Financial Accounting Fundamentals

Financial Accounting Fundamentals

8th edition

John J. Wild
University of Wisconsin—Madison

Mc Graw Hill

To my students and family, especially Kimberly, Jonathan, Stephanie, and Trevor.

FINANCIAL ACCOUNTING FUNDAMENTALS, EIGHTH EDITION

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About the Author

Courtesy of John J. Wild

JOHN J. WILD is a distinguished professor of accounting at the University of Wisconsin at Madison. He previously held appointments at Michigan State University and the University of Manchester in England. He received his BBA, MS, and PhD from the University of Wisconsin.

John teaches accounting courses at both the undergraduate and graduate levels. He has received numerous teaching honors, including the Mabel W. Chipman Excellence-in-Teaching Award and the departmental Excellence-in-Teaching Award, and he is a two-time recipient of the Teaching Excellence Award from business graduates at the University of Wisconsin. He also received the Beta Alpha Psi and Roland F. Salmonson Excellence-in-Teaching Award from Michigan State University. John has received several research honors, is a past KPMG Peat Marwick National Fellow, and is a recipient of fellowships from the American Accounting Association and the Ernst and Young Foundation.

John is an active member of the American Accounting Association and its sections. He has served on several committees of these organizations, including the Outstanding Accounting Educator Award, Wildman Award, National Program Advisory, Publications, and Research Committees. John is author of *Financial Accounting Fundamentals, Managerial Accounting, Fundamental Accounting Principles,* and *Financial and Managerial Accounting,* all published by McGraw Hill.

John's research articles on accounting and analysis appear in *The Accounting Review; Journal of Accounting Research; Journal of Accounting and Economics; Contemporary Accounting Research; Journal of Accounting, Auditing and Finance; Journal of Accounting and Public Policy; Accounting Horizons;* and other journals. He is past associate editor of *Contemporary Accounting Research* and has served on several editorial boards including *The Accounting Review* and the *Journal of Accounting and Public Policy.*

In his leisure time, John enjoys hiking, sports, boating, travel, and spending time with family and friends.

Author note

Applying Learning Science and Data Analytics

Learning science reveals that students better learn and retain information when text is presented in a direct, concise, and systematic manner within a blocked format. Our new edition delivers the content in that format and in fewer pages. Visual aids and numerous demonstrations and videos offer additional learning support. Summary *Cheat Sheets* conclude each chapter to visually reinforce key concepts and procedures, and provide a mapping for students as they search and learn.

Our new edition has over 1,000 videos aimed to captivate students and improve outcomes.

- **Concept Overview Videos**—cover each chapter's learning objectives with multimedia presentations that include interactive Knowledge Checks to engage students and assess comprehension.
- **Need-to-Know Demos**—walk-through demonstrations of key procedures and analysis for each text block to ensure success with assignments and tests.
- **Hint (Guided Example) Videos**—step-by-step walk-through of assignments that mimic Quick Studies, Exercises, and General Ledger assignments. Instructors can turn the Hint on or off for each assignment.

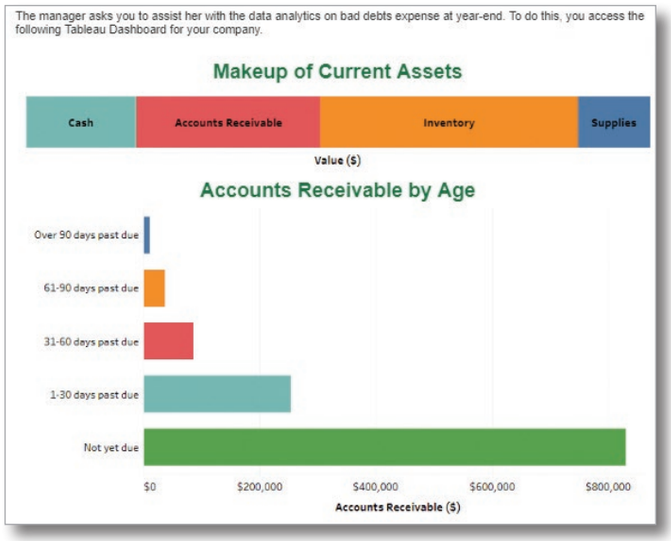
Data analytics and visualizations skills are increasingly in demand. Our new edition has 3 Tableau Dashboard Activities per chapter to develop those skills. They are in Connect and are auto-graded. No knowledge of Tableau or analytics is required. Introductory students can begin immediately.

Developing Career Readiness . . .

Tableau Dashboard Activities

Tableau Dashboard Activities expose students to accounting analytics using visual displays. These assignments (1) do not require instructors to know Tableau, (2) are accessible to introductory students, (3) do not require Tableau software, and (4) run in **Connect.** All analytics and visualization activities are familiar to instructors as they consist of introductory accounting concepts and procedures applied in our current assignments.

A quick study, exercise, and mini-case are available for each chapter. All are auto-gradable. Tableau is a great tool to excite students and show the relevance of accounting.



Analytics Insight

Blockchain Ledger Blockchain, the technology used to authenticate and track Bitcoin transactions, could radically change accounting systems. This technology unlocks the potential for a new type of ledger that is constantly verified, and one that cannot be changed without others noticing. Blockchain presents a unique opportunity for those with accounting knowledge, as they are highly desired to help build, implement, maintain, and audit this new technology. ■

Analytics Insight

Buy Now, Pay Later Companies have been hiring accounting analytics experts to identify ways to shorten the operating cycle. Their aim is to increase cash available for use in expanding operations or acquiring other businesses. One area that analytics has impacted is the timing of cash payments. The **Hackett Group** reports that the largest 1,000 U.S. companies have extended their timing of payments from an average of 40.1 days to 56.7 days in the past 10 years. ■

NEW! Analytics Insight

In an NVP survey of executives, 97% report they are investing in data analytics, big data, and AI. In a Robert Half survey of CFOs, 61% felt that knowledge of data analytics and visualization is mandatory for some or all of their accounting employees. Accounting students with analytics skills are highly sought after and are commanding higher salaries.

Analytics Insight boxes show students the importance of accounting analytics and visualization in business. These boxes educate students on how businesses are utilizing these competencies to improve business decisions.

Accounting Analysis

Accounting Analysis assignments have students evaluate the most current financial statements from Apple, Google, and Samsung. Students compute key metrics and compare performance across companies and the industry.

These three types of assignments—Company Analysis, Comparative Analysis, Extended Analysis—are auto-gradable in **Connect** and are included after Problem Set B in each chapter.

AA 6-2 Key comparative figures for **Apple** and **Google** follow.

COMPARATIVE ANALYSIS
A1

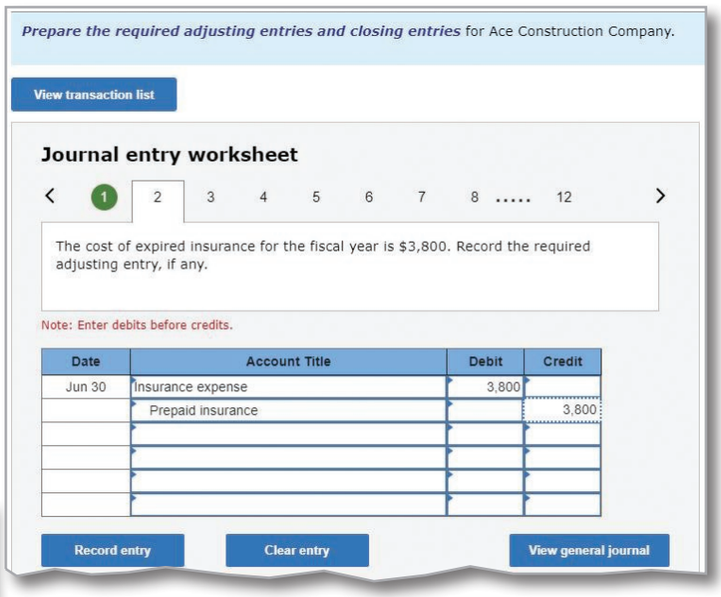
	Apple		Google	
$ millions	Current Year	Prior Year	Current Year	Prior Year
Accounts receivable	$ 22,926	$ 23,186	$ 25,326	$ 20,838
Net sales	260,174	265,595	161,857	136,819

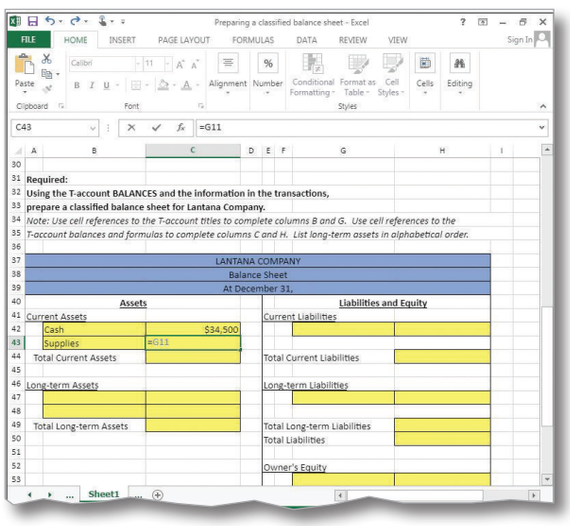
Required

1. Compute days' sales uncollected (rounded to one decimal) for the current year and the prior year for (*a*) Apple and (*b*) Google.
2. Which company had more success collecting receivables?

General Ledger Problems

General Ledger Problems expose students to general ledger software similar to that in practice, without the expense and hassle of downloading additional software. They offer students the ability to record financial transactions and see how these transactions flow into financial statements. Easy minimal-scroll navigation, instant "Check My Work" feedback, and fully integrated hyperlinking across tabs show how inputted data affect each stage of the accounting process. Algorithmic versions are available. **All are auto-gradable.**





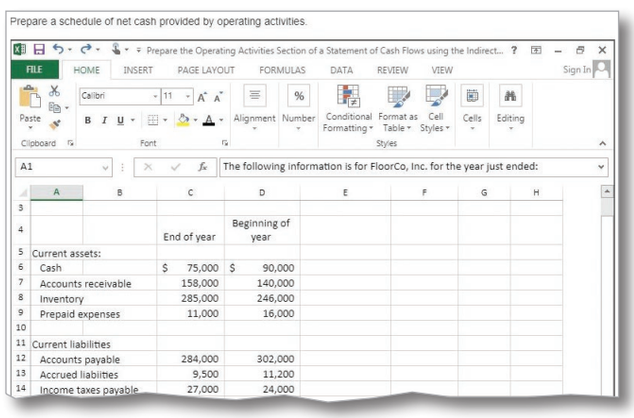
Applying Excel

Applying Excel enables students to work select chapter problems or examples in Excel. These problems are assignable in **Connect** and give students instant feedback as they work through assignments in Excel.

Accompanying Excel videos teach students how to use Excel and the primary functions needed to complete each assignment. Short assessments can be assigned to test student comprehension of key Excel skills.

Excel Simulations

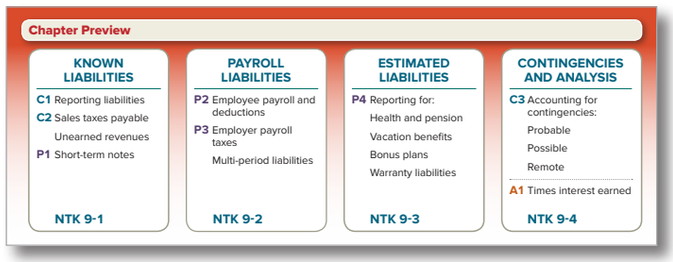
Excel Simulations, assignable in **Connect,** allow students to practice their Excel skills—such as basic formulas and formatting—within the context of accounting. These questions feature animated, narrated Help and Show Me tutorials (when enabled), as well as automatic feedback and grading for both students and professors. These questions differ from **Applying Excel** in that students work in a simulated version of Excel. *Downloading the Excel application is* ***not*** *required to complete Excel Simulations.*

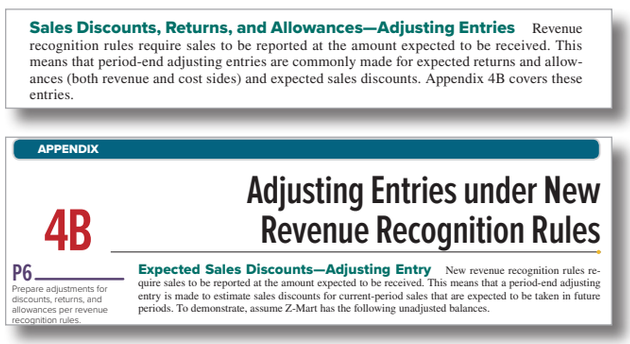


Enhancing Learning . . .

Learning Science

Learning science shows that students learn better when material is broken into "blocks" of content. Each chapter opens with a visual preview of the content blocks. Learning objectives highlight the location of content. Each "block" of content concludes with a Need-to-Know (NTK) demo to aid and reinforce student learning. Visual aids along with concise, bullet-point discussions further help students learn.





Sales Discounts, Returns, and Allowances—Adjusting Entries Revenue recognition rules require sales to be reported at the amount expected to be received. This means that period-end adjusting entries are commonly made for expected returns and allowances (both revenue and cost sides) and expected sales discounts. Appendix 4B covers these entries.

APPENDIX

4B Adjusting Entries under New Revenue Recognition Rules

P6 Prepare adjustments for discounts, returns, and allowances per revenue recognition rules.

Expected Sales Discounts—Adjusting Entry New revenue recognition rules require sales to be reported at the amount expected to be received. This means that a period-end adjusting entry is made to estimate sales discounts for current-period sales that are expected to be taken in future periods. To demonstrate, assume Z-Mart has the following unadjusted balances.

Flexible Revenue Recognition Coverage

- This text uses the widely-popular gross method for merchandising transactions (net method is covered in an appendix). The gross method (1) complies with new revenue recognition rules, (2) is used widely in practice, and (3) is easier and less costly to apply.
- Adjusting entries for specialized revenue recognition cases are included in an appendix. Assignments are clearly marked and separated. This approach is fully GAAP compliant.

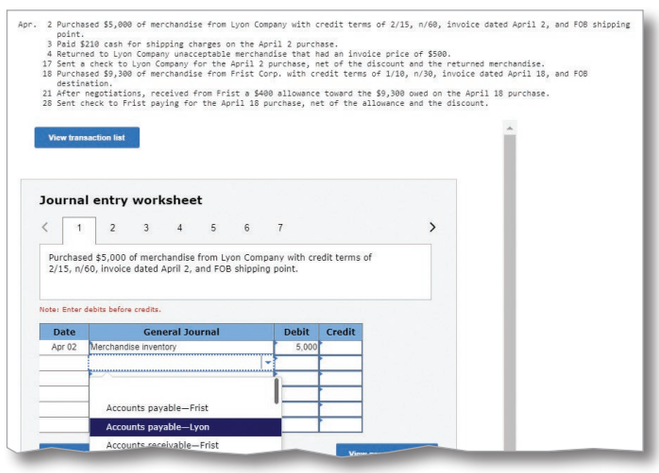
Up-to-Date

This text reflects new standards in accounting for revenue recognition, investments, leases, and extraordinary items. It is important that students learn accounting according to GAAP.

Assignments in Connect with Algos

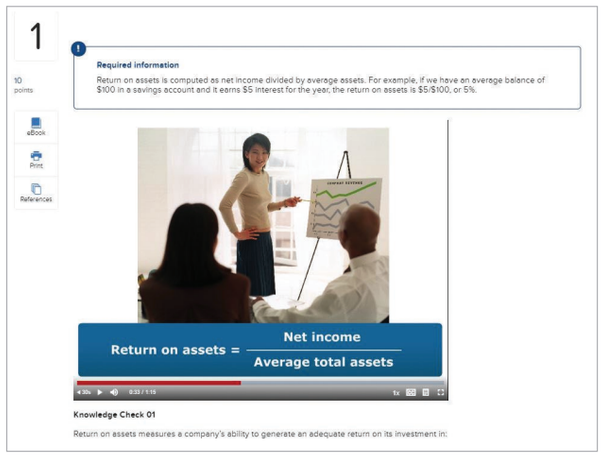
Connect helps students learn more efficiently by providing feedback and practice material when they need it, where they need it. **Connect** grades homework automatically and gives immediate feedback.

- Wild has auto-gradable and algorithmic assignments; most focus on one learning objective and are targeted at introductory students.
- 99% of Wild's Quick Study, Exercise, and Problem Set A assignments are available with algorithmic options.
- 100% of Wild's Accounting Analysis assignments are in **Connect**.
- Over 128 assignments are new to this edition—all available in **Connect** with algorithmic options. Most are Quick Studies and Exercises.



Updated Learning Videos

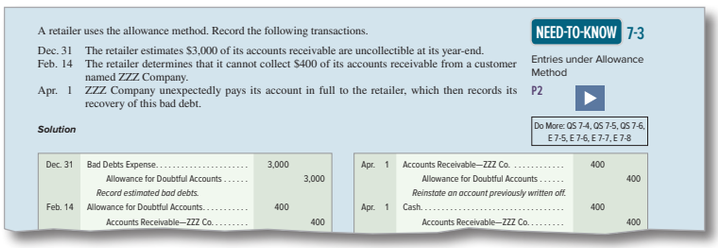
- **Wild offers over 1,000** videos that increase student engagement and improve outcomes.
- Hundreds of **Hint videos** or **Guided Examples** provide a narrated, animated, step-by-step walk-through of most Quick Studies and Exercises similar to those assigned. These short presentations, which can be turned on or off by instructors, provide reinforcement when students need it most. (Exercise PowerPoints are available for instructors.)
- **Concept Overview Videos** cover each chapter's learning objectives with narrated, animated presentations that frequently assess comprehension using interactive Knowledge Checks. Grading of Knowledge Checks can be turned on or off by instructors.

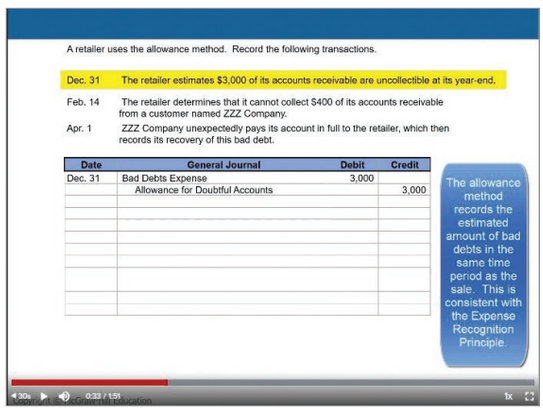


Need-to-Know Demos

Need-to-Know demonstrations are located at the end of each learning block. There are multiple learning blocks within each chapter. These demonstrations pose questions about the material just presented—content that students "need to know" to learn accounting. Accompanying solutions walk students through key procedures and analyses necessary to be successful with homework and test materials.

Need-to-Know demonstrations are supplemented with narrated, animated, step-by-step walk-through videos led by an instructor, which are available via **Connect**.





Remote Proctoring & Browser-Locking

connect + proctorio

New remote proctoring and browser-locking capabilities, hosted by Proctorio within Connect, provide control of the assessment environment by enabling security options and verifying the identity of the student.

Seamlessly integrated within Connect, these services allow instructors to control students' assessment experience by restricting browser activity, recording activity during assessment, and verifying students are doing their own work.

Instant and detailed reporting gives instructors an at-a-glance view of potential academic integrity concerns, thereby avoiding personal bias and supporting evidence-based claims.

Engaging Content . . .

Business Decisions

Whether we prepare, analyze, or apply accounting information, one skill remains essential: decision making. To help develop good decision-making habits and to show the relevance of accounting, we use a decision-learning framework.

- **Decision Insight** offers context for business decisions.
- **Decision Ethics** and **Decision Maker** are role-playing scenarios that show the relevance of accounting.
- **Decision Analysis** provides key tools and ratios to assess company performance.

Decision Insight

Big Data The SEC keeps an online database called **EDGAR** (sec.gov/edgar) that has accounting information for thousands of companies, such as **Columbia Sportswear**, that issue stock to the public. The annual report filing for most publicly traded U.S. companies is known as Form 10-K, and the quarterly filing is Form 10-Q. Information services such as Finance.Yahoo.com offer online data and analysis. ■

Decision Ethics

Financial Officer At year-end, the president instructs you, the financial officer, not to record accrued expenses until next year because they will not be paid until then. The president also directs you to record in current year sales a recent purchase order from a customer that requires merchandise to be delivered two weeks after the year-end. Your company would report a net income instead of a net loss if you follow these instructions. What do you do? ■ *Answer:* Omitting accrued expenses and recognizing revenue early mislead financial statement users. One action is to explain to the president what is required. If the president persists, you might talk to lawyers and any auditors involved.

Decision Maker

Investor A publisher signs an Olympic athlete to write a book. The company pays the athlete $500,000 to sign plus future book royalties. A note to the company's financial statements says, "prepaid expenses include $500,000 in author signing fees to be matched against future expected sales." How does this affect your analysis? ■ *Answer:* Prepaid expenses are assets paid for in advance of receiving their benefits–they are expensed as they are used up. As an investor, you are concerned about the risk of future book sales. The riskier the likelihood of future book sales is, the more likely your analysis is to treat the $500,000, or a portion of it, as an expense, not a prepaid expense (asset).

Inventory Turnover and Days' Sales in Inventory — **Decision Analysis**

Inventory Turnover

Inventory turnover, also called *merchandise inventory turnover,* is defined in Exhibit 5.13. Inventory turnover tells how many *times* a company turns over (sells) its inventory in a period. It is used to assess whether management is doing a good job controlling the amount of inventory. A low ratio means the company may have more inventory than it needs or is struggling to sell inventory. A very high ratio means inventory might be too low. This can cause lost sales if customers must back-order merchandise. Inventory turnover has no simple rule except to say *a high ratio is preferable if inventory is adequate to meet demand.*

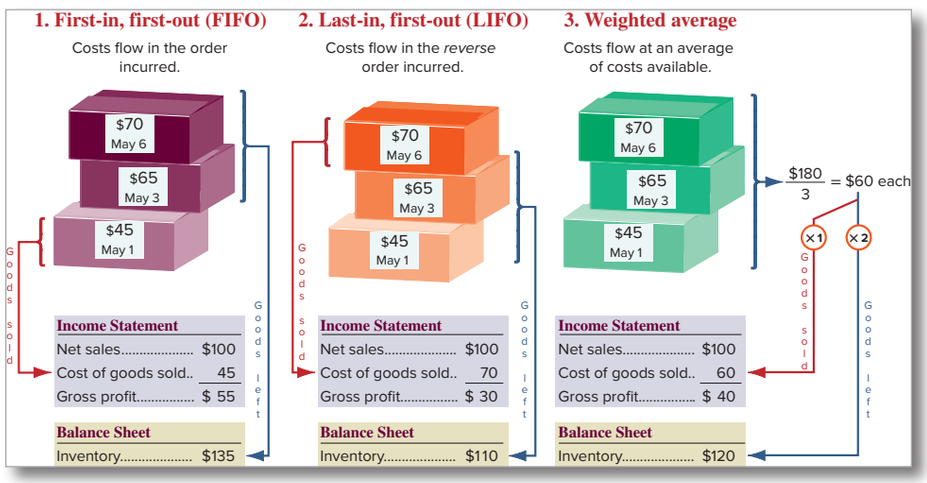
A3
Assess inventory management using both inventory turnover and days' sales in inventory

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

EXHIBIT 5.13
Inventory Turnover

Visual Learning

Learning science tells us today's students learn better with visual aids supporting blocks of text. Wild has adapted to student needs by having informative visual aids throughout. Many visuals and exhibits are new to this edition.



Exercise Presentations

Animated PowerPoints, created from text assignments, enable instructors to be fully prepared for in-class demonstrations. Instructors can use these animated PowerPoints along with their own audio to record personalized online lectures.

Less Is More

Wild is more direct, concise, and systematic than competing books covering the same content.

- The text is to the point and uses visuals to aid student learning.
- Bullet-point discussions and active writing aid learning.

Cheat Sheets

Cheat Sheets are provided at the end of each chapter to reinforce student learning. Cheat Sheets are roughly one page in length and include key procedures, concepts, journal entries, and formulas.

Summary: Cheat Sheet

MERCHANDISING ACTIVITIES

Merchandise: Goods a company buys to resell.
Cost of goods sold: Costs of merchandise sold.
Gross profit (gross margin): Net sales minus cost of goods sold.
Computing net income (service company vs. merchandiser):

Service Company

Revenues — Minus → Expenses — Equals → Net income

Merchandiser

Net sales — Minus → Cost of goods sold — Equals → Gross profit — Minus → Expenses — Equals → Net income

Inventory: Costs of merchandise owned but not yet sold. It is a current asset on the balance sheet.

Merchandise Cost Flows:

Net purchases + Beginning inventory → Merchandise available for sale → Cost of goods sold + Ending inventory

Perpetual inventory system: Updates accounting records for each purchase and each sale of inventory.
Periodic inventory system: Updates accounting records for purchases and sales of inventory only at the end of a period.

MERCHANDISING PURCHASES

Cash discount: A purchases discount on the price paid by the buyer, or a sales discount on the amount received for the seller.
Credit terms example: "2/10, n/60" means full payment is due within 60 days, but the buyer can deduct 2% of the invoice amount if payment is made within 10 days.
Gross method: Initially record purchases at gross (full) invoice amounts.

Purchasing Merchandise for Resale Entries:

Purchasing merchandise on credit	Merchandise Inventory	500	
	Accounts Payable		500
Paying within discount period (Inventory reduced by discount taken)	Accounts Payable	500	
	Merchandise Inventory		10
	Cash		490
Paying outside discount period	Accounts Payable	500	
	Cash		500
Recording purchases returns or allowances	Cash or Accounts Payable	30	
	Merchandise Inventory		30

Transportation Costs and Ownership Transfer Rules:

Shipping Terms	Ownership Transfers at	Goods in Transit Owned by	Transportation Costs Paid by
FOB shipping point	Shipping point	Buyer	**Buyer** Merchandise Inventory . . . # / Cash . . . . . #
FOB destination	Destination	Seller	**Seller** Delivery Expense . . . . . # / Cash . . . . . #

Keep It Real

Research shows that students learn best when using current data from real companies. Wild uses the most current data from real companies for assignments, examples, and analysis in the text. See Chapter 13 for samples on the use of real data.

APPLE
GOOGLE
Samsung

EXHIBIT 13.10
Common-Size Graphic of Income Statement

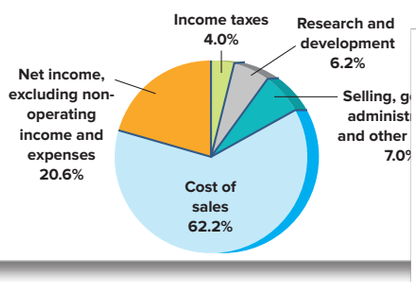
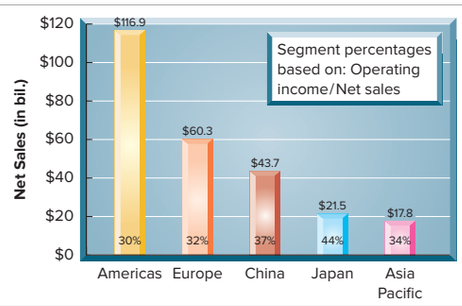


EXHIBIT 13.11
Sales and Operating Income Margin by Segment



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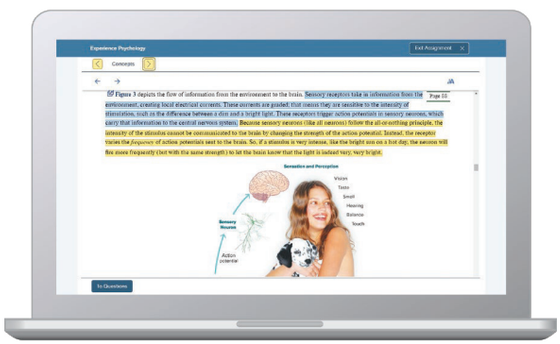

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"I really liked this app—it made it easy to study when you don't have your textbook in front of you."

- Jordan Cunningham, Eastern Washington University

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Leading Edge Content . . .

Instructors and students guided this edition's revisions. Those revisions include the following.

- New **Tableau Dashboard Activities** expose students to accounting analytics and visualizations with 3 assignments per chapter.
- New **Analytics Insight** boxes highlight accounting analytics in business.
- New coverage of artificial intelligence, Bitcoin, data analytics, blockchain, and other emerging topics.
- New **Applying Excel** and **Excel Simulations** enhance skills for career readiness.
- Expanded **General Ledger** assignments let students engage with general ledger software tools similar to those in practice.
- Content is up-to-date for GAAP, including revenue recognition, investments, and leases.
- Content is concise and succinct; new edition has fewer pages with no loss of content and text organized into learning blocks.
- More than 128 new assignments—all in Connect with static and algorithmic options.
- Gross method used for merchandising transactions, reflecting practice; adjusting entries for full revenue recognition in appendix.
- **Cheat Sheets** at each chapter-end visually reinforce key chapter content and provide a search map for students.
- Updated Accounting Analysis assignments—all in Connect and auto-gradable—use data from **Apple**, **Google**, and **Samsung**.
- Auto-gradable Concept Overview Videos for each learning objective.

Chapter 1

NEW opener—**Netflix** and entrepreneurial assignment.
Streamlined conceptual learning objectives.
New sections on AI and analytics in accounting.
Coverage of SOX Act moved to Chapter 6.
New and improved NTK 1-2.
New and simplified NTK 1-5.
Appendices 1A and 1B are now by request only.
Updated return on assets analysis using **Nike** and **Under Armour**.
Added five new Quick Studies.
Added six new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 2

NEW opener—**Stitch Fix** and entrepreneurial assignment.
Streamlined learning objectives.
New and enhanced Exhibit 2.1 shows the relation between balance sheet accounts.
New Analytics Insight on blockchain ledger.
New and improved NTK 2-4.
Updated debt ratio analysis using **Costco** and **Walmart**.
Added four new Quick Studies.
Added six new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 3

NEW opener—**Sword & Plough** and entrepreneurial assignment.
Combined learning objectives on adjusted trial balance and financial statements.
New Analytics Insight on accounting for Bitcoin.
Revised and improved NTK 3-6.
Enhanced Exhibit 3.21 simplifies a classified balance sheet.
Revised NTK 3-7 for clarity.
Added twelve new Quick Studies.
Added twenty new Exercises.
Added four new Problems.
Updated profit margin analysis using **Visa** and **Mastercard.**
Updated current ratio analysis using **Costco** and **Walmart.**
Updated analysis assignments.

Chapter 4

Content complies with revenue recognition rules according to GAAP.
NEW opener—**Kendra Scott** and entrepreneurial assignment.
Streamlined learning objectives.
New Analytics Insight box on extending timing of payments.
Coverage of defective returned goods left to advanced courses.
Updated acid-test ratio and gross margin analysis using **Nike** and **Under Armour**.
Entries for net method of periodic inventory left to advanced courses.
Added four new Quick Studies.
Added one new Exercise.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 5

NEW opener—**Amazon** and entrepreneurial assignment.
Streamlined conceptual learning objectives.
New Exhibit 5.1 on shipping terms.
Revised Exhibit 5.4 so that format is consistent for all inventory calculations (which matches Connect).
Revised NTK 5-2 and NTK 5-6 solutions on specific identification for consistency with text and Connect.
Removed income taxes from Exhibits 5.8 and 5A.6 to focus on cost of goods sold impact.
Revised Exhibits 5A.2, 5A.3, 5A.4, and 5A.5 for consistency with Connect and accounting software.
Revised NTK 5-5 and NTK 5-7 solutions for consistency with text.
Updated inventory turnover and the days' sales in inventory analysis using **Costco** and **Walmart**.
Added three new Quick Studies.
Added two new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 6

NEW opener—**Didi** and entrepreneurial assignment.
New section on blockchain and its implications for accounting.
Revised and improved NTK 6-1.
Enhanced and modernized Exhibit 6.5.
Enhanced and modernized Exhibit 6.6 to be consistent with online banking.
Removed collection expenses and NSF fees—most are immaterial and covered in advanced courses.
Updated days' sales uncollected analysis using **Starbucks** and **Jack in the Box**.
Added five new Quick Studies.
Added one new Exercise.
New Tableau Dashboard Activities: Quick Study, Exercise, and Mini-Case.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 7

NEW opener—**Credit Karma** and entrepreneurial assignment.
Removed coverage of store credit cards as nearly all are now managed by banks and accounted for as bank credit cards.
New Analytics Insight on predicting bad debts.
Excel demos to compute maturity dates.
Updated accounts receivable analysis using **Visa** and **Mastercard**.
Added four new Quick Studies.
Added six new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 8

NEW opener—**SpaceX** and entrepreneurial assignment.
Plant asset impairments left to advanced courses.
Added simple exhibit on reporting natural resources.
Updated asset turnover analysis using **Starbucks** and **Jack in the Box**.
Simplified NTK 8-6 by removing part 6.
Added seven new Quick Studies.
Added two new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 9

NEW opener—**Zumba** and entrepreneurial assignment.

Updated payroll tax rates and explanations.
New employee and employer payroll taxes summary table.
Revised and simplified NTK 9-3.
Simplified NTK 9-5 by removing part g.
Updated Forms 941, W-2, and W-4 in Appendix 9A.
Added five new Quick Studies.
Added three new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 10

NEW opener—**Airbnb** and entrepreneurial assignment.
Streamlined learning objectives.
Enhanced explanation of relation between bond issue price, contract rate, and market rate.
Simplified numbers in Exhibit 10.7.
Simplified Exhibit 10.10 on premium bonds.
Simplified numbers in Exhibit 10.11.
Coverage of convertible bonds left to advanced courses.
New section on Installment Notes with Monthly Payments.
Updated debt-to-equity analysis using **Nike** and **Under Armour**.
Bond pricing demos are consistent with text and covered in Appendix 10A.
Simplified numbers in Exhibits 10B.1 and 10B.2.
Added four new Quick Studies.
Added one new Exercise.
Added two new Problems.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 11

NEW opener—**Eventbrite** and entrepreneurial assignment.
Streamlined analytical learning objectives.
New Analytics Insight on bots investing in stocks based on erroneous news.
Coverage of retained earnings deficit and liquidating cash dividends left to advanced courses.
Coverage of participating or nonparticipating left to advanced courses.
Revised and simplified statement of equity in Exhibit 11.10.
Updated PE ratio and dividend yield using **Amazon**, **Altria**, **Visa**, and **Mastercard**.
Book value per share computation left to advanced courses.
Revised NTK 11-5 by removing part 2.
Added two new Quick Studies.
Added four new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 12

Slightly revised infographics on cash flows from operating, investing, and financing.
Updated cash flow on total assets analysis using **Nike** and **Under Armour**.
Added one new Quick Study.
Added two new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Chapter 13

Streamlined conceptual learning objectives.
Updated data for all analyses of **Apple** using horizontal, vertical, and ratio analysis.
Updated comparative analysis using **Google** and **Samsung**.
Updated data visualizations with current data.
Added gross margin ratio to profitability analysis.
Revised and simplified return on equity calculation.
Added seven new Quick Studies.
Added one new Exercise.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

Appendix A

New financial statements for **Apple**, **Google**, and **Samsung**.

Appendix C

All content updated for new investment rules per GAAP.
Revised and simplified Exhibit C.2 for new standard on investments.
Updated component-returns analysis using **Costco** and **Walmart**.
New Cheat Sheet reinforces chapter content.
Added two new Quick Studies.
Added two new Exercises.
Updated analysis assignments: Company Analysis, Comparative Analysis, and Extended Analysis.

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Financial Accounting Fundamentals

1 Managerial Accounting Concepts and Principles

Chapter Preview

MANAGERIAL ACCOUNTING BASICS

C1 Introducing managerial accounting

Fraud and ethics

Career paths

NTK 1-1

COST CONCEPTS

C2 Direct vs. indirect

Manufacturing costs

Prime vs. conversion

Product vs. period

NTK 1-2

REPORTING

P1 Manufacturer vs. merchandiser vs. service company

Balance sheet

Income statement

NTK 1-3

COST FLOWS

C3 Flow of activities

P2 Schedule of cost of goods manufactured

C4 Trends

A1 Inventory analysis

NTK 1-4

Learning Objectives

CONCEPTUAL

C1 Explain the roles and ethics of managerial accounting.

C2 Describe accounting concepts useful in classifying costs.

C3 Explain manufacturing activities and the flow of manufacturing costs.

C4 Describe trends in managerial accounting.

ANALYTICAL

A1 Assess raw materials inventory management using raw materials inventory turnover and days' sales in raw materials inventory.

PROCEDURAL

P1 Prepare an income statement and balance sheet for a manufacturer.

P2 Prepare a schedule of cost of goods manufactured and explain its purpose and links to financial statements.

Best Face Forward

"Use digital media to drive business"—**TEANNA BASS**

ST. LOUIS—Teanna Bass dreamed of her own cosmetics business. After some research, and a company name from her twin sister, Teanna launched **Sweet Tea Cosmetics** in her college's student union. Teanna's goal: "Give the customer the best experience."

Getting the right materials was Teanna's first step. She chose to buy her cosmetics rather than make them herself. "Sourcing is very important," explains Teanna. She chose her supplier in part for its sustainable business practices such as using glass containers instead of plastic.

Teanna next set up her accounting system, which required basic managerial principles and cost classifications. Though not an accounting major, Teanna drew on her introductory accounting courses, and guidance from her aunt (an accountant), to keep her records. "I do it all," admits Teanna.

Analytics and visualization through social media are key to Teanna's strategy. She uses analytics—likes per post, comments per post, profile visits, website clicks—to measure follower engagement. This helped Teanna double her Instagram followers and increase revenues. "The right picture at the right time" is crucial, says Teanna.

Teanna continues to study business-to-business development and is considering a subscription model. She uses a *four-H model*—"be humble, have a heart, ask for help, and be hungry." Adds Teanna, "Be passionate about what you do."

Courtesy of Teanna Bass/photographer Chelsea Priebe

Sources: Sweet Tea Cosmetics *Facebook*, January 2021; *Columbia Missourian*, November 2018; *Vox magazine*, December 2018; Author interview, July 2019

MANAGERIAL ACCOUNTING BASICS

Managerial accounting provides financial and nonfinancial information to an organization's managers. Managers control or direct a company or one of its many parts. Examples are an employee in charge of a company division, the head of marketing, the information technology officer, the human resources head, and top-level managers such as the chief executive officer (CEO) and chief financial officer (CFO). This section explains the purpose of managerial accounting (also called *management accounting*) and compares it with financial accounting.

C1

Explain the roles and ethics of managerial accounting.

Purpose of Managerial Accounting

Managerial accounting provides useful information to aid in

- Determining the costs of an organization's products and services.
- Planning future activities.
- Comparing actual results to planned results.

For example, managerial accounting helps marketing managers decide whether to advertise on social media such as **Twitter**. Managerial accounting also helps **Google**'s information technology manager decide whether to buy new computers.

The managerial accounting system collects cost information and assigns it to an organization's products and services. Costs are important to managers because they impact the financial position and profitability of a business. Costs are also important for decisions such as product pricing, profitability analysis, and whether to make or buy a product.

Much of managerial accounting involves gathering information for planning and control. **Planning** is the process of setting goals and making plans to achieve them. Companies make long-term strategic plans that usually span 5 to 10 years. Strategic plans are then turned into short-term *action plans,* which are more concrete with better-defined goals. A short-term action plan that includes dollar amounts is known as a *budget.*

Control is the process of monitoring and evaluating an organization's activities and employees. Feedback from the control function helps managers compare actual results with planned results and take corrective actions. Exhibit 1.1 shows the relation between planning and control and the types of questions managerial accounting helps answer.

EXHIBIT 1.1

Planning and Control

Nature of Managerial Accounting

Exhibit 1.2 highlights key differences between managerial accounting and financial accounting.

EXHIBIT 1.2

Managerial Accounting vs. Financial Accounting

Attribute	Financial Accounting 	Managerial Accounting 
Users	External users: Investors, creditors, and others outside of the company's managers	Internal users: Managerial and executive employees inside the company
Purpose	Help external users make investment, credit, and other decisions	Help managers make planning and control decisions
Flexibility of reporting	Structured and controlled by GAAP	Relatively flexible (no GAAP rules)
Timeliness	Often available only after an audit	Available quickly without an audit
Time dimension	Past performance using historical information.	Current performance and future projections using mostly real-time information
Focus	The whole company	A company's projects, processes, and divisions
Nature	Monetary information	Mostly monetary; some nonmonetary

Users of Accounting Information Companies report to different groups of decision makers. Financial accounting information is provided primarily to external users including investors, creditors, and regulators. Managerial accounting information is provided primarily to internal managerial and executive employees who are in charge of a company's business activities.

Purpose of Information External users of financial accounting information often decide whether to invest in or lend to a company. Internal decision makers use managerial accounting information to understand, analyze, plan, and control company activities.

Flexibility of Reporting Financial accounting follows concepts and rules known as generally accepted accounting principles (GAAP) to provide consistency and comparability of financial statements across companies. Managerial accounting provides internal information and is more flexible (not rules-based), reflecting the needs of managers to analyze, plan, and control products and processes.

Timeliness of Information Financial accounting provides information to external users following required time periods (such as annual and quarterly). Many financial statements are delayed until an audit is done. Managerial accounting provides information to internal users as they request it. This can be as immediate and frequent as demanded.

Time Dimension External users of financial accounting information get historical reports using information that is often months old. Internal users of managerial accounting information often get real-time reports that are used to evaluate current performance, plan future activities, and make projections.

Focus of Information External users of financial accounting information often focus on the performance of a company as a whole for investing and lending decisions. Internal users of managerial accounting information often focus on a specific activity, product, department, or division for which they are responsible. For example, an investor of **Apple** might focus on income growth. An Apple production manager might focus on cost control at its Mac production facility.

Nature of Information Both financial and managerial accounting reports have monetary information. Managerial accounting reports also have *nonmonetary* information, which includes customer and employee satisfaction data, percentage of on-time deliveries, product defect rates, energy from renewable sources, and employee diversity.

Fraud and Ethics in Managerial Accounting

Fraud affects all business and it is costly: The Association of Certified Fraud Examiners (ACFE) estimates the average U.S. business loses 5% of its revenues to fraud.

The fraud triangle in Exhibit 1.3 shows *three* factors that push a person to commit fraud.

- **Opportunity**. A person must be able to commit fraud with a low risk of getting caught.
- **Pressure**, or incentive. A person must feel pressure or have incentive to commit fraud.
- **Rationalization**, or attitude. A person justifies fraud or does not see its criminal nature.

EXHIBIT 1.3

Fraud Triangle

Implications of Fraud for Managerial Accounting The key to stopping fraud is prevention. It is less expensive and more effective to prevent fraud than to detect it. To help prevent fraud, managers set up internal controls. An **internal control system** is procedures managers use to

- Ensure reliable accounting.
- Protect assets.
- Uphold company policies.
- Promote efficiency.

Joe Prachatree/Shutterstock

Combating fraud requires ethics in accounting. **Ethics** are beliefs that distinguish right from wrong. They are accepted standards of good and bad behavior. The **Institute of Management Accountants (IMA)** requires that management accountants be competent, maintain confidentiality, act with integrity, and communicate information in a fair and credible manner.

Career Paths

Managerial accountants are highly regarded, and their professional standing is sometimes denoted by a certificate. Certified management accountants (CMAs) must meet education and experience requirements, pass an exam, and be ethical. Many accounting specialists hold certificates in addition to or instead of the CMA. One of the most common is certified public accountant (CPA). Employers also want specialists with designations such as certified financial manager (CFM), certified internal auditor (CIA), certified bookkeeper (CB), certified payroll professional (CPP), certified fraud examiner (CFE), and certified forensic accountant (CrFA).

Managerial accountants are in demand. Exhibit 1.4 reports average annual salaries for several accounting positions. Salaries vary based on location, company size, and other factors.

EXHIBIT 1.4

Accounting Salaries

Top-Level Managers	Annual Salary
Chief financial officer (CFO)	$290,000
Controller/Treasurer	180,000

Senior-Level Managers	Annual Salary
Division controller	$130,000
General manager	105,000

Mid- and Entry-Level Jobs	Annual Salary
Financial analyst	$85,000
Senior accountant	85,000
Junior accountant	60,000

Managerial accounting skills are highly valued and are useful in many careers.

- **Marketing** uses sales and cost data to decide which products to promote.
- **Management** uses sales staff performance data for bonuses.
- **Entrepreneurs** use costs, budgets, and financial reports for financing.
- **Decision makers** in both for-profit and non profit organizations use accounting data to make informed decisions and secure financing from donors.

Caia Image/Image Source

Analytics Insight

Jump Start Kickstarter's crowdfunding site allows budding entrepreneurs to seek financing. Analytics can be used to tailor one's pitch—most successfully funded projects seek less than $10,000. About 37% of all projects are fully funded, with over 60% of theater and dance projects funded, but less than 30% of fashion and food projects funded. ■

NEED-TO-KNOW 1-1

Managerial Accounting Basics

C1

Do More: QS 1-1, E 1-1

Following are aspects of accounting information. Classify each as relating more to financial accounting or to managerial accounting.

1. Primary users are external
2. Includes more nonmonetary information
3. Focuses more on the future
4. Uses many estimates and projections
5. Controlled by GAAP
6. Used in managers' planning decisions
7. Focuses on the whole organization
8. Not constrained by GAAP

Solution

	Financial	Managerial
1. Primary users are external	X	
2. Includes more nonmonetary information		X
3. Focuses more on the future		X
4. Uses many estimates and projections		X
5. Controlled by GAAP	X	
6. Used in managers' planning decisions		X
7. Focuses on the whole organization	X	
8. Not constrained by GAAP		X

COST CONCEPTS

C2

Describe accounting concepts useful in classifying costs.

This section explains how to classify costs. We demonstrate these cost classifications with Rocky Mountain Bikes, a manufacturer of bicycles.

Direct versus Indirect

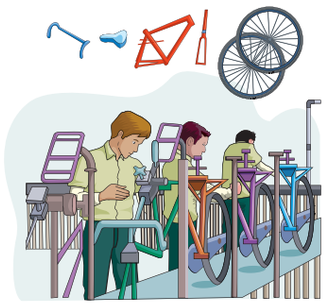
Costs can be classified as direct or indirect, depending on their link to a cost object. A **cost object** is a product, process, department, or customer to which costs are assigned. Rocky Mountain Bikes' cost object is a bicycle.

- **Direct costs** are costs that *can* be cost-effectively traced to a cost object and consist of direct materials and direct labor. *Direct materials* for a bicycle include tires, frame, seat, chain, and so on. *Direct labor* for a bicycle includes wages and benefits of the workers making the bikes. See Exhibit 1.5.
- **Indirect costs** are costs that *cannot* be cost-effectively traced to a cost object. Indirect costs include the salary of a manufacturing supervisor, who monitors production but does not actually make bikes. That supervisor's salary cannot be directly traced to bikes. Another example of indirect costs is the wages of maintenance department employees who clean the factory. These wages cannot be directly traced to bikes.

Exhibit 1.5 lists examples of direct and indirect costs for a bicycle manufacturer.

EXHIBIT 1.5

Direct and Indirect Costs



Direct Costs (for bicycle)		Indirect Costs (for bicycle)
• Tires	• Frames	• Factory accounting
• Seats	• Chains	• Factory administration
• Handlebars	• Brakes	• Factory rent
• Cables	• Pedals	• Factory manager's salary
• Bike maker wages	• Bike maker benefits	• Factory light and heat
		• Factory insurance
		• Factory equipment depreciation*

*Except units-of-production.

Manufacturing Costs

Direct Materials

Direct materials are materials that are crucial parts of a finished product. **Direct materials costs** are costs for direct materials that *can* be cost-effectively traced through the manufacturing process to finished goods. Examples of direct materials in manufacturing a bike include its tires, seat, frame, pedals, brakes, cables, gears, and handlebars.

Direct Labor

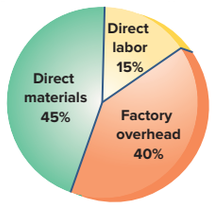
Direct labor refers to employees who directly convert materials to finished goods. **Direct labor costs** are the wages and benefits for direct labor that *can* be cost-effectively traced through the manufacturing process to finished goods. Examples of direct labor in manufacturing a bike include operators directly converting raw materials into finished goods (welding, painting, forming) and assembly workers who attach materials such as tires, seats, pedals, and brakes.

Factory Overhead

Factory overhead, also called *manufacturing overhead* or *overhead,* includes all manufacturing costs that are not direct materials or direct labor. **Factory overhead costs** are manufacturing costs that *cannot* be cost-effectively traced to finished goods. Factory overhead costs include indirect materials, indirect labor, and other indirect costs.

- **Indirect materials** are materials used in manufacturing that *cannot* be cost-effectively traced to finished goods. Materials are often classified as indirect materials when their costs are low. Examples include screws and nuts used in assembling bikes, and staples and glue used in manufacturing shoes.
- **Indirect labor** is labor needed in manufacturing that *cannot* be cost-effectively traced to finished goods. Indirect labor costs are the costs of workers who assist in or supervise manufacturing. Examples include costs for employees who maintain and repair manufacturing equipment and salaries of production supervisors. Those workers do not assemble products but are indirectly involved in production.
- ***Other indirect costs*** include factory utilities (water, gas, electricity), factory rent, depreciation on factory buildings and equipment, factory insurance, and property taxes on factory buildings.

Typical Manufacturing Costs



Direct materials
+ Direct labor
+ Factory overhead
= Total manufacturing costs

Prime and Conversion Costs

We can classify product costs into prime costs or conversion costs as in Exhibit 1.6.

- **Prime costs** consist of direct materials costs and direct labor costs.
- **Conversion costs** are costs incurred in converting raw materials to finished goods. Conversion costs consist of direct labor and factory overhead.

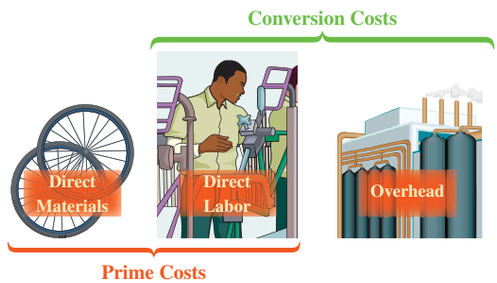


EXHIBIT 1.6

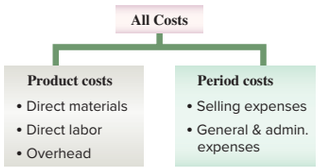
Prime Costs and Conversion Costs

Conversion costs =
Direct labor + Factory overhead

Prime costs =
Direct materials + Direct labor

Product versus Period Costs

Costs can be classified as product costs or period costs. Exhibit 1.7 lists product and period costs for a bicycle manufacturer.



- **Product costs** are production costs necessary to create a product and consist of direct materials, direct labor, and factory overhead. Product costs are added to inventory, or *capitalized,* during manufacturing of products. When products are sold, these costs are expensed as cost of goods sold.
- **Period costs** are nonproduction costs linked to a time period (not to specific products). Period costs are expensed in the period when incurred and reported on the income statement as either selling expenses or general and administrative expenses. Common examples of selling expenses are advertising, delivery, and salesperson salaries, commissions, and travel expenses. Common examples of general and administrative expenses are office accounting expenses, office employee wages, office rent, depreciation on office equipment, and office manager salaries. For a manufacturer, period costs are also called *nonmanufacturing costs*.

Nonmanufacturing costs
Selling expenses
+ General & admin. expenses
= Total nonmanufacturing costs

EXHIBIT 1.7

Product and Period Costs

Product Costs (for bicycle)			Period Costs (for bicycle)	
Direct Costs		**Indirect Costs**	**Selling Expenses**	**General & Administrative Expenses**
• Tires	• Frames	• Factory accounting	• Advertising	• Office accounting
• Seats	• Chains	• Factory rent	• Promotional materials	• Office employee wages
• Handlebars	• Brakes	• Factory manager's salary	• Salesperson salaries	• Office rent
• Cables	• Pedals	• Factory light and heat	• Salesperson commissions	• Office equipment depreciation
• Bike maker wages	• Bike maker benefits	• Factory Insurance	• Salesperson travel	• Office insurance
		• Factory equipment depreciation*	• Salesperson smartphone	• Office manager's salary
		*Except units-of-production.		

Reporting Product and Period Costs Exhibit 1.8 shows the financial statement effects of product and period costs.

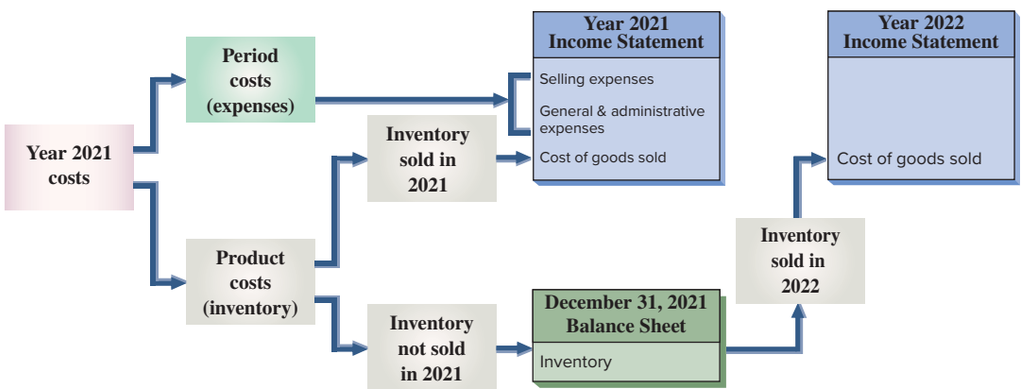
- Period costs go directly to the current income statement as expenses.
- Product costs are first assigned to inventory. They move to cost of goods sold when inventory is sold.

Point: Product costs are either in the income statement as part of cost of goods sold or in the balance sheet as inventory. Period costs appear only on the income statement.

Product costs assigned to inventory that is sold in 2021 are reported on the 2021 income statement as cost of goods sold. Product costs assigned to inventory not sold in 2021 are reported on the 2021 balance sheet. If this inventory is sold in 2022, product costs assigned to it are reported as cost of goods sold in the 2022 income statement.

EXHIBIT 1.8

Product and Period Costs in Financial Statements



Cost Concepts for Service Companies

Managers in service companies apply cost concepts. A **Southwest Airlines** manager traces flight crew salaries, food, fuel, and oil costs to specific flights. These are *direct costs* of a flight. Southwest

does not trace *indirect costs* such as ground crew wages to specific flights. (Classification as product versus period costs is not relevant to service companies as costs of services are not reported in inventory.) Travel agent fees and office manager salaries are neither directly nor indirectly related to flights.

Service companies can also classify costs into direct materials, direct labor, overhead, selling, or general and administrative costs. Selling expenses and General and administrative expenses for a service company are period costs unrelated to performing its services.

Exhibit 1.9 lists cost classifications for an airline when the cost object is a flight. No matter how each cost is classified, all service company costs are expensed when incurred.

Digital Vision/PunchStock

EXHIBIT 1.9

Service Company Cost Classification

Costs for Airline Company	Direct or Indirect	Cost Classification
Beverages and snacks	Direct	Direct materials
Pilot salaries	Direct	Direct labor
Flight attendant salaries	Direct	Direct labor
Fuel and oil costs	Direct	Direct materials
Travel agent fees	Neither	Selling
Ground crew wages	Indirect	Overhead
Maintenance crew wages	Indirect	Overhead
Office manager salary	Neither	General and administrative

Decision Maker

Entrepreneur You wish to trace as many of your assembly department's direct costs as possible. You can trace 90% of them in a cost-effective manner. To trace the other 10%, you need sophisticated and costly accounting software. Do you buy this software? ■ *Answer:* Tracing costs directly to cost objects is desirable if it is cost-effective. If the cost of purchasing and maintaining the software is greater than the benefit of tracing the other 10%, do not buy the software.

NEED-TO-KNOW 1-2

Cost Classification

C2

Following are selected costs of a computer chip manufacturer. Classify each as either a product cost or a period cost. Then classify each of the product costs as direct material, direct labor, or overhead.

1. Plastic boards used to mount chips
2. Advertising
3. Factory maintenance salaries
4. Sales office rent
5. Factory rent
6. Factory supervisor salary
7. Depreciation on factory equipment
8. Assembly worker hourly pay to make chips

Solution

	Product Cost			Period Cost
	Direct Material	Direct Labor	Overhead	
1. Plastic boards used to mount chips	X			
2. Advertising				X
3. Factory maintenance salaries			X	
4. Sales office rent				X
5. Factory rent			X	
6. Factory supervisor salary			X	
7. Depreciation on factory equipment			X	
8. Assembly worker hourly pay to make chips		X		

Do More: QS 1-2, QS 1-3, QS 1-4, E 1-5, E 1-6

REPORTING

Companies with manufacturing activities differ from both merchandising and service companies.

- **Target** is a merchandiser. It buys and sells goods without physically changing them.
- **Adidas** is a manufacturer of shoes and apparel. It purchases materials such as cloth, dye, plastic, glue, and laces and converts them to products.

P1

Prepare an income statement and balance sheet for a manufacturer.

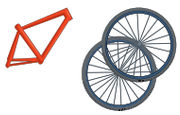
- **Southwest Airlines** is a service company that transports people.
- **Best Buy** is a merchandiser that also provides services via Geek Squad, showing that some companies pursue multiple activities.

Because manufacturing activities are different than those for merchandising and service companies, their reporting is different.

Point: Materials that *cannot* be cost-effectively traced to a product (such as staples or glue) are called indirect materials and included in overhead.

Reporting Inventory on the Balance Sheet

Manufacturers report three types of inventories: raw materials, work in process, and finished goods.



Raw Materials Inventory

Raw materials inventory is the cost of materials a company acquires to use in making products. Raw materials that *can* be cost-effectively traced to a product are called *direct materials* and are included in raw materials inventory.

Work in Process Inventory

Work in process inventory, also called *goods in process inventory,* consists of the costs of direct materials, direct labor, and overhead for partially completed products.

Finished Goods Inventory

Finished goods inventory consists of the costs of direct materials, direct labor, and overhead of completed products ready for sale.

Manufacturer Balance Sheet

The current assets section of the balance sheet for a manufacturer is different than that for merchandising and service companies. A manufacturer reports three types of inventory, a merchandiser reports only merchandise inventory, and a service company usually reports no inventory. Exhibit 1.10 shows the current assets section of the balance sheet for a service company, a merchandiser, and a manufacturer.

EXHIBIT 1.10

Balance Sheets

Service Company

NORTHEAST AIR Current assets section of Balance Sheet December 31	
Assets	
Current assets	
Cash	$11,000
Accounts receivable, net	30,150
Supplies	350
Prepaid insurance	300
Total current assets	$41,800

Merchandising Company

TELE-MART Current assets section of Balance Sheet December 31	
Assets	
Current assets	
Cash	$11,000
Accounts receivable, net	30,150
Merchandise inventory	21,000
Supplies	350
Prepaid insurance	300
Total current assets	$62,800

Manufacturing Company

ROCKY MOUNTAIN BIKES Current assets section of Balance Sheet December 31	
Assets	
Current assets	
Cash	$11,000
Accounts receivable, net	30,150
Raw materials inventory	9,000
Work in process inventory	7,500
Finished goods inventory	10,300
Supplies	350
Prepaid insurance	300
Total current assets	$68,600

Reporting Cost of Goods Sold on the Income Statement

The main difference between the income statement of a manufacturer and that of a merchandiser is the content of cost of goods sold.

Computing Cost of Goods Sold

Exhibit 1.11 compares the calculation of cost of goods sold for a merchandiser with that for a manufacturer.

- *Merchandisers* add cost of merchandise purchased to beginning merchandise inventory and then subtract ending merchandise inventory to compute cost of goods sold.
- *Manufacturers* add cost of goods manufactured to beginning finished goods inventory and then subtract ending finished goods inventory to compute cost of goods sold.

Merchandiser	Beginning merchandise inventory	+	Cost of merchandise purchased	−	Ending merchandise inventory	=	Cost of goods sold
Manufacturer	Beginning finished goods inventory	+	Cost of goods manufactured	−	Ending finished goods inventory	=	Cost of goods sold

EXHIBIT 1.11

Cost of Goods Sold Computation

Key differences in computing cost of goods sold between merchandisers and manufacturers follow.

- Merchandisers have *merchandise inventory*. Manufacturers have *finished goods inventory*.
- Merchandisers have cost of merchandise *purchased*. This is the cost of buying products to sell.
- Manufacturers have cost of goods *manufactured*. This is the cost of direct materials, direct labor, and factory overhead in making finished goods.

Reporting Cost of Goods Sold Exhibit 1.12 highlights differences in the reporting of cost of goods sold on the income statement for a service, a merchandising, and a manufacturing company. Because a service company does not make or buy inventory to sell, it does not report cost of goods sold.

EXHIBIT 1.12

Income Statements

Service Company

NORTHEAST AIR
Income Statement
For Year Ended December 31

Revenues	$310,000
Selling expenses	209,600
Gen. & admin. exp.	54,400
Net income	$ 46,000

Merchandising Company

TELE-MART
Income Statement
For Year Ended December 31

Sales	$310,000
Cost of goods sold	
Merchandise inventory, beginning	14,200
Cost of merchandise purchased	169,300
Goods available for sale	183,500
Less merchandise inventory, ending	12,100
Cost of goods sold	171,400
Gross profit	138,600
Selling expenses	38,200
General and admin. expenses	54,400
Net income	$ 46,000

Manufacturing Company

ROCKY MOUNTAIN BIKES
Income Statement
For Year Ended December 31

Sales	$310,000
Cost of goods sold	
Finished goods inventory, beginning	11,200
Cost of goods manufactured	170,500
Goods available for sale	181,700
Less finished goods inventory, ending	10,300
Cost of goods sold	171,400
Gross profit	138,600
Selling expenses	38,200
General and admin. expenses	54,400
Net income	$ 46,000

NEED-TO-KNOW 1-3

Preparing an Income Statement

P1

Use the following information for the month ended April 30 from a manufacturing company and from a merchandising company to prepare an income statement for each company.

Built-Rite Manufacturer	
Sales	$360
Cash	750
Selling expenses	65
General and admin. expenses	55
Finished goods inventory, ending	20
Cost of goods manufactured	120
Finished goods inventory, beginning	105

SaveMart Merchandiser	
Merchandise inventory, ending	$100
Selling expenses	50
Sales	325
General and admin. expenses	28
Cost of merchandise purchased	180
Accounts receivable	125
Merchandise inventory, beginning	110

Solution

Built-Rite Manufacturer Income Statement For Month Ended April 30		
Sales		$360
Cost of goods sold		
Finished goods inventory, beginning	$105	
Cost of goods manufactured	120	
Goods available for sale	225	
Less finished goods inventory, ending	20	
Cost of goods sold		205
Gross profit		155
Selling expenses		65
General and admin. expenses		55
Net income		$ 35

SaveMart Merchandiser Income Statement For Month Ended April 30		
Sales		$325
Cost of goods sold		
Merchandise inventory, beginning	$110	
Cost of merchandise purchased	180	
Goods available for sale	290	
Less merchandise inventory, ending	100	
Cost of goods sold		190
Gross profit		135
Selling expenses		50
General and admin. expenses		28
Net income		$ 57

Do More: QS 1-7 through QS 1-11, E 1-10, E 1-11

COST FLOWS AND COST OF GOODS MANUFACTURED

C3

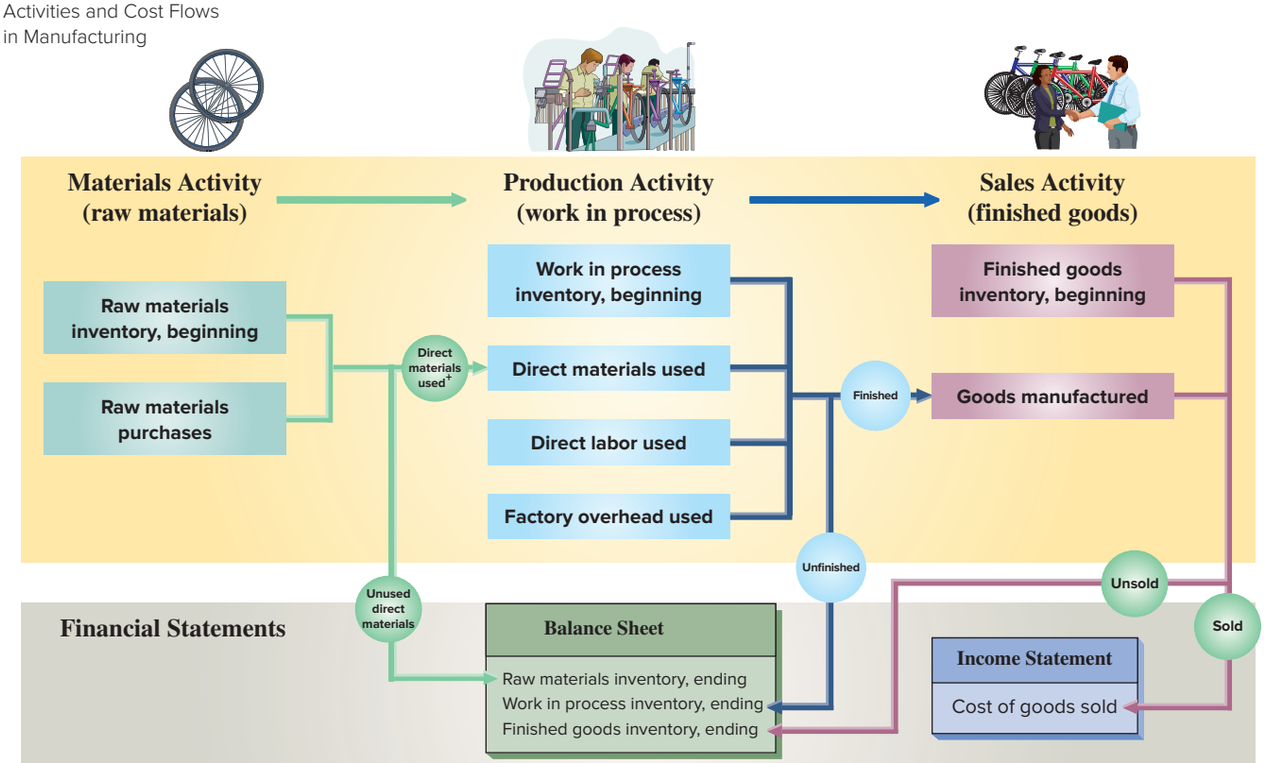
Explain manufacturing activities and the flow of manufacturing costs.

Flow of Manufacturing Activities

Exhibit 1.13 shows the flow of manufacturing activities and their cost flows. Looking across the top row, the activities flow consists of *materials activity* followed by *production activity* followed by *sales activity*.

EXHIBIT 1.13

Activities and Cost Flows in Manufacturing



[1]Indirect materials are $0 in this example. If there were indirect materials used, another line would extend from Raw materials to Factory overhead.

Materials Activity The left side of Exhibit 1.13 shows the flow of raw materials. Manufacturers usually start a period with beginning raw materials inventory left over from the prior period. The company then buys more raw materials in the current period. Adding these purchases to beginning inventory gives *total raw materials available for use* in production. These raw materials are then either used in production in the current period or remain in raw materials inventory at the end of the period for use in future periods.

RM Inventory, beginning
+ RM Purchases
= Total RM available for use

Production Activity The middle section of Exhibit 1.13 describes production activity. Manufacturers usually start a period with beginning work in process inventory, which equals the costs of partially complete products from prior periods. Production then adds the costs of direct materials, direct labor, and factory overhead for the current period. Production activity results in products that are either finished or unfinished at the end of the period.

- Total cost of direct materials, direct labor, and factory overhead for *finished* products makes up the **cost of goods manufactured.** That amount is carried over to the current period income statement in the computation of cost of goods sold.
- Total cost of direct materials, direct labor, and factory overhead for *unfinished* products makes up ending work in process inventory. That amount is carried over to the current period balance sheet.

Sales Activity The right side of Exhibit 1.13 shows the flow of finished goods. Manufacturers usually start a period with beginning finished goods inventory, which is the cost of unsold finished goods from prior periods. Adding this to the cost of newly completed units (goods manufactured) equals *total finished goods available for sale* in the current period. The cost of finished goods sold is reported on the income statement. The cost of any finished goods not sold is reported as a current asset, *finished goods inventory,* on the balance sheet.

FG Inventory, beginning
+ Cost of goods manufactured
= Total FG available for sale

Schedule of Cost of Goods Manufactured

P2

Prepare a schedule of cost of goods manufactured and explain its purpose and links to financial statements.

Manufacturing activities are described in a report called a **schedule of cost of goods manufactured** (also called a *manufacturing statement* or a *statement of cost of goods manufactured*). This schedule lists the types and amounts of costs incurred in manufacturing. Exhibit 1.14 shows the schedule of cost of goods manufactured for Rocky Mountain Bikes.

EXHIBIT 1.14

Schedule of Cost of Goods Manufactured

ROCKY MOUNTAIN BIKES
Schedule of Cost of Goods Manufactured
For Year Ended December 31

	Direct materials		
	Raw materials inventory, beginning	$ 8,000	
(1)	Raw materials purchases	86,500	
	Raw materials available for use	94,500	
	Less raw materials inventory, ending	9,000	
	Direct materials used		$ 85,500
(2)	**Direct labor**		60,000
	Factory overhead		
	Indirect labor	15,000	
	Factory utilities	2,600	
(3)	Repairs—Factory equipment	2,500	
	Property taxes—Factory	4,400	
	Depreciation expense—Factory	5,500	
	Total factory overhead		30,000
	Total manufacturing costs		175,500
	Add work in process inventory, beginning		2,500
(4)	Total cost of work in process		178,000
	Less work in process inventory, ending		7,500
	Cost of goods manufactured		$170,500

Point: Indirect materials are $0 in this example. If there were indirect materials, we would subtract that from materials used to get direct materials used *and* indirect materials would be listed under factory overhead.

The schedule has four parts: *direct materials, direct labor, overhead,* and *cost of goods manufactured.*

Raw Materials Inventory			
Beginning	8,000		
Purchases	86,500		
		Direct Mtls.	85,500
Ending	9,000		

Point: This chapter's raw materials inventory excludes indirect materials. This aids students by simplifying the flow of costs in the first managerial chapter. The next chapter includes indirect materials.

Work in Process Inventory			
Beginning	2,500		
Mfg. costs	175,500		
		COGM	170,500
Ending	7,500		

① **Compute direct materials used.** Add beginning raw materials inventory of $8,000 to the purchases of $86,500 to get $94,500 of raw materials available for use. A year-end count of inventory shows $9,000 of ending raw materials inventory. If $94,500 of materials were available for use and $9,000 of materials remain in inventory, then $85,500 of direct materials were used in the period.

② **Compute direct labor used.** Total direct labor costs are $60,000 for the period. This includes wages, payroll taxes, and benefits for workers who make bikes.

③ **Compute factory overhead used.** The schedule lists each factory overhead cost. All of these costs are *indirectly* related to manufacturing activities. (Period expenses, such as selling expenses and general and administrative expenses, are *not* reported on this schedule.) Total factory overhead is $30,000.

④ **Compute cost of goods manufactured.** Total manufacturing costs are $175,500 ($85,500 + $60,000 + $30,000), the sum of direct materials, direct labor, and overhead. We take the $175,500 total manufacturing costs and add the $2,500 beginning work in process inventory to get total work in process of $178,000. We then subtract the $7,500 ending work in process inventory to get cost of goods manufactured of $170,500. Cost of goods manufactured (COGM) is also called *net cost of goods manufactured* or *cost of goods completed.*

Key calculations in the schedule of costs of goods manufactured follow.

Total manufacturing costs = Direct materials used + Direct labor used + Factory overhead used

Cost of goods manufactured = Total manufacturing costs + Beginning work in process inventory − Ending work in process inventory

Management uses the schedule of cost of goods manufactured to plan and control manufacturing activities. To provide timely information for business decisions, the schedule is often prepared monthly, weekly, or even daily.

Estimating Cost per Unit Managers can use the schedule of cost of goods manufactured to estimate per unit costs. For example, if Rocky Mountain Bikes makes 1,000 bikes during the year, the average manufacturing cost per unit is $170.50 (computed as $170,500/1,000).

Manufacturing Cost Flows across Accounting Reports

Cost information is used in financial statements. Exhibit 1.15 shows how product costs affect financial statements. Direct materials, direct labor, and overhead costs are in the schedule of cost of goods manufactured. The cost of goods manufactured from that schedule is used to compute cost of goods sold

EXHIBIT 1.15

Manufacturing Cost Flows across Reports

ROCKY MOUNTAIN BIKES
Schedule of Cost of Goods Manufactured
For Year Ended December 31

Direct materials used	$ 85,500
Direct labor	60,000
Factory overhead	30,000
Total manufacturing costs	175,500
Work in process, beginning	2,500
Total cost of work in process	178,000
Work in process, ending	(7,500)
Cost of goods manufactured	$170,500

ROCKY MOUNTAIN BIKES
Income Statement
For Year Ended December 31

Sales	$310,000
Cost of goods sold	
Finished goods, beginning	11,200
Cost of goods manufactured	170,500
Finished goods, ending	(10,300)
Cost of goods sold	171,400
Gross profit	138,600
Selling expenses	38,200
General and admin. expense	54,400
Net income	$ 46,000

ROCKY MOUNTAIN BIKES
Current Assets section of Balance Sheet
December 31

Cash	$11,000
Accounts receivable, net	30,150
Raw materials inventory	9,000
Work in process inventory	7,500
Finished goods inventory	10,300
Supplies	350
Prepaid insurance	300
Total current assets	$68,600

on the income statement. The ending work in process inventory is carried from that schedule to the balance sheet, and the ending finished goods inventory is used in computing cost of goods sold on the income statement and is also part of current assets on the balance sheet.

NEED-TO-KNOW 1-4

Cost of Goods Manufactured

P2 C3

Part A: Compute the following three cost amounts using the information below.

1. Direct materials used **2.** Cost of goods manufactured **3.** Cost of goods sold

Raw materials inventory, beginning	$15,500	Raw materials inventory, ending	$10,600
Work in process inventory, beginning	29,000	Work in process inventory, ending	44,000
Finished goods inventory, beginning	24,000	Finished goods inventory, ending	37,400
Raw materials purchased	66,000	Direct labor used	38,000
Total factory overhead used	60,000		

Solution

1. $70,900 **2.** $153,900 **3.** $140,500

Raw Materials Inventory			
Beginning	15,500		
Purchases	66,000		
Avail. for use	81,500	DM used	70,900
Ending	10,600		

Work in Process Inventory			
Beginning	29,000		
DM used	70,900		
Direct labor	38,000		
Overhead	60,000		
Total cost of WIP	197,900	Cost of goods manuf.	153,900
Ending	44,000		

Finished Goods Inventory			
Beginning	24,000		
Cost of goods manuf.	153,900		
Available for sale	177,900	Cost of goods sold	140,500
Ending	37,400		

Part B: Prepare a schedule of cost of goods manufactured using information in Part A. Total factory overhead used of $60,000 consists of Indirect labor of $25,000, Depreciation expense—Factory of $32,000, and Factory utilities of $3,000.

Solution

Schedule of Cost of Goods Manufactured

Direct materials		
Raw materials inventory, beginning	$15,500	
Raw materials purchases	66,000	
Raw materials available for use	81,500	
Less raw materials inventory, ending	10,600	
Direct materials used		$ 70,900
Direct labor		38,000
Factory overhead		
Indirect labor	25,000	
Depreciation expense—Factory	32,000	
Factory utilities	3,000	
Total factory overhead		60,000
Total manufacturing costs		168,900
Add work in process inventory, beginning		29,000
Total cost of work in process		197,900
Less work in process inventory, ending		44,000
Cost of goods manufactured		$153,900

Do More: QS 1-15, QS 1-16, E 1-7, E 1-13, E 1-15

Trends in Managerial Accounting

C4

Describe trends in managerial accounting.

Tools and techniques of managerial accounting evolve due to changes in business. This section describes some of these changes.

Digital Manufacturing

Digital manufacturing combines machines, computers, and human control to manufacture products. On the factory floor, machines replace much of direct labor. Computers collect information on these automated processes, including product quality,

equipment performance, and maintenance demands. Humans then use data analytics and data visualization to plan and control operations. Growth of digital manufacturing means employers seek employees with data analytics and visualization skills.

- ***Data analytics*** is a process of analyzing data to identify meaningful relations and trends.
- ***Data visualization*** is a graphical depiction of data to help people interpret their meaning.

Customer Orientation There is increased emphasis on *customers*. Customers expect value for the money spent to buy products and services. They want the right service (or product) at the right time and the right price. This **customer orientation** means that managers and employees understand the changing needs of customers and align operations accordingly.

Global Economy Our *global economy* expands competitive boundaries and provides customers more choices. One notable case that reflects changes in customer demand and global competition is auto manufacturing. The top three Japanese auto manufacturers (**Honda**, **Nissan**, and **Toyota**) once controlled more than 40% of the U.S. auto market. Customers perceived that Japanese manufacturers provided value not available from others. Many European and North American manufacturers responded and regained much of the lost market share.

E-Commerce People are increasingly interconnected via smartphones, text messaging, and other electronic applications. Consumers expect and demand to buy items electronically, whenever and wherever they want. Many businesses focus on online transactions. Online sales make up a growing share of retail sales. Some companies such as **BucketFeet**, a footwear retailer, only sell online to reduce costs.

Service Economy Businesses that provide services, such as telecommunications and health care, constitute an ever-growing part of our economy. Service businesses typically account for over 60% of total economic activity. Many service companies, such as **Uber**, employ part-time workers. The "gig economy" changes cost structures.

Lean Principles Many companies have adopted a **lean business model,** whose goal is to *eliminate waste* while "satisfying the customer" and "providing a positive return" to the company. This is often paired with continuous improvement. **Continuous improvement** rejects the notion of "good enough" and challenges employees and managers to continuously improve operations. This has led companies to adopt practices such as total quality management (TQM) and just-in-time (JIT) manufacturing.

Point: Goals of a TQM process include reduced waste, better inventory control, fewer defects, and continuous improvement. JIT concepts have similar aims.

Point: Quality control standards include the International Organization for Standardization (ISO). To be certified under **ISO 9000 standards,** a company must use a quality control system and provide documentation.

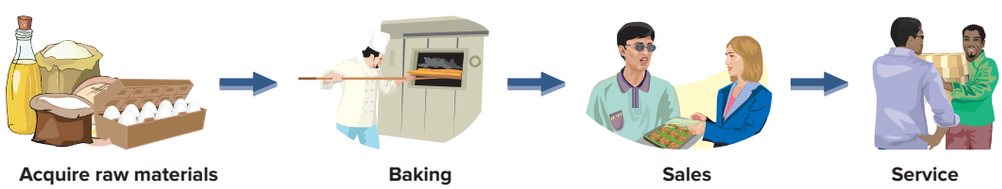
- **Total quality management** focuses on quality improvement to business activities. Managers and employees seek to uncover waste in business activities, including accounting activities such as payroll and disbursements. **Ritz Carlton Hotel** applies a set of values, called *The Gold Standards,* to improve customer service.
- **Just-in-time manufacturing** is a system that acquires inventory and produces products only after it receives an order (a *demand-pull* system) and then delivers orders on time. Processes are aligned to eliminate delays and inefficiencies. Companies must establish good communications with suppliers. On the downside, JIT is more susceptible to disruption. Several **General Motors** plants were temporarily shut down due to a strike at a supplier that provided components *just in time* to the assembly division.

Point: The time between buying raw materials and selling finished goods is called *throughput time.*

Value Chain The **value chain** is the series of activities that add value to a company's products or services. Exhibit 1.16 illustrates a possible value chain for a retail cookie company.

EXHIBIT 1.16

Value Chain
(cookie retailer)

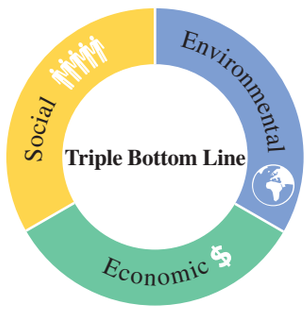


How Lean Principles Impact the Value Chain Companies can use lean practices across the value chain to increase efficiency and profits. Managerial accounting is important in providing accurate cost and performance information to measure the "value" to customers. The price that customers pay for goods and services reflects on that value.

Corporate Social Responsibility

Corporate social responsibility (CSR) is a concept that goes beyond shareholder value and the law. Corporations must consider the demands of other stakeholders, including employees, suppliers, and society. To reduce its impact on the environment, **Three Twins Ice Cream** uses only cups and spoons made from organic ingredients. **United By Blue**, an apparel and jewelry company, removes one pound of trash from waterways for every product sold. Many companies extend CSR to include sustainability, which considers future generations when making business decisions.

Point: Companies like **Microsoft**, **Google**, and **Walt Disney** disclose CSR results on their websites.



Triple Bottom Line

Triple bottom line focuses on three measures: financial ("profits"), social ("people"), and environmental ("planet"). Adopting a triple bottom line impacts how businesses report. The **Sustainability Accounting Standards Board (SASB)** sets reporting standards for businesses' sustainability activities. The SASB has developed reporting standards for several sectors including health care, nonrenewable resources, and renewable resources and alternative energy.

Decision Insight

Balanced Scorecard The *balanced scorecard* aids continuous improvement by augmenting financial measures with information on the "drivers" (indicators) of future financial performance along four dimensions: **(1)** ***financial***—profitability and risk, **(2)** ***customer***—value creation and product and service differentiation, **(3)** ***internal processes***—business activities that create customer and owner satisfaction, and **(4)** ***innovation and learning***—organizational change, innovation, and growth. ■

CORPORATE SOCIAL RESPONSIBILITY

The Sustainability Accounting Standards Board (SASB) considers sustainability information as *material* if its disclosure would affect the views of equity investors on a company's financial condition or operating performance. Material information can vary across industries. While environmental "planet" issues such as air quality, wastewater management, and biodiversity impacts are important for investments in the nonrenewable resources sectors, such issues are likely not as important for investments in banks. "People" issues such as diversity and inclusion, fair labor practices, and employee health are considered material for most sectors, and especially for sectors having high direct labor use.

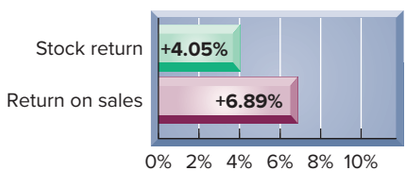
Sweet Tea Cosmetics, this chapter's feature company, focuses on inclusivity and sustainability. "My makeup is for everybody," explains Teanna. Her makeup supplier uses safe, nontoxic ingredients; does not do animal testing; and aims to reduce its carbon footprint. Although this increases costs, Teanna believes her company's focus on "consciously sustaining the earth" appeals to her target market and helps drive sales.

Courtesy of Teanna Bass/ photographer Chelsea Priebe

Decision Insight

Sustainability Returns A recent study shows the value of investing in sustainability. Companies with good ratings on sustainability perform better than companies with poor ratings. The chart here shows that high sustainability firms have 4.05% higher stock returns and 6.89% higher return on sales than low sustainability firms. Source: HBS. ■

Higher Returns for Sustainable Firms



Decision Analysis — Raw Materials Inventory Turnover and Days' Sales in Raw Materials Inventory

A1

Assess raw materials inventory management using raw materials inventory turnover and days' sales in raw materials inventory.

Managerial accounting information helps managers perform analyses to improve operations and profitability. Inventory management is one example.

Raw Materials Inventory Turnover

A manager can assess how effectively a company manages its *raw materials* inventory by computing the **raw materials inventory turnover** ratio as defined in Exhibit 1.17. Average raw materials inventory is (Beginning raw materials inventory + Ending raw materials inventory) ÷ 2.

EXHIBIT 1.17

Raw Materials Inventory Turnover

$$\textbf{Raw materials inventory turnover} = \frac{\textbf{Raw materials used}}{\textbf{Average raw materials inventory}}$$

This ratio reveals how many times a company turns over (uses in production) its raw materials inventory during a period. A high ratio of raw materials inventory turnover is preferred, as long as raw materials inventory levels are adequate to meet demand. To demonstrate, Rocky Mountain Bikes reports direct (raw) materials used of $85,500 for the year, with a beginning raw materials inventory of $8,000 and an ending raw materials inventory of $9,000 (from Exhibit 1.14). Raw materials inventory turnover for Rocky Mountain Bikes is computed below.

$$\text{Raw materials inventory turnover} = \frac{\$85{,}500}{(\$8{,}000 + \$9{,}000)/2} = 10.1 \text{ (rounded)}$$

Days' Sales in Raw Materials Inventory

A manager can measure the adequacy of raw materials inventory to meet production demand. **Days' sales in raw materials inventory** reveals how much raw materials inventory is available in terms of the number of days' sales. It is a measure of how long it takes raw materials to be used in production. It is defined and computed for Rocky Mountain Bikes in Exhibit 1.18.

EXHIBIT 1.18

Days' Sales in Raw Materials Inventory Turnover

$$\textbf{Days' sales in raw materials inventory} = \frac{\textbf{Ending raw materials inventory}}{\textbf{Raw materials used}} \times \textbf{365}$$

$$= \frac{\$9{,}000}{\$85{,}500} \times 365 = 38.4 \text{ days (rounded)}$$

This shows that it will take about 38 days for raw materials inventory to be used in production. Assuming production needs can be met, companies prefer a *low* number of days' sales in raw materials inventory. Just-in-time manufacturing can help lower days' sales in raw materials inventory. For example, **Dell** keeps less than seven days of production needs in raw materials inventory for most of its computer components.

Decision Maker

Chief Financial Officer Your company regularly reports days' sales in raw materials of 20 days, which is similar to that of competitors. A manager argues that profit can be increased if the company applies just-in-time principles and cuts it down to 2 days. Do you drop it to 2 days? ■ *Answer:* Cutting days' sales in raw materials to 2 days *might* increase profits. Having less money tied up in inventory is a positive. However, if the company loses customers over out-of-stock inventory or if production is delayed (with costs), then the increase in profit might be outweighed by the increase in costs.

NEED-TO-KNOW 1-5

COMPREHENSIVE

Schedule of Cost of Goods Manufactured, and Income Statement

The following information is from SUNN Company's records for the current year-end December 31. Prepare (1) a schedule of cost of goods manufactured and (2) an income statement.

Depreciation expense—Factory	$211,000	Indirect labor	$ 100,000
Direct labor	250,000	Property taxes on factory	51,000
Factory insurance expired	62,000	Raw materials inventory, beginning	60,000
Factory utilities	115,000	Raw materials inventory, ending	78,000
Finished goods inventory, beginning	15,000	Raw materials purchases	313,000
Finished goods inventory, ending	12,000	Repairs expense—Factory	31,000
General and administrative expenses	200,000	Sales	1,630,000
Work in process inventory, beginning	8,000	Selling expenses	230,000
Work in process inventory, ending	9,000		

SOLUTION

SUNN COMPANY
Schedule of Cost of Goods Manufactured
For Year Ended December 31

Direct materials		
Raw materials inventory, beginning	$ 60,000	
Raw materials purchases	313,000	
Raw materials available for use	373,000	
Less raw materials inventory, ending	78,000	
Direct materials used		$ 295,000
Direct labor		250,000
Factory overhead		
Depreciation expense—Factory	211,000	
Factory insurance expired	62,000	
Factory utilities	115,000	
Indirect labor	100,000	
Property taxes on factory	51,000	
Repairs expense—Factory	31,000	
Total factory overhead		570,000
Total manufacturing costs		1,115,000
Add work in process inventory, beginning		8,000
Total cost of work in process		1,123,000
Less work in process inventory, ending		9,000
Cost of goods manufactured		$1,114,000

SUNN COMPANY
Income Statement
For Year Ended December 31

Sales		$1,630,000
Cost of goods sold		
Finished goods inventory, beginning	$ 15,000	
Cost of goods manufactured	1,114,000	
Goods available for sale	1,129,000	
Less finished goods inventory, ending	12,000	
Cost of goods sold		1,117,000
Gross profit		513,000
Selling expenses		230,000
General and administrative expenses		200,000
Net income		$ 83,000

Raw Materials Inventory

Beginning	60,000		
Purchases	313,000		
Available	373,000		
		Direct Mtls.	295,000
Ending	78,000		

Work in Process Inventory

Beginning	8,000		
Direct Materials	295,000		
Direct Labor	250,000		
Overhead	570,000		
	1,123,000		
		COGM	1,114,000
Ending	9,000		

Finished Goods Inventory

Beginning	15,000		
COGM	1,114,000		
Available	1,129,000		
		COGS	1,117,000
Ending	12,000		

Summary: Cheat Sheet

MANAGERIAL ACCOUNTING BASICS

Planning: Process of setting goals and making plans to achieve them.
Control: Process of monitoring and evaluating an organization's activities and employees.
Managerial Accounting: Focused on the needs of internal managerial and executive employees.
Financial Accounting: Focused on the needs of external users including investors and creditors.

COST CONCEPTS

Direct costs: Costs that *can* be cost-effectively traced to a cost object. Examples for a bicycle include wages of bike maker, tires, seats, handlebars, cables, frames, pedals, and brakes.
Indirect costs: Costs that *cannot* be cost-effectively traced to a cost object. Examples for a bicycle include factory accounting, factory rent, factory supervisor salary, and factory insurance.

Direct materials: Materials that are crucial parts of a finished product and that *can* be cost-effectively traced to finished goods. Examples for a bicycle include tires, seats, handlebars, cables, frames, pedals, and brakes.
Direct labor: Employees who directly convert materials to finished product and whose costs *can* be cost-effectively traced to finished goods. Examples for a bicycle include workers who convert raw materials into finished products (welding, painting, forming) and assembly workers who attach materials such as tires, seats, pedals, and brakes.
Factory overhead: All manufacturing costs that are not direct materials or direct labor. Costs include manufacturing costs that *cannot* be cost-effectively traced to finished goods. Factory overhead includes indirect materials, indirect labor, and other indirect costs such as staples, glue, supervisor salaries, and factory insurance.

- **Indirect materials:** Materials used in manufacturing that *cannot* be cost-effectively traced to finished goods. Their costs are often low. Examples include staples, glue, nuts, and screws.
- **Indirect labor:** Labor needed in manufacturing that *cannot* be cost-effectively traced to finished goods. Examples include costs for employees who maintain and repair manufacturing equipment and salaries of production supervisors.
- ***Other indirect costs*** include factory utilities (water, gas, electricity), factory rent, depreciation on factory buildings and equipment, and factory insurance.

Prime costs: Direct materials costs + Direct labor costs.
Conversion costs: Overhead costs + Direct labor costs.

Product costs: Consist of direct materials, direct labor, and factory overhead. Product costs are added to inventory during production. After products are sold, these costs become cost of goods sold.
Period costs: *Nonproduction* costs linked to a time period rather than to completed products. Examples include sales staff salaries, office worker wages, advertising expenses, and depreciation on office furniture. Period costs are expensed in the period when incurred and reported on the income statement as either selling expenses or general and administrative expenses.

REPORTING

Raw materials inventory: Materials a company acquires to use in making products.
Work in process inventory: Products in the process of being manufactured but not yet complete.
Finished goods inventory: Completed products ready for sale.

Manufacturer Balance Sheet (current assets section):

ROCKY MOUNTAIN BIKES Current Assets section of Balance Sheet December 31	
Assets	
Current assets	
Cash	$11,000
Accounts receivable, net	30,150
Raw materials inventory	9,000
Work in process inventory	7,500
Finished goods inventory	10,300
Supplies	350
Prepaid insurance	300
Total current assets	$68,600

Cost of Goods Sold:

Merchandiser

Beginning merchandise inventory + Cost of merchandise purchased − Ending merchandise inventory = Cost of goods sold

Manufacturer

Beginning finished goods inventory + Cost of goods manufactured − Ending finished goods inventory = Cost of goods sold

Manufacturer Income Statement:

ROCKY MOUNTAIN BIKES Income Statement For Year Ended December 31		
Sales		$310,000
Cost of goods sold		
Finished goods inventory, beginning	$ 11,200	
Cost of goods manufactured	170,500	
Goods available for sale	181,700	
Less finished goods inventory, ending	10,300	
Cost of goods sold		171,400
Gross profit		138,600
Selling expenses		38,200
General and administrative expenses		54,400
Net income		$ 46,000

COST FLOWS

Cost of goods manufactured: Total of direct materials used, direct labor, and factory overhead costs for finished goods manufactured.

Cost of Goods Manufactured Computation:

Total manufacturing cost = Direct materials used + Direct labor used + Factory overhead used

Cost of goods manufactured = Total manufacturing costs + Beginning work in process inventory − Ending work in process inventory

Schedule of Cost of Goods Manufactured:

ROCKY MOUNTAIN BIKES Schedule of Cost of Goods Manufactured For Year Ended December 31		
Direct materials		
Raw materials inventory, beginning	$ 8,000	
Raw materials purchases	86,500	
Raw materials available for use	94,500	
Less raw materials inventory, ending	9,000	
Direct materials used		$ 85,500
Direct labor		60,000
Factory overhead		
Indirect labor	15,000	
Factory utilities	2,600	
Repairs—Factory equipment	2,500	
Property taxes—Factory	4,400	
Depreciation expense—Factory	5,500	
Total factory overhead		30,000
Total manufacturing costs		$175,500
Add work in process inventory, beginning		2,500
Total cost of work in process		178,000
Less work in process inventory, ending		7,500
Cost of goods manufactured		$170,500

Key Terms

Continuous improvement (16)
Control (4)
Conversion costs (7)
Corporate social responsibility (CSR) (17)
Cost object (6)
Cost of goods manufactured (13)
Customer orientation (16)
Days' sales in raw materials inventory (18)
Digital manufacturing (15)
Direct costs (6)
Direct labor (7)
Direct labor costs (7)
Direct materials (7)
Direct materials costs (7)
Ethics (5)
Factory overhead (7)
Factory overhead costs (7)
Finished goods inventory (10)
Indirect costs (6)
Indirect labor (7)
Indirect materials (7)
Institute of Management Accountants (IMA) (5)
Internal control system (5)
ISO 9000 standards (16)
Just-in-time (JIT) manufacturing (16)
Lean business model (16)
Managerial accounting (3)
Period costs (8)
Planning (3)
Prime costs (7)
Product costs (8)
Raw materials inventory (10)
Raw materials inventory turnover (18)
Schedule of cost of goods manufactured (13)
Sustainability Accounting Standards Board (SASB) (17)
Total quality management (TQM) (16)
Triple bottom line (17)
Value chain (16)
Work in process inventory (10)

Multiple Choice Quiz

1. Period costs
- **a.** Include direct materials and direct labor.
- **b.** Are capitalized as inventory.
- **c.** Are expensed in the period incurred.
- **d.** Include factory overhead.
- **e.** Are included in total manufacturing costs.

2. Factory overhead
- **a.** Includes selling expenses.
- **b.** Includes indirect labor.
- **c.** Is a period cost.
- **d.** Includes general and administrative expenses.
- **e.** Is included in nonmanufacturing costs.

3. A manufacturer reports the following.

Raw materials purchases	$81,200
Raw materials inventory, ending	12,000
Raw materials inventory, beginning	8,000

Its cost of materials used is
- **a.** $81,200
- **b.** $77,200
- **c.** $85,200
- **d.** $89,200
- **e.** $101,200

4. A manufacturer reports the following.

Direct materials used	$22,650	Factory utilities	800
Selling expenses	800	Direct labor	8,720
Finished goods inventory, ending	4,000	Indirect labor	4,000

Its total manufacturing costs equal
- **a.** $36,170
- **b.** $36,970
- **c.** $32,970
- **d.** $40,970
- **e.** $32,170

5. A manufacturer reports the following.

Finished goods inventory, beginning	$6,000
Finished goods inventory, ending	3,200
Cost of goods sold	7,500

Its cost of goods manufactured is
- **a.** $1,500.
- **b.** $1,700.
- **c.** $7,500.
- **d.** $2,800.
- **e.** $4,700.

ANSWERS TO MULTIPLE CHOICE QUIZ

1. c
2. b
3. b; Beginning raw materials inventory + Raw materials purchases − Ending raw materials inventory = $8,000 + $81,200 − $12,000 = $77,200
4. a; Direct materials + Direct labor + Factory overhead = $22,650 + $8,720 + $800 + $4,000 = $36,170
5. e; Beginning finished goods + Cost of goods manufactured (COGM) − Ending finished goods = Cost of goods sold
$6,000 + COGM − $3,200 = $7,500
COGM = $4,700

*Select Quick Study and Exercise assignments feature Guided Example videos, called "Hints" in **Connect**. Hints use different numbers, and instructors can turn this feature on or off.*

connect

QUICK STUDY

QS 1-1
Managerial vs. financial accounting
C1

Identify whether each description most likely applies to managerial or financial accounting.

1. Its primary users are company managers.
2. Its information is often available only after an audit is complete.
3. Its primary focus is on the organization as a whole.
4. Its principles and practices are relatively flexible.
5. It focuses mainly on past results.

QS 1-2
Classifying direct and indirect costs
C2

Diez Company produces sporting equipment, including leather footballs. Assume that the cost object is a football. Classify each of the following costs as direct or indirect.

1. Electricity used in the production plant.
2. Labor used on the football production line.
3. Salary of manager who supervises the entire plant.
4. Depreciation on maintenance equipment used in the plant.
5. Leather used to produce footballs.

QS 1-3
Classifying direct materials, direct labor, and overhead
C2

A company manufactures tennis balls. Classify each of the following costs as either direct materials, direct labor, or factory overhead.

1. Rubber used to form the cores.
2. Factory maintenance.
3. Wages paid to assembly workers.
4. Glue used in binding rubber cores to felt covers.
5. Depreciation on factory equipment.
6. Cans to package the balls.

QS 1-4
Classifying product and period costs
C2

Classify each of the following costs as either a product cost or a period cost for a manufacturer.

1. Factory insurance.
2. Sales commissions.
3. Depreciation on factory equipment.
4. Depreciation on office equipment.
5. Rent on factory building.
6. Tax accountant salary.
7. Office manager salary.
8. Indirect labor in making goods.

QS 1-5
Identifying prime and conversion costs
C2

A company manufactures guitars. Identify each of the following costs as either a prime cost, a conversion cost, or both.

1. Wood used to build the guitar body.
2. Glue used to bind the guitar wood.
3. Wages paid to assembly workers.
4. Depreciation on factory equipment.
5. Rent on factory building.
6. Wood to build the guitar bridge.

QS 1-6
Computing ending work in process inventory
P1

Compute ending work in process inventory for a manufacturer using the following information.

Raw materials purchased	$124,000	Factory overhead	$ 95,000
Direct materials used	74,000	Work in process inventory, beginning	26,000
Direct labor used	55,000	Cost of goods manufactured	220,000

QS 1-7
Computing cost of goods sold for a manufacturer
P1

Compute cost of goods sold using the following information.

Finished goods inventory, beginning	$ 500	Finished goods inventory, ending	$700
Cost of goods manufactured	4,000		

QS 1-8
Computing cost of goods sold for a manufacturer
P1

Compute cost of goods sold using the following information.

Finished goods inventory, beginning	$345,000	Cost of goods manufactured	$918,000
Work in process inventory, beginning	83,000	Finished goods inventory, ending	283,000
Work in process inventory, ending	72,000		

Compute cost of goods sold using the following information.

Merchandise inventory, beginning	$12,000	Merchandise inventory, ending	$18,000
Cost of merchandise purchased	85,000		

QS 1-9
Computing cost of goods sold for a merchandiser
P1

Determine the missing amount for each separate situation involving inventory cost flows.

	(1)	(2)	(3)
Cost of merchandise purchased	$?	$140,000	$289,000
Merchandise inventory, beginning	106,000	?	28,000
Merchandise inventory, ending	82,000	33,000	?
Cost of goods sold	205,000	128,000	267,000

QS 1-10
Determining merchandiser cost flows
P1

Prepare an income statement for Rex Manufacturing for the year ended December 31 using the following information. *Hint:* Not all information given is needed for the solution.

Finished goods inventory, ending	$16,000	Selling expenses	$12,000
General and administrative expenses	14,000	Cash	55,000
Accounts receivable	18,000	Land	28,000
Finished goods inventory, beginning	19,000	Sales	92,000
Cost of goods manufactured	40,000	Equipment	1,000

QS 1-11
Preparing an income statement
P1

Prepare the current assets section of the balance sheet at December 31 for Bin Manufacturing using the following information. *Hint:* Not all information given is needed for the solution.

Cash	$22,000	Selling expenses	$12,000
Accounts payable	2,000	Finished goods inventory	22,000
Raw materials inventory	8,000	Work in process inventory	18,000
General and administrative expenses	42,000	Prepaid insurance	4,000
Accounts receivable, net	12,000	Cost of goods sold	33,000

QS 1-12
Preparing a balance sheet
P1

Garcia Company reports beginning raw materials inventory of $855 and ending raw materials inventory of $717. If the company purchased $3,646 of raw materials during the month, what is the amount of materials used during the month? *Note*: Assume all raw materials were used as direct materials.

QS 1-13
Computing direct materials used P2

Determine the missing amount for each separate situation involving manufacturing costs.

	(1)	(2)	(3)
Direct materials used	$8,000	$14,000	$?
Direct labor used	4,000	?	18,000
Factory overhead	5,000	23,000	22,000
Total manufacturing costs	?	50,000	72,000

QS 1-14
Computing total manufacturing costs
P2

Prepare the schedule of cost of goods manufactured for Barton Company using the following information for the year ended December 31.

Direct materials used	$190,000	Work in process inventory, beginning	$157,000
Direct labor	63,000	Work in process inventory, ending	142,000
Factory overhead	24,000		

QS 1-15
Preparing a schedule of cost of goods manufactured
P2

QS 1-16
Computing direct materials used
P2

Use the following information to compute the cost of direct materials used for the current year. *Note*: Assume all raw materials were used as direct materials.

Inventories	Beginning of Year	End of Year
Raw materials inventory	$ 6,000	$7,000
Work in process inventory	12,000	9,000
Finished goods inventory	8,000	5,000

Activity during current year	
Raw materials purchased	$123,000
Direct labor	94,000
Factory overhead	39,000

QS 1-17
Schedule of cost of goods manufactured
P2

Refer to the data in Quick Study 1-16. Factory overhead of $39,000 consists of Indirect labor of $20,000, Depreciation expense—Factory of $15,000, and Factory utilities of $4,000.

a. Compute total manufacturing costs.
b. Prepare a schedule of cost of goods manufactured.

QS 1-18
Determining components of cost of goods manufactured
P2

Determine the missing amount for each separate situation involving work in process cost flows.

	(1)	(2)	(3)
Total manufacturing costs	$?	$150,000	$217,000
Work in process inventory, beginning	105,000	?	32,000
Work in process inventory, ending	84,000	22,000	?
Cost of goods manufactured	200,000	138,000	237,000

QS 1-19
Computing average manufacturing cost per unit P2

A company reports cost of goods manufactured of $918,700 and cost of goods sold of $955,448. Compute the average manufacturing cost per unit assuming 18,374 units were produced.

QS 1-20
Trends in managerial accounting
C4

Match each concept with its best description.

1. Just-in-time manufacturing
2. Continuous improvement
3. Customer orientation
4. Total quality management
5. Triple bottom line

A. Focuses on quality throughout the production process.
B. Flexible product designs can be modified to accommodate customer choices.
C. Managers and employees constantly look to improve operations.
D. Reports on financial, social, and environmental performance.
E. Inventory is acquired or produced only as needed.

QS 1-21
Computing inventory ratios
A1

Sims Company reports beginning raw materials inventory of $900 and ending raw materials inventory of $1,100. Assume the company purchased $5,200 of raw materials and used $5,000 of raw materials during the year. Compute raw materials inventory turnover (round to one decimal) and the number of days' sales in raw materials inventory (round to the nearest day).

EXERCISES

Exercise 1-1
Managerial vs. financial accounting
C1

Indicate whether each decision is most likely to be made using managerial accounting information or financial accounting information.

Business Decision	Primary Information Source
1. Determine whether to lend to a company	_____
2. Evaluate a purchasing department's performance	_____
3. Report financial performance to shareholders	_____
4. Estimate product cost for a new line of shoes	_____
5. Plan the manufacturing budget for next quarter	_____
6. Measure profitability of an individual store	_____
7. Prepare financial reports according to GAAP	_____
8. Determine location and size for a new plant	_____

Exercise 1-2
Classifying direct and indirect costs
C2

Listed here are product costs for production of soccer balls. Classify each cost as either direct or indirect.

Product Cost	Direct or Indirect	Product Cost	Direct or Indirect
1. Leather covers for soccer balls		6. Taxes on factory	
2. Annual flat fee paid for factory security		7. Machinery depreciation (straight-line)	
3. Coolants for machinery		8. Rubber bladder interior for balls	
4. Wages of product assembly workers		9. Ink for labeling soccer balls	
5. Factory supervisor salary		10. Factory building rent	

Exercise 1-3
Classifying direct and indirect costs for a service company
C2

TechPro offers instructional courses in website design. The company holds classes in a building that it owns. The cost object is an individual class. Classify each of TechPro's costs below as direct or indirect.

1. Depreciation on classroom building
2. Monthly Internet connection cost
3. Instructional manuals for students
4. Classroom building utilities cost
5. Depreciation on computers used for classes
6. Instructor wage (per class)
7. Classroom cleaning fees
8. Snacks for the class

Exercise 1-4
Classifying costs for a service company
C2

Listed below are costs of services provided by an airline company. Consider the cost object to be a flight. Flight attendants and pilots are paid based on hours of flight time. Classify each cost as direct, indirect, selling, or general and administrative.

Cost	Classification	Cost	Classification
1. Advertising		5. Fuel used for plane flight	
2. Beverages served on plane		6. Flight attendant wages for flight	
3. Accounting manager salary		7. Pilot wages for flight	
4. Depreciation (straight-line) on plane		8. Aircraft maintenance manager salary	

Exercise 1-5
Classifying costs
C2

Selected costs related to **Apple**'s iPhone are listed below. Classify each cost as either direct materials, direct labor, factory overhead, selling expenses, or general and administrative expenses.

1. Display screen
2. Assembly-line supervisor salary
3. Wages for assembly workers
4. Salary of chief executive officer
5. Glue to hold iPhone cases together
6. Uniforms provided for each factory worker
7. Wages for retail store salesperson
8. Depreciation (straight-line) on robotic equipment used in assembly

Exercise 1-6
Classifying product and period costs C2

A car manufacturer incurs the following costs. Classify each cost as either a product or period cost. If a product cost, classify it as direct materials, direct labor, or factory overhead. If a period cost, classify it as a selling expense or a general and administrative expense. Place an "X" in the correct column for each cost.

	Product Costs			Period Costs	
Cost	Direct Materials	Direct Labor	Factory Overhead	Selling Expense	General and Administrative Expense
1. Factory electricity					
2. Advertising					
3. Depreciation on factory machine					
4. Batteries for electric cars					
5. Office supplies used					
6. Wages to assembly workers					
7. Salesperson commissions					
8. Steel for cars					
9. Depreciation on office equipment					
10. Leather for car seats					

Exercise 1-7
Computing cost of goods manufactured and cost of goods sold
P1 P2

Using the following data from both Garcon Company and Pepper Company for the year ended December 31 to compute (1) the cost of goods manufactured and (2) the cost of goods sold for each company. *Hint:* Not all information is needed for the solution.

	Garcon Co.	Pepper Co.
Finished goods inventory, beginning	$ 12,000	$ 16,450
Work in process inventory, beginning	14,500	19,950
Raw materials inventory, beginning	7,250	9,000
Rental cost on factory equipment	27,000	22,750
Direct labor	19,000	35,000
Finished goods inventory, ending	17,650	13,300
Work in process inventory, ending	22,000	16,000
Raw materials inventory, ending	5,300	7,200
Factory utilities	9,000	12,000
General and administrative expenses	21,000	43,000
Indirect labor	9,450	10,860
Repairs—Factory equipment	4,780	1,500
Raw materials purchases	33,000	52,000
Selling expenses	50,000	46,000
Sales	195,030	290,010
Cash	20,000	15,700
Accounts receivable, net	13,200	19,450

Exercise 1-8
Preparing financial statements for a manufacturer P1

Refer to the data in Exercise 1-7. For each company, prepare (1) an income statement and (2) the current assets section of the balance sheet.

Exercise 1-9
Computing prime and conversion costs C2

Refer to the data in Exercise 1-7. For each company, compute the total (1) prime costs and (2) conversion costs.

Exercise 1-10
Cost of goods sold computation for a merchandiser and manufacturer
P1

Compute cost of goods sold for each of these two companies.

	A	B	C
1		Unimart	Bare Manufacturing
2	Beginning inventory		
3	Merchandise	$275,000	
4	Finished goods		$450,000
5	Cost of merchandise purchased	500,000	
6	Cost of goods manufactured		900,000
7	Ending inventory		
8	Merchandise	115,000	
9	Finished goods		375,000

Check Unimart COGS, $660,000

Exercise 1-11
Balance sheet identification and preparation
P1

End-of-year current assets for two different companies follow. One is a manufacturer, Rayzer Skis Mfg., and the other, Sunrise Foods, is a merchandiser.

1. Identify which set of numbers relates to the manufacturer and which to the merchandiser.
2. Prepare the current asset section of the balance sheet at December 31 for each company.

Account	Company 1	Company 2
Cash	$ 7,000	$ 5,000
Merchandise inventory	45,000	—
Raw materials inventory	—	42,000
Work in process inventory	—	30,000
Finished goods inventory	—	50,000
Accounts receivable, net	62,000	75,000
Prepaid expenses	1,500	900

Exercise 1-12
Components of accounting reports
P2

For each of the following accounts for a manufacturing company, place a ✓ in the column indicating that it is included in selling expenses, general and administrative expenses, or the calculation of cost of goods manufactured. An account can only be included in one column.

	A	B	C	D
1	Account	Selling Expenses	General & Admin. Expenses	Cost of Goods Manufactured
2	Advertising			
3	Work in process inventory, beginning			
4	Computer supplies used in office			
5	Depreciation expense—Factory			
6	Depreciation expense—Office			
7	Wages for assembly workers			
8	Office employee wages			
9	Factory maintenance wages			
10	Property taxes on factory			
11	Raw materials purchases			
12	Sales commissions			

Exercise 1-13
Preparing schedule of cost of goods manufactured
P2

Use the following selected account balances of Delray Mfg. to prepare its schedule of cost of goods manufactured for the year ended December 31.

Sales	$1,250,000	Repairs—Factory equipment	$ 23,000
Raw materials inventory, beginning	37,000	Rent cost of factory building	57,000
Work in process inventory, beginning	53,900	Selling expenses	94,000
Finished goods inventory, beginning	62,700	General and administrative expenses	129,300
Raw materials purchases	175,600	Raw materials inventory, ending	42,700
Direct labor	225,000	Work in process inventory, ending	41,500
Indirect labor	47,000	Finished goods inventory, ending	67,300

Check Direct materials used, $169,900

Exercise 1-14
Income statement preparation P1

Refer to the information in Exercise 1-13 to prepare an income statement for Delray Mfg. (a manufacturer). Assume that its cost of goods manufactured is $534,300.

Exercise 1-15
Schedule of cost of goods manufactured and cost of goods sold P2

Beck Manufacturing reports the following information in T-accounts for the current year.

1. Prepare the schedule of cost of goods manufactured for the year.
2. Compute cost of goods sold for the year.

Raw Materials Inventory			
Beginning	10,000		
Purchases	45,000		
Avail. for use	55,000		
		DM* used	46,500
Ending	8,500		

Work in Process Inventory			
Beginning	14,000		
DM used	46,500		
Direct labor	27,500		
Overhead	55,000		
	143,000		
		Cost of goods manuf.	131,000
Ending	12,000		

Finished Goods Inventory			
Beginning	16,000		
Cost of goods manuf.	131,000		
Avail. for sale	147,000		
		Cost of goods sold	129,000
Ending	18,000		

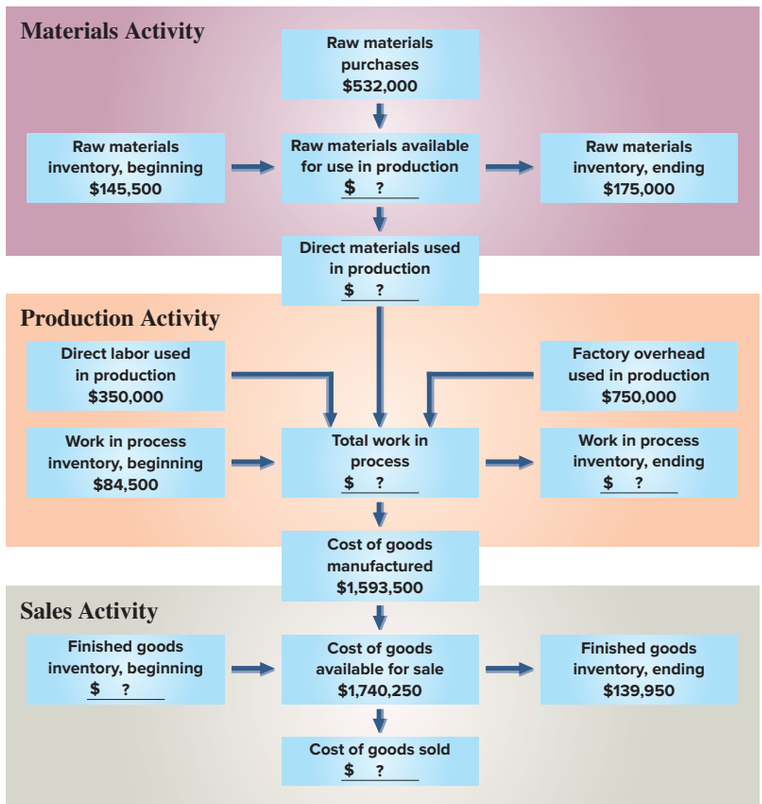
*DM = Direct materials

Exercise 1-16
Cost flows in manufacturing–visualization
C3

The following chart shows how costs flow through a business as a product is manufactured. All boxes in the chart show cost amounts. Compute the cost amounts for the boxes that contain question marks.

[continued on next page]

[continued from previous page]



Exercise 1-17
Determining cost flows for manufacturers
P2

Determine the missing amount for each separate situation involving manufacturing cost flows.

	(1)	(2)	(3)
Direct materials used	$ (a)	$150,480	$33,890
Direct labor used	75,000	(d)	45,720
Factory overhead	122,000	32,840	60,275
Total manufacturing costs	243,500	238,700	(g)
Work in process inventory, beginning	(b)	56,920	8,245
Total cost of work in process	289,325	(e)	(h)
Work in process inventory, ending	(c)	22,545	11,250
Cost of goods manufactured	265,420	(f)	(i)

Exercise 1-18
Lean business practices
C4

Many fast-food restaurants compete on lean business practices. Identify which lean business practice *a, b,* or *c,* is being implemented with each of the following activities.

1. Courteous employees
2. Food produced to order
3. Clean tables and floors
4. Orders filled within three minutes
5. Standardized food-making processes
6. New product development

a. Just-in-time (JIT)
b. Continuous improvement (CI)
c. Total quality management (TQM)

Exercise 1-19
Triple bottom line
C4

In a recent annual report and related *Global Responsibility Report,* **Starbucks** provides information on company performance on several dimensions. Indicate whether the following items best fit into the financial (label your answer "Profit"), social (label your answer "People"), or environmental (label your answer "Planet") aspects of triple bottom line reporting.

1. Sales revenue totaled $22.4 billion.
2. 99% of coffee was purchased from suppliers certified for paying fair wages.

[continued on next page]

3. Company reported reduced water consumption.
4. Net income totaled $2.9 billion.
5. Increased purchases of energy from renewable sources.
6. Stopped working with factories that had poor working conditions.

connect

PROBLEM SET A

Problem 1-1A

Classifying costs and computing cost per unit

C2 P2

Listed here are the costs associated with the production of 1,000 drum sets manufactured by TrueBeat.

Costs	Product	Period
1. Plastic for casing—$17,000	$17,000	_____
2. Wages of assembly workers—$82,000	_____	_____
3. Property taxes on factory—$5,000	_____	_____
4. Office accounting salaries—$35,000	_____	_____
5. Drum stands—$26,000	_____	_____
6. Rent cost of office for accountants—$10,000	_____	_____
7. Office management salaries—$125,000	_____	_____
8. Annual fee for factory maintenance—$10,000	_____	_____
9. Sales commissions—$15,000	_____	_____
10. Factory machinery depreciation, straight-line—$40,000	_____	_____

Required

1. Classify each cost and its amount as either product or period. The first cost is completed as an example.
2. Compute the average manufacturing cost per drum set.

Problem 1-2A

Classifying costs

C2

The following year-end information is taken from the December 31 adjusted trial balance and other records of Leone Company.

Advertising expense	$ 28,750	Direct labor	$675,480
Depreciation expense—Office equipment	7,250	Indirect labor	159,475
Depreciation expense—Selling equipment	8,600	Office salaries expense	63,000
Depreciation expense—Factory equipment	49,325	Rent expense—Office space	22,000
Raw materials purchases (all direct materials)	925,000	Rent expense—Selling space	26,100
Maintenance expense—Factory equipment	35,400	Rent expense—Factory building	76,800
Factory utilities	33,000	Sales salaries expense	392,560

Required

Identify each cost as either a product cost or a period cost. If a product cost, classify it as direct materials, direct labor, or factory overhead. If a period cost, classify it as a selling expense or a general and administrative expense.

Problem 1-3A

Schedule of cost of goods manufactured and income statement

P1 P2

Using the data from Problem 1-2A and the following additional information for Leone Company, complete the requirements below.

Raw materials inventory, beginning	$ 166,850	Work in process inventory, ending	$ 19,380
Raw materials inventory, ending	182,000	Finished goods inventory, beginning	167,350
Work in process inventory, beginning	15,700	Finished goods inventory, ending	136,490
Sales	4,462,500		

Required

1. Prepare the schedule of cost of goods manufactured for the current year.
2. Prepare the current year income statement.

Check (1) Cost of goods manufactured, $1,935,650

Problem 1-4A
Reporting cost of goods sold
P1

Shown here are annual financial data for a merchandising company and a manufacturing company.

	Music World Retail	Wave-Board Manufacturing
Beginning inventory		
Merchandise	$200,000	
Finished goods		$500,000
Cost of merchandise purchased	300,000	
Cost of goods manufactured		875,000
Ending inventory		
Merchandise	175,000	
Finished goods		225,000

Required

Prepare the cost of goods sold section of the income statement for each company.

Problem 1-5A
Raw materials inventory turnover
A1

A manufacturing company reports the following information.

	Current Year	1 Year Ago	2 Years Ago
Raw materials inventory, ending	$ 169,500	$ 190,500	$ 197,500
Raw materials used	2,160,000	2,522,000	2,765,000

Required

1. Compute raw materials inventory turnover for the most recent two years.
2. Is the current year change in raw materials inventory turnover ratio favorable or unfavorable?
3. Compute days' sales in raw materials inventory for the current year.

PROBLEM SET B

Problem 1-1B
Classifying costs and computing cost per unit
C2 P2

Listed here are the costs associated with the production of 18,000 Blu-ray discs (BDs) manufactured by Maxwell.

Costs	Product	Period
1. Plastic for BDs—$1,500	$1,500	_____
2. Wages of assembly workers—$30,000	_____	_____
3. Factory rent—$6,750	_____	_____
4. Human resources staff salaries—$15,000	_____	_____
5. BD labeling—$3,750	_____	_____
6. Office equipment rent—$1,050	_____	_____
7. Office management salaries—$120,000	_____	_____
8. Annual fee for factory maintenance—$21,000	_____	_____
9. Advertising—$7,200	_____	_____
10. Factory machinery depreciation, straight-line—$18,000	_____	_____

Required

1. Classify each cost and its amount as either product or period. The first cost is completed as an example.
2. Compute the average manufacturing cost per BD.

Problem 1-2B
Classifying costs
C2

The following year-end information is taken from the December 31 adjusted trial balance and other records of Best Bikes.

Advertising expense	$ 20,250	Direct labor	$562,500
Depreciation expense—Office equipment	8,440	Indirect labor	180,500
Depreciation expense—Selling equipment	10,125	Office salaries expense	70,875
Depreciation expense—Factory equipment	49,900	Rent expense—Office space	23,625
Raw materials purchases (all direct materials)	894,375	Rent expense—Selling space	27,000
Maintenance expense—Factory equipment	30,375	Rent expense—Factory building	93,500
Factory utilities	37,500	Sales salaries expense	295,300

Required

Identify each cost as either a product cost or a period cost. If a product cost, classify it as direct materials, direct labor, or factory overhead. If a period cost, classify it as a selling expense or a general and administrative expense.

Problem 1-3B
Schedule of cost of goods manufactured and income statement
P1 P2

Using the information from Problem 1-2B and the following additional information for Best Bikes, complete the requirements below.

Raw materials inventory, beginning	$ 40,375	Work in process inventory, ending	$ 14,100
Raw materials inventory, ending	70,430	Finished goods inventory, beginning	177,200
Work in process inventory, beginning	12,500	Finished goods inventory, ending	141,750
Sales	4,942,625		

Required

1. Prepare the schedule of cost of goods manufactured for the year.
2. Prepare the current year income statement.

Check (1) Cost of goods manufactured, $1,816,995

Problem 1-4B
Reporting cost of goods sold
P1

Shown here are annual financial data for a merchandising company and a manufacturing company.

	TeeMart Retailing	Aim Labs Manufacturing
Beginning inventory		
Merchandise	$100,000	
Finished goods		$300,000
Cost of merchandise purchased	250,000	
Cost of goods manufactured		586,000
Ending inventory		
Merchandise	150,000	
Finished goods		200,000

Required

1. Prepare the cost of goods sold section of the income statement for each company.
2. Write a half-page memorandum to your instructor (*a*) identifying the inventory accounts and (*b*) identifying where each is reported on the income statement and/or balance sheet for both companies.

Problem 1-5B
Raw materials inventory turnover
A1

A manufacturing company reports the following information.

	Current Year	1 Year Ago	2 Years Ago
Raw materials inventory, ending	$ 270,225	$ 259,775	$ 230,225
Raw materials used	2,385,000	2,695,000	2,700,000

Required

1. Compute raw materials inventory turnover for the most recent two years.
2. Is the current year change in raw materials inventory turnover ratio favorable or unfavorable?
3. Compute days' sales in raw materials inventory for the current year.