INTERACTIVE BALANCE SHEET LAB

Atlas Analytics - Instructor Guide

A 75-minute facilitation plan with accounting explanations, discussion prompts, and misconception interventions.

Teaching Lab public beta | Hongye Chris Yang | Release 2026-08-21

Lesson profile

Audience: Undergraduate introductory accounting

Duration: 75 minutes

Maturity: Public beta

Facilitation and assessment protocol

Predict -> commit -> explain -> record -> reconcile. Ask students to name the account class before choosing debit or credit.

Transaction explanations: Formative and ungraded. **Concept checks:** Five concept-check explanations are graded at 2 points each.

Learning objectives

1. Explain why Assets = Liabilities + Equity after every valid transaction.
2. Classify common accounts and identify their normal debit or credit balance.
3. Predict how a transaction changes at least two accounts before viewing the entry.
4. Distinguish cash movement from revenue recognition and expense recognition.
5. Read a simple journal entry and connect temporary accounts to net income.
6. Explain how net income flows into ending retained earnings.
7. Construct and verify an ending balance sheet from a transaction ledger.

Suggested 75-minute lesson sequence

TIME	TEACHING MOVE
0-10 minutes	Accounting equation, normal balances, and Atlas Analytics setup
10-35 minutes	Guided Transactions 1-6 with prediction and explanatory feedback
35-50 minutes	Transactions 7-10; cash versus income recognition
50-60 minutes	Journal entries, temporary accounts, net income, and retained earnings
60-70 minutes	Five misconception-based concept checks
70-75 minutes	Reconstruct and explain the ending balance sheet

Preparation and accessibility

- Open the browser lesson and verify that Student mode is selected before class.
- Provide the student handout without the answer key; retain the instructor guide and key separately.
- Use projector view only when needed. The lesson supports keyboard controls, visible focus, semantic tables, and reduced motion.
- Do not grade speed. Evaluate account classification, debit-credit reasoning, amounts, and explanation.
- No student response is transmitted or stored by the browser lesson.

Transaction-by-transaction facilitation

1. Founder invests cash

The founder invests $60,000 cash in Atlas Analytics in exchange for common stock.

JE-01: Record founder investment

ACCOUNT	DEBIT	CREDIT
Cash	$60,000	-
Common Stock	-	$60,000

> **Accounting explanation:** Cash is an asset, so a debit increases it. Common Stock is contributed equity, so a credit increases it. This is financing from an owner-not revenue earned from a customer.

Misconception: Owner investment increases equity, but it is not revenue and does not enter net income.

> **Discussion prompt:** What earning activity is absent, and why is Common Stock different from Revenue?

2. Borrow from the bank

Atlas Analytics borrows $30,000 cash from a bank and signs a note payable.

JE-02: Record bank borrowing

ACCOUNT	DEBIT	CREDIT
Cash	$30,000	-
Notes Payable	-	$30,000

> **Accounting explanation:** Cash increases with a debit. Notes Payable increases with a credit because the company now owes the bank. Borrowing creates a liability, not revenue, because the cash must be repaid.

Misconception: Receiving cash does not automatically mean earning revenue.

> **Discussion prompt:** What future obligation explains the liability? How would repayment differ from interest expense?

3. Buy equipment for cash

Atlas Analytics buys equipment for $24,000 cash.

JE-03: Purchase equipment for cash

ACCOUNT	DEBIT	CREDIT
Equipment	$24,000	-
Cash	-	$24,000

> **Accounting explanation:** Equipment increases with a debit while Cash decreases with a credit. One asset replaces another, so total assets and the accounting equation totals do not change.

Misconception: Buying a long-lived asset is not an immediate operating expense in this lesson.

> **Discussion prompt:** Why does total assets stay unchanged even though cash falls?

4. Buy inventory on account

Atlas Analytics buys $12,000 of inventory from a supplier and will pay later.

JE-04: Purchase inventory on account

ACCOUNT	DEBIT	CREDIT
Inventory	$12,000	-
Accounts Payable	-	$12,000

> **Accounting explanation:** Inventory increases with a debit. Accounts Payable increases with a credit because the supplier has not yet been paid. No cash moves at purchase, and no expense is recognized until inventory is sold.

Misconception: Buying inventory is not COGS until the inventory is sold.

> **Discussion prompt:** At what later event will the inventory cost become an expense?

5. Sell inventory for cash

Atlas Analytics sells inventory for $10,000 cash. The inventory sold originally cost $6,000.

JE-05: Record cash sale and cost of inventory sold

ACCOUNT	DEBIT	CREDIT
Cash	$10,000	-
Sales Revenue	-	$10,000
Cost of Goods Sold	$6,000	-
Inventory	-	$6,000

> **Accounting explanation:** A sale of inventory has two linked entries: record $10,000 of revenue and remove the $6,000 cost from Inventory into COGS. Gross profit is $4,000, which increases net income and therefore ending retained earnings.

Misconception: The cash collected is not the same as profit; the inventory cost must also be recognized.

> **Discussion prompt:** Why does the sale require two linked accounting effects, and why is cash not profit?

6. Provide services on account

Atlas Analytics completes $8,000 of services for a customer who will pay later.

JE-06: Record services provided on account

ACCOUNT	DEBIT	CREDIT
Accounts Receivable	$8,000	-
Service Revenue	-	$8,000

> **Accounting explanation:** Accounts Receivable increases because the customer owes the company. Service Revenue is recognized when the service is earned, even though cash has not yet been collected.

Misconception: Revenue can be earned before cash is received.

> **Discussion prompt:** What evidence shows the service is earned even though cash is absent?

7. Collect from a customer

Atlas Analytics collects $5,000 from the customer whose receivable was recorded earlier.

JE-07: Collect accounts receivable

ACCOUNT	DEBIT	CREDIT
Cash	$5,000	-
Accounts Receivable	-	$5,000

> **Accounting explanation:** Cash increases and Accounts Receivable decreases. The company is collecting an existing asset; it does not recognize revenue again because the revenue was earned in Transaction 6.

Misconception: Collection changes the form of an asset but does not create a second revenue event.

> **Discussion prompt:** Why would recording revenue again double count the same earning event?

8. Pay part of accounts payable

Atlas Analytics pays $7,000 to the inventory supplier.

JE-08: Pay accounts payable

ACCOUNT	DEBIT	CREDIT
Accounts Payable	$7,000	-
Cash	-	$7,000

> **Accounting explanation:** Accounts Payable decreases with a debit, and Cash decreases with a credit. Paying a previously recorded liability is not a new expense and does not change net income.

Misconception: Cash payment is not always expense recognition; this payment settles a liability.

> **Discussion prompt:** Why does paying a liability reduce assets and liabilities without changing net income?

9. Pay operating expenses

Atlas Analytics pays $4,000 of current-period operating expenses in cash.

JE-09: Record operating expense paid in cash

ACCOUNT	DEBIT	CREDIT
Operating Expense	$4,000	-
Cash	-	$4,000

Accounting explanation: Operating Expense increases with a debit and Cash decreases with a credit. The expense lowers net income; lower net income lowers ending retained earnings.

Misconception: Expenses reduce equity through net income, not through a direct posting to retained earnings.

Discussion prompt: How does the temporary expense account reach equity without a direct retained-earnings posting?

10. Record depreciation

Atlas Analytics records $1,000 of depreciation on its equipment.

JE-10: Record depreciation expense

ACCOUNT	DEBIT	CREDIT
Depreciation Expense	$1,000	-
Accumulated Depreciation	-	$1,000

Accounting explanation: Depreciation Expense increases with a debit. Accumulated Depreciation, a contra-asset with a credit balance, increases and reduces net equipment. No cash is paid when depreciation is recorded.

Misconception: Depreciation allocates cost; it is an expense without a current-period cash payment.

Discussion prompt: Why is Accumulated Depreciation a contra-asset rather than cash or a liability?

Concept-check facilitation

1. Which transaction changes only the composition of assets?

Expected response: Buying equipment for cash

Correct. Equipment increases while Cash decreases by the same amount.

2. Why is the bank loan not revenue?

Expected response: The cash creates an obligation that must be repaid

Correct. Financing proceeds create a liability rather than earned income.

3. Why does collecting Accounts Receivable not create revenue?

Expected response: The revenue was recognized when the service was performed

Correct. Collection changes A/R into Cash.

4. The company collects $10,000 for inventory that cost $6,000. What reaches retained earnings before other expenses?

Expected response: $4,000 gross profit

Correct. Sales Revenue minus COGS equals $4,000.

5. Why can depreciation reduce net assets without reducing cash?

Expected response: It allocates a previously capitalized equipment cost

Correct. The cash outflow occurred when equipment was purchased.

Assessment and debrief

- Require the final balance sheet to reconcile to the ledger, not to a supplied total.
- Ask students to explain one cash receipt that is not revenue and one cash payment that is not expense.
- Ask students to trace Sales Revenue, Service Revenue, COGS, Operating Expense, and Depreciation Expense into Net Income and then Retained Earnings.

- Use the separate 100-point rubric and avoid double-penalizing a clearly identified arithmetic carry-forward error.