Is It Worth It? Compare Education Pathways — Teacher Guide

Financial Algebra · Unit 9: College & Career ROI

3 class periods | Individual or pairs | Skills: Skill 1, Skill 2, Skill 3, Skill 4

Overview

Choosing what to do after high school is a financial decision as well as a personal one. You will advise Camila, who is comparing four pathways, by calculating net price, debt, loan payments, and earnings over time — then recommending a path that fits her goals.

Skills covered

- Estimate education costs (college-skill-01)
- Model student loan payments (college-skill-02)
- Compare career earnings (college-skill-03)
- Analyze payback periods (college-skill-04)

Required materials

- Student packet
- Spreadsheet
- Decision Lab “College & Career ROI Explorer”

Suggested pacing

Session	Focus
Day 1	Tasks 1–2
Day 2	Tasks 3–4
Day 3	Letters and discussion

Implementation guidance

- Be sensitive: avoid ranking students’ own plans; focus on Camila.
- Encourage use of the College Scorecard as an extension.

Worked calculations

Lakeview Private College (BA)

1. Total net price $80,000.
2. Loan payment $306.99/month; interest $9,838.80.
3. Cumulative net by 30: $441,055.66; by 40: $1,306,143.91.

State University (BA)

1. Total net price $88,000.
2. Loan payment $306.99/month; interest $9,838.80.
3. Cumulative net by 30: $433,055.66; by 40: $1,298,143.91.

Pine Ridge CC → State U transfer

1. Total net price $63,000.
2. Loan payment $136.44/month; interest $4,372.80.
3. Cumulative net by 30: $487,521.66; by 40: $1,352,609.91.

Dental hygiene AAS (2 yrs)

1. Total net price $24,000.
2. Loan payment $113.70/month; interest $3,644.00.
3. Cumulative net by 30: $772,592.72; by 40: $1,776,482.03.

Sample student responses

> “The private college’s generous aid makes its net price lower than the state university’s, and its completion rate is higher. If Camila wants a BA, I recommend the private college; if she wants to start earning quickly in health care, the dental hygiene AAS has the fastest payback.”

Common misconceptions

- Comparing sticker prices.
- Counting loans as aid that reduces cost.
- Ignoring completion risk.

Differentiation

Support

- Provide partially completed tables.

Extend

- Adjust earnings by completion probability (expected value).

Extension opportunities

- Use a real college's net price calculator with fictional family data.

100-point 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)	Net price, loan, and cumulative earnings 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.

Student documents (reference)

Pathway data (fictional; yearly unless noted)

Pathway	Cost of attendance	Grants/scholarships	Years	Total federal loans	Starting salary (est.)
Lakeview Private College (BA)	$72,000	$52,000	4	$27,000	$56,000 at age 22
State University (BA)	$31,000	$9,000	4	$27,000	$56,000 at age 22
Pine Ridge CC → State U transfer	$9,500 (CC) / $22,000 net (State U)	included above	4	$12,000	$56,000 at age 22
Dental hygiene AAS (2 yrs)	$18,000	$6,000	2	$10,000	$70,000 at age 20

Other information

Item	Value
Student-loan rate	6.53%, 10-year standard plan
High-school-only baseline	$34,000 growing 2%/yr
Completion rates (6-yr)	Private 82% · State U 64% · Transfer path 48% · Dental hygiene AAS 71%
Earnings while in school	BA paths $6,000/yr; CC years $12,000/yr; AAS $8,000/yr