Survive on Your Salary — Teacher Guide

Financial Algebra · Unit 2: Budgeting & Spending

3–4 class periods | Individual (best) or pairs | Skills: Skill 1, Skill 2, Skill 3, Skill 4

Overview

Your first full-time paycheck is coming. Before the excitement wears off, rent, a car, groceries, and a dozen small bills will compete for every dollar. In this project you will receive a fictional career, figure out what you actually take home, build a budget for life in the fictional city of Riverton, and then respond to the surprises that real life brings.

Skills covered

- Calculate monthly cash flow (budgeting-skill-01)
- Analyze fixed and variable expenses (budgeting-skill-02)
- Model financial constraints (budgeting-skill-03)
- Compare spending decisions (budgeting-skill-04)

Required materials

- Student packet (one per student)
- Life Happens cards (cut apart) or random number generator 1–8
- Calculators or spreadsheet software
- Optional: chart paper or slide software for presentations

Suggested pacing

Session	Focus
Day 1	Tasks 1–2: paycheck and initial budget
Day 2	Task 3 and deal Life Happens cards; begin Task 4
Day 3	Finish Task 4; Task 5 comparisons
Day 4 (optional)	Presentations / gallery walk and reflections

Implementation guidance

- Assign careers randomly so students experience a range of incomes, including tight budgets.
- Model one full example (below) before students start Task 2.
- Deal events after budgets are “locked” so students must genuinely adjust.

- The higher-income nurse card includes a larger loan payment — use it to discuss that income is not the only factor.

Worked calculations

Task 1 (Paralegal)

1. Gross monthly = $\frac{50{,}000}{12}$ = $4,166.67.
2. Annual deductions: federal $3,636.00, Social Security $3,025.60, Medicare $707.60, state $2,365.00, retirement $1,500.00, health $1,200.00.
3. Take-home = $37,565.80 per year ÷ 12 = $3,130.48 per month.
4. Rent guideline: r ≤ 0.30 × $4,166.67 = $1,250.00.

Task 2 (sample budget)

1. Studio: $1,150
2. Utilities: $135
3. Used car (payment + insurance + gas): $555
4. Groceries (moderate): $350
5. Phone (standard): $65
6. Entertainment & dining: $150
7. Clothing & personal: $80
8. Student loan: $185
9. Savings (10%): $314
10. Total = $2,984; cash flow = $3,130.48 − $2,984 = $146.48.

Task 3 (emergency fund)

1. Essential expenses ≈ $2,440 per month; 3 months = $7,320.
2. Needed beyond $1,500: $5,820. At $314 + surplus per month, months m ≥ $\frac{\$5{,}820}{\text{(monthly savings)}}$.

Task 4 (event example)

1. Brakes $640: if cash flow is $40/month, the event equals 16 months of surplus — it must come from the emergency fund, then be rebuilt.
2. Hours cut 10%: take-home drops by 10%; students must reduce variable wants first.

Sample student responses

> "Even though I chose the studio, the hours cut forced me to drop dining out from $150 to $60 and switch to the prepaid phone. I kept the car because I need it for job sites, but if the cut lasted longer I would look for a roommate."

> "Choosing transit instead of a car saves $465 per month, or $5,580 per year — that alone would fund my emergency fund in under a year."

Common misconceptions

- Budgeting from gross pay — insist on take-home.
- Leaving savings for "whatever is left." Savings is a line item.
- Treating irregular costs as surprises rather than predictable expenses.
- Assuming higher salary means an easier budget (the nurse's loan and lifestyle choices matter).

Differentiation

Support

- Provide a partially completed budget template.
- Limit to two events.
- Allow a calculator-based percent tool.

Extend

- Build the budget in a spreadsheet with formulas.
- Add a second year with a 3% raise and 4% rent increase.
- Research actual rents in a real town and compare with Riverton.

Extension opportunities

- Compare your budget to a classmate with a different career and write a joint memo on what made each work.

- Research one local assistance program or employer benefit that could change your budget.

100-point rubric

Category (points)	Exemplary (100%)	Proficient (~80%)	Developing (~60%)	Beginning (~30%)
Financial understanding (20)	Correctly explains deductions, fixed/variable and need/want classifications, sinking funds, and emergency funds with precise vocabulary.	Mostly correct explanations with minor vocabulary errors.	Partial understanding; several classifications or explanations incorrect.	Little evidence of understanding.
Mathematical accuracy (25)	All totals, cash flow, percents, inequalities, and event calculations correct and labeled.	1–2 minor errors that do not change conclusions.	Several errors or missing calculations.	Calculations largely missing or incorrect.
Analysis of events & comparisons (20)	Accurately quantifies every event and comparison, including annual costs and opportunity costs.	Analyzes most events/comparisons with minor gaps.	Analysis superficial or incomplete.	Little analysis.
Justification of decisions (15)	Every adjustment is justified with numbers and a tradeoff; considers non-financial factors.	Most adjustments justified.	Some justification, mostly opinion.	No justification.
Communication & presentation	Organized, clear, well-labeled	Clear with minor organization issues.	Hard to follow in places.	Disorganized.

Category (points)	Exemplary (100%)	Proficient (~80%)	Developing (~60%)	Beginning (~30%)
(10)	tables and visuals; reflection is thoughtful.			
Completion (10)	Every checklist item complete.	One item missing or incomplete.	Two or three items missing.	Most items missing.

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

Student documents (reference)

Career Cards (fictional employers; Course Tax Table)

Career	Annual salary	Gross monthly	Est. take-home monthly*
Pharmacy technician	$39,000	$3,250.00	$2,462.60
Electrician apprentice	$44,000	$3,666.67	$2,766.18
Paralegal	$50,000	$4,166.67	$3,130.48
HVAC technician	$52,000	$4,333.33	$3,251.92
Graphic designer	$54,000	$4,500.00	$3,373.35
Registered nurse	$82,000	$6,833.33	$4,945.58

*AFTER FEDERAL TAX (COURSE TAX TABLE), 7.65% FICA, 5% STATE TAX, 3% RETIREMENT, AND A $100/MONTH HEALTH PREMIUM.

Riverton Cost Guide (monthly)

Category	Choices
Housing	Room in shared house $725 · Studio $1,150 · 1-bedroom $1,425 · 2-bedroom (split) $910
Utilities & internet	Shared $70 · Own place $135
Transportation	Bus/transit pass $90 · Used car: payment $265 + insurance $150 + gas $140 · Bike + rideshare $55
Groceries	Thrifty $260 · Moderate $350 · Generous $450
Phone	Prepaid $35 · Standard $65 · Premium unlimited $90
Health premium	Already deducted from pay (see career card)

Category	Choices
Entertainment & dining	Your choice; minimum $50
Clothing & personal	Minimum $60
Savings	At least 10% of take-home pay
Student loan (if your career needs one)	Nurse $310 · Paralegal $185 · Designer $240 · Others $0

Life Happens Event Cards (teacher deals three)

#	Event
1	Your car needs new brakes: $640 (if no car: phone screen repair $180).
2	Your hours are cut: take-home pay drops 10% for 3 months.
3	Your rent increases 6% at lease renewal.
4	A friend’s wedding: $350 for travel and a gift in 2 months.
5	Medical bill after urgent care: $275.
6	You earn a $1,200 bonus (before taxes; keep 72%).
7	Your roommate moves out — you must cover their $725 share for 1 month or find a new roommate.
8	Annual car registration and inspection: $165 due next month.