, and a stock index fund.

Learning goals

- Model compound growth and recurring contributions.
- Compare scenarios with different return assumptions and fees.
- Quantify the cost of delaying.
- Explain risk, volatility, diversification, and time horizon.
- Present a plan with honest uncertainty.

Supporting documents and data

Investment options (hypothetical long-run assumptions)

Option	Avg. return (hypothetical)	Expense ratio	Example worst year
High-yield savings	3.5%	0%	0%
Bond index fund	4.5%	0.05%	−13%
Balanced fund (60/40)	6%	0.20%	−20%
Stock index fund	7.5%	0.04%	−37%
Actively managed stock fund	7.5% before fees	1.10%	−40%

Sample 10-year return path (illustrative, stock fund)

Year	1	2	3	4	5	6	7	8	9	10
Return	+12%	+21%	−4%	+15%	−18%	+26%	+9%	−6%	+19%	+11%

Tasks

Task 1: Project the plan

1. Compute the value at 60 of $200/month starting at 23 at 4%, 6%, and 8%.
2. Separate contributions from growth.

Deliverable: Projection table.

Task 2: The cost of waiting

1. Repeat Task 1 if Priya waits 10 years to start.
2. How much more per month would she need to catch up?

Deliverable: Waiting analysis.

Task 3: Fees matter

1. Compare the stock index fund with the actively managed fund over 37 years (same gross return, different fees).

Deliverable: Fee comparison.

Task 4: Risk reality check

1. Apply the sample 10-year return path to a $10,000 investment. What is the ending value? What was the worst drop?
2. Compare with a steady return equal to the simple average.

Deliverable: Volatility analysis.

Task 5: Investment Policy Statement

1. Write a one-page plan: goal, timeline, monthly amount, chosen fund(s), rules for downturns, when to rebalance.

Deliverable: Investment Policy Statement.

Reflection

1. How did time change your results compared with return rate?

2. How would you respond to a 30% drop?

3. What is one step you could take toward investing in the future?

Submission checklist

- ☐ Projection table
- ☐ Waiting analysis
- ☐ Fee comparison

- ☐ Volatility analysis
- ☐ Investment Policy Statement
- ☐ Reflection

Scoring rubric

Category (points)	Exemplary (100%)	Proficient (~80%)	Developing (~60%)	Beginning (~30%)
Financial understanding (20)	Uses vocabulary precisely and explains every financial concept involved, including assumptions.	Mostly accurate explanations with minor vocabulary gaps.	Partial understanding; some concepts misapplied.	Little evidence of understanding.
Mathematical accuracy (25)	Projections, fee comparison, and volatility calculations correct.	1–2 minor errors that do not change conclusions.	Several errors or missing work.	Calculations largely missing or incorrect.
Analysis & comparison (20)	Compares every option on the same basis and tests at least one changed assumption.	Compares options with small gaps.	Comparison superficial or uneven.	Little analysis.
Justification (15)	Recommendation is supported by specific numbers and weighs non-financial factors and risks.	Mostly supported.	Mostly opinion.	No justification.
Communication & presentation (10)	Clear, organized, well-labeled tables, charts, and writing.	Minor clarity issues.	Hard to follow in places.	Disorganized.
Completion (10)	Every checklist item complete.	One item missing.	Two or three items missing.	Most items missing.

Total: 100 points. Alternative recommendations earn full credit when supported by accurate evidence.

ALL PEOPLE, BUSINESSES, PLACES, AND NUMBERS IN THIS PROJECT ARE FICTIONAL. RATES AND COSTS ARE ILLUSTRATIVE ASSUMPTIONS.