The 12-Month Goal Plan — Teacher Guide

Financial Algebra · Unit 2: Budgeting & Spending

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

Overview

Big goals — a first car, a security deposit, a semester abroad — are reached one month at a time. In this project you and a partner act as financial coaches for Jaylen, a high school senior with a part-time job, a goal, and a calendar full of things that cost money.

Skills covered

- Calculate monthly cash flow (budgeting-skill-01)
- Model financial constraints (budgeting-skill-03)
- Compare spending decisions (budgeting-skill-04)

Required materials

- Student packet
- Calculators or spreadsheet
- Graph paper or charting tool

Suggested pacing

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

Implementation guidance

- Encourage a spreadsheet: the running balance is a natural formula exercise.
- Pairs should divide months, then check each other's work.
- Discuss why summer months carry the plan.

Worked calculations

Tasks 1–2

1. Sep: 40 h → $607.20; − $199 − $0 = $408.20; balance $1,058.20
2. Oct: 44 h → $667.92; − $199 − $140 = $328.92; balance $1,387.12
3. Nov: 40 h → $607.20; − $199 − $0 = $408.20; balance $1,795.32
4. Dec: 56 h → $850.08; − $199 − $220 = $431.08; balance $2,226.40
5. Jan: 36 h → $546.48; − $199 − $0 = $347.48; balance $2,573.88
6. Feb: 36 h → $546.48; − $199 − $180 = $167.48; balance $2,741.36
7. Mar: 40 h → $607.20; − $199 − $0 = $408.20; balance $3,149.56
8. Apr: 44 h → $667.92; − $199 − $310 = $158.92; balance $3,308.48
9. May: 48 h → $728.64; − $199 − $0 = $529.64; balance $3,838.12
10. Jun: 80 h → $1,214.40; − $199 − $150 = $865.40; balance $4,703.52
11. Jul: 96 h → $1,457.28; − $199 − $200 = $1,058.28; balance $5,761.80
12. Aug: 80 h → $1,214.40; − $199 − $0 = $1,015.40; balance $6,777.20
13. Total take-home $9,715.20; average $809.60/month.

Task 3

1. Year-end balance $6,777.20 exceeds $3,600 by $3,177.20.
2. No extra savings needed, but the margin is thin.
3. Irregular total $\frac{\$1,200}{12}$ = $100 per month sinking fund.

Task 4

1. Phone: ($65 − $30) × 12 = $420 more per year for the unlimited plan.
2. Lunch: (9.50 − 3.00) × 3 × 36 = $702 per year saved by packing.
3. Packing lunch alone covers most of any shortfall.

Sample student responses

> “Jaylen should keep the family phone plan and pack lunch at least three days a week. Those two choices save $1,122 a year and turn a shortfall into a cushion. The riskiest months are December and April, when expenses spike; the sinking fund smooths them out.”

Common misconceptions

- Using gross pay (forgetting the 92%).

- Treating the average month as typical — summer income is not available in December.
- Forgetting to carry the running balance forward.

Differentiation

Support

- Provide the income column precomputed for the first three months.
- Use a fill-in running-balance template.

Extend

- Add a 4.00% APY savings account (monthly interest).
- Model a 20% cut in summer hours and design a backup plan.

Extension opportunities

- Students create a 12-month plan for a goal of their own using fictional numbers.

100-point rubric

Category (points)	Exemplary (100%)	Proficient (~80%)	Developing (~60%)	Beginning (~30%)
Financial understanding (20)	Explains variable income, sinking funds, and opportunity cost accurately.	Minor gaps.	Partial understanding.	Little understanding.
Mathematical accuracy (25)	Income, cash flow, running balance, and inequality all correct.	1–2 minor errors.	Several errors.	Mostly incorrect.
Analysis (20)	Identifies risky months, quantifies both decisions, tests the goal precisely.	Most analysis complete.	Superficial.	Missing.
Justification (15)	Recommendation backed by numbers and realistic tradeoffs; includes a backup plan.	Mostly justified.	Weak justification.	None.
Communication (10)	Clear memo and labeled chart.	Minor issues.	Hard to follow.	Disorganized.
Completion & collaboration (10)	All items complete; both partners contributed.	One item missing.	Several missing.	Mostly missing.

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

Student documents (reference)

Jaylen's expected work hours

Month	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Hours	40	44	40	56	36	36	40	44	48	80	96	80

Jaylen's regular monthly spending

Item	Monthly
Phone (share of family plan)	$30
Food & snacks out	$85
Streaming & games	$24
Gas money to friends	$20
Clothes	$40

Known irregular expenses

Month	Expense	Cost
Oct	Homecoming	$140
Dec	Holiday gifts	$220
Feb	School trip	$180
Apr	Prom	$310
Jun	Graduation photos & party contribution	$150
Jul	Birthday trip with friends	$200

Two spending decisions Jaylen is considering

Decision	Option 1	Option 2
Phone	Keep family plan share $30/mo	Own unlimited plan $65/mo
Lunch	Buy lunch 3×/week at $9.50	Pack lunch, about $3 each