# PFL Academy

Teacher Guide: Chapter 12.1 — Automobile Finance

## OVERVIEW

| TIME | MATERIALS | PREREQUISITES |
|---|---|---|
| 45-50 Minutes | Student Activity Packet, Auto Finance Calculator | Basic math skills, understanding of percentages |

## LESSON FLOW

**5 min** — **THE CHALLENGE**

- Read Taylor's vehicle financing comparison aloud or have students read silently.
- Discussion: "Why do you think car dealerships advertise monthly payments rather than total cost?"
- Preview how total cost analysis reveals the true financial picture.

**10 min** — **CORE CONCEPTS**

- Review the 5 key terms. Emphasize depreciation—cars lose 20-30% value in year 1.
- Explain the concept of "equity" vs. "being underwater" on a loan.
- Quick check: Ask students to estimate what a $30,000 car might be worth after 5 years (~$12,000).

**25-30 min** — **APPLY IT**

- **Part A (15 min):** Buy vs. Lease Comparison. Walk through the table together. Have students calculate totals. Key insight: leasing costs more AND leaves nothing.
- **Part B (10-15 min):** Loan Term Analysis. Students compare 36/60/72 month options. Emphasize the $4,000+ difference in interest.

**10 min** — **CHECK YOUR UNDERSTANDING**

- Complete in class or assign as homework.
- Review Q3 (total cost vs. monthly) and Q5 (personal application) for deeper understanding.
- Preview Day 2 Learning Lab: Building complete vehicle cost scenarios with real data.

## DIFFERENTIATION

**Support**

- Pre-fill some calculations in the comparison table.
- Provide a step-by-step calculation guide.
- Allow calculator use for all problems.
- Work through Part A as a whole-class activity.

**Extension**

- Research actual vehicle prices and loan rates, then create custom scenarios.
- Calculate opportunity cost: what $500/month invested for 30 years becomes.
- Compare insurance costs for different vehicles and ownership scenarios.

## ANSWER KEY

### Part A: Buy vs. Lease Comparison

```
BUY:
Total Paid = $7,000 (down) + $31,680 (payments) = $38,680
Net Cost = $38,680 - $14,000 (resale) = $24,680

LEASE:
Total Paid = $4,000 (down payments) + $28,800 (payments) = $32,800
Net Cost = $32,800 - $0 (nothing at end) = $32,800
```

**1.** BUY has lower net cost by $8,120 ($32,800 - $24,680)

**2.** 3 more years payment-free while leasing continues: 36 months × $400 = **$14,400 saved**

### Part B: Loan Term Impact Analysis

**3.** Extra interest for 72-month vs. 36-month: $6,328 - $2,224 = **$4,104 more**

**4.** $282/month × 36 months × 1.11 growth factor ≈ **$11,250** (or accept $10,152 without growth factor)

### Check Your Understanding

**1.** C ($16,000 - cars typically lose ~60% of value in 5 years, keeping 40%)

**2.** B (Years of payment-free driving while the car still has value)

**3.** Total cost includes: all payments, interest, depreciation, insurance, fuel, maintenance, and what the car is worth at the end. Monthly payment alone ignores loan length, interest total, and whether you have an asset at the end. A $300/month lease seems cheaper than $500 loan payment, but leaves you with nothing.

**4.** Situations where leasing might make sense: (1) Business use with tax deductions, (2) Need newest safety features for short-term, (3) Job requires always having a new reliable car, (4) Planning to relocate/uncertain about long-term vehicle needs, (5) Cannot afford down payment for purchase.

**5.** *Responses will vary. Look for: consideration of total cost (not just monthly), acknowledgment of opportunity cost, realistic assessment of personal situation, and alignment with stated financial goals.*

## COMMON MISCONCEPTIONS

| Misconception | Clarification |
|---|---|
| "Lower monthly payment = better deal" | Lower payments often mean longer terms, more interest, and being "underwater" longer. Total cost and net cost after resale are better metrics. |
| "Leasing is always smarter because you're not paying for depreciation" | Lease payments ARE paying for depreciation plus interest. The difference is you don't own anything at the end and can't benefit from years of payment-free driving. |
| "New cars are more reliable so they cost less overall" | A 3-year-old certified pre-owned car has already lost most of its depreciation but still has years of reliable life. The "sweet spot" for value is often 2-4 years old. |