The Job Offer Showdown — Teacher Guide

Financial Algebra · Unit 1: Careers & Income

2–3 class periods | Pairs | Skills: Skill 1, Skill 2, Skill 3, Skill 4

Overview

A bigger number on an offer letter does not always mean more money in your pocket. In this project you will act as a career coach for Elena, who has three job offers. You will convert pay, estimate taxes, build sample pay stubs, price the benefits and the commute, and then recommend an offer in a short memo.

Skills covered

- Compare salary and hourly pay (income-skill-01)
- Calculate gross and net income (income-skill-02)
- Interpret pay stubs (income-skill-03)
- Model income taxes (income-skill-04)

Required materials

- Student packet
- Calculators or spreadsheet
- Optional: Decision Lab “Job Offer Comparison Lab” for verification

Suggested pacing

Session	Focus
Day 1	Tasks 1–2
Day 2	Tasks 3–4
Day 3 (optional)	Memo writing and peer review

Implementation guidance

- Have pairs split the tax work by offer, then cross-check.
- The Decision Lab uses the same model — students can verify their numbers after Task 4.
- Encourage students to treat overtime and bonuses as uncertain.

Worked calculations

Bayline Logistics

1. Gross $52,000.00; taxable $33,440.00.
2. Federal $3,772.80; Social Security $3,164.48; Medicare $740.08; state $2,422.00.
3. Net $38,340.64 per year.
4. Match $2,600.00; commute $1,680.00.
5. Total value ≈ $41,860.64.

Crestmark Distribution

1. Gross $60,000.00; taxable $36,960.00.
2. Federal $4,195.20; Social Security $3,407.52; Medicare $796.92; state $2,598.00.
3. Net $40,962.36 per year.
4. Match $0.00; commute $5,376.00.
5. Total value ≈ $38,586.36.

Northgate Warehouse

1. Gross $62,192.00; taxable $41,562.40.
2. Federal $4,747.49; Social Security $3,699.66; Medicare $865.24; state $2,828.12.
3. Net $44,421.89 per year.
4. Match $1,554.80; commute $1,008.00.
5. Total value ≈ $48,078.29.

Sample student responses

> “Even though Crestmark pays $8,000 more, its premiums and 64-mile round trip leave Elena with less total value ($38,586.36) than Bayline ($41,860.64). Northgate looks best on paper ($48,078.29) but depends on overtime that is not guaranteed.”

Common misconceptions

- Applying the 22% bracket to all income.
- Forgetting that health premiums and 401(k) are pre-tax.
- Treating the employer match as a deduction.
- Counting uncertain overtime or bonuses as guaranteed.

Differentiation

Support

- Provide a tax worksheet with bracket rows filled in.
- Limit to two offers.

Extend

- Add a Roth vs. traditional 401(k) comparison.
- Model a raise after year 1 at each company.

Extension opportunities

- Research a real occupation's median pay (BLS) and compare it to the offers.

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)	Gross, taxes, net, match, and commute calculations correct for all three offers; pay stub balances.	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.

Category (points)	Exemplary (100%)	Proficient (~80%)	Developing (~60%)	Beginning (~30%)
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)

Offer summary (fictional employers)

	Bayline Logistics	Crestmark Distribution	Northgate Warehouse
Role	Operations coordinator	Inventory analyst	Shift lead (hourly)
Pay	$52,000 salary	$60,000 salary	$26/hr; ~4 OT hrs/week at 1.5×
Paid	biweekly	semimonthly	weekly
Health premium (employee)	$80/month	$420/month	$210/month
401(k) match	100% up to 5%	None	50% up to 6%
Paid time off	15 days	10 days	12 days
Commute (each way)	10 miles	32 miles	6 miles
Other	Tuition reimbursement up to $2,500/yr	Possible $3,000 year-end bonus (not guaranteed)	Night-shift differential +$1.50/hr (optional)

Course Tax Table (illustrative)

Item	Rule
Standard deduction	$15,000
Federal brackets	10% to $12,000; 12% to $48,000; 22% to $103,000
FICA	7.65% of wages (minus health premiums)
State	5% flat on wages minus pre-tax deductions
Pre-tax deductions	401(k) and health premiums
Commuting cost	$0.35 per mile, 240 workdays