DO IT!

Budget Terminology

Use this list of terms to complete the sentences that follow.

Long-range planning	Participative budgeting
Sales forecast	Operating budgets
Master budget	Financial budgets

1. A _______________ shows potential sales for the industry and a company's expected share of such sales.
2. _________________ are used as the basis for the preparation of the budgeted income statement.
3. The ______________ is a set of interrelated budgets that constitutes a plan of action for a specified time period.
4. __________________ identifies long-term goals, selects strategies to achieve these goals, and develops policies and plans to implement the strategies.
5. Lower-level managers are more likely to perceive results as fair and achievable under a _______________ approach.
6. __________________ focus primarily on the cash resources needed to fund expected operations and planned capital expenditures.

Action Plan

- ✔ Understand the budgeting process, including the importance of the sales forecast.
- ✔ Understand the difference between an operating budget and a financial budget.
- ✔ Differentiate budgeting from long-range planning.
- ✔ Realize that the master budget is a set of interrelated budgets.

Solution

1. Sales forecast.	4. Long-range planning.
2. Operating budgets.	5. Participative budgeting.
3. Master budget.	6. Financial budgets.

Related exercise material: **BE9-1, E9-1, and DO IT! 9-1.**

DO IT!

Production Budget

Becker Company estimates that 2014 unit sales will be 12,000 in quarter 1, 16,000 in quarter 2, and 20,000 in quarter 3, at a unit selling price of $30. Management desires to have ending finished goods inventory equal to 15% of the next quarter's expected unit sales. Prepare a production budget by quarter for the first six months of 2014.

Action Plan

- ✔ Begin with budgeted sales in units.
- ✔ Add desired ending finished goods inventory.
- ✔ Subtract beginning finished goods inventory.

Solution

Becker Company
Production Budget
For the Six Months Ending June 30, 2014

	Quarter 1	Quarter 2	Six Months
Expected unit sales	12,000	16,000	
Add: Desired ending finished goods	2,400	3,000	
Total required units	14,400	19,000	
Less: Beginning finished goods inventory	1,800	2,400	
Required production units	12,600	16,600	29,200

Related exercise material: **BE9-3, E9-4, E9-6, and DO IT! 9-2.**

> DO IT!

Master Budget

Soriano Company is preparing its master budget for 2014. Relevant data pertaining to its sales, production, and direct materials budgets are as follows.

Sales. Sales for the year are expected to total 1,200,000 units. Quarterly sales, as a percentage of total sales, are 20%, 25%, 30%, and 25%, respectively. The sales price is expected to be $50 per unit for the first three quarters and $55 per unit beginning in the fourth quarter. Sales in the first quarter of 2015 are expected to be 10% higher than the budgeted sales for the first quarter of 2014.

Production. Management desires to maintain the ending finished goods inventories at 25% of the next quarter's budgeted sales volume.

Direct materials. Each unit requires 3 pounds of raw materials at a cost of $5 per pound. Management desires to maintain raw materials inventories at 5% of the next quarter's production requirements. Assume the production requirements for the first quarter of 2015 are 810,000 pounds.

Prepare the sales, production, and direct materials budgets by quarters for 2014.

Action Plan

- ✔ Know the form and content of the sales budget.
- ✔ Prepare the sales budget first, as the basis for the other budgets.
- ✔ Determine the units that must be produced to meet anticipated sales.
- ✔ Know how to compute the beginning and ending finished goods units.
- ✔ Determine the materials required to meet production needs.
- ✔ Know how to compute the beginning and ending direct materials units.

Solution

Soriano Company Sales Budget.xls

Home Insert Page Layout Formulas Data Review View

P18 fx

	A	B	C	D	E	F
1	**Soriano Company**					
2	**Sales Budget**					
3	**For the Year Ending December 31, 2014**					
4		Quarter				
5		1	2	3	4	Year
6	Expected unit sales	240,000	300,000	360,000	300,000	1,200,000
7	Unit selling price	× $50	× $50	× $50	× $55	—
8	**Total sales**	**$12,000,000**	**$15,000,000**	**$18,000,000**	**$16,500,000**	**$61,500,000**

Soriano Company Production Budget.xls

Home Insert Page Layout Formulas Data Review View

P18 fx

	A	B	C	D	E	F
1	**Soriano Company**					
2	**Production Budget**					
3	**For the Year Ending December 31, 2014**					
4		Quarter				
5		1	2	3	4	Year
6	Expected unit sales	240,000	300,000	360,000	300,000	
7	Add: Desired ending finished goods units[a]	75,000	90,000	75,000	66,000[b]	
8	Total required units	315,000	390,000	435,000	366,000	
9	Less: Beginning finished goods units	60,000[c]	75,000	90,000	75,000	
10	**Required production units**	**255,000**	**315,000**	**345,000**	**291,000**	**1,206,000**
11						
12	[a]25% of next quarter's unit sales					
13	[b]Estimated first-quarter 2015 sales units: 240,000 + (240,000 × 10%) = 264,000: 264,000 × 25%					
14	[c]25% of estimated first-quarter 2014 sales units (240,000 × 25%)					

Soriano Company Direct Materials Budget.xls

Home Insert Page Layout Formulas Data Review View

P18 *fx*

	A	B	C	D	E	F	G	H
1	**Soriano Company**							
2	**Direct Materials Budget**							
3	**For the Year Ending December 31, 2014**							
4		Quarter						
5		1		2	3	4		Year
6	Units to be produced	255,000		315,000	345,000	291,000		
7	Direct materials per unit	× 3		× 3	× 3	× 3		
8	Total pounds needed for production	765,000		945,000	1,035,000	873,000		
9	Add: Desired ending direct materials (pounds)	47,250		51,750	43,650	40,500	a	
10	Total materials required	812,250		996,750	1,078,650	913,500		
11	Less: Beginning direct materials (pounds)	38,250	b	47,250	51,750	43,650		
12	Direct materials purchases	774,000		949,500	1,026,900	869,850		
13	Cost per pound	× $5		× $5	× $5	× $5		
14	**Total cost of direct materials purchases**	**$3,870,000**		**$4,747,500**	**$5,134,500**	**$4,349,250**		**$18,101,250**
15								
16	[a]Estimated first-quarter 2015 production requirements: 810,000 × 5% = 40,500							
17	[b]5% of estimated first-quarter pounds needed for production							
18								

Related exercise material: **BE9-2, BE9-3, BE9-4, E9-2, E9-3, E9-4, E9-5, E9-6, and DO IT! 9-3.**

> DO IT!

Budgeted Income Statement

Soriano Company is preparing its budgeted income statement for 2014. Relevant data pertaining to its sales, production, and direct materials budgets can be found in the DO IT! exercise on page 2.

In addition, Soriano budgets 0.5 hours of direct labor per unit, labor costs at $15 per hour, and manufacturing overhead at $25 per direct labor hour. Its budgeted selling and administrative expenses for 2014 are $12,000,000.

(a) Calculate the budgeted total unit cost. (b) Prepare the budgeted income statement for 2014.

Action Plan

- ✔ Recall that total unit cost consists of direct materials, direct labor, and manufacturing overhead.
- ✔ Recall that direct materials costs are included in the direct materials budget.
- ✔ Know the form and content of the income statement.

Solution

(a)

Cost Element	Quantity	Unit Cost	Total
Direct materials	3.0 pounds	$ 5	$ 15.00
Direct labor	0.5 hours	$15	7.50
Manufacturing overhead	0.5 hours	$25	12.50
Total unit cost			**$35.00**

Action Plan (cont'd)

✔ Use the total unit sales information from the sales budget to compute annual sales and cost of goods sold.

(b)

Soriano Company
Budgeted Income Statement
For the Year Ending December 31, 2014

Sales (1,200,000 units from sales budget, page 2)	$61,500,000
Cost of goods sold (1,200,000 × $35.00/unit)	42,000,000
Gross profit	19,500,000
Selling and administrative expenses	12,000,000
Net income	$ 7,500,000

Related exercise material: **BE9-8, E9-11, E9-13, and DO IT! 9-4.**

DO IT!

Cash Budget

Martian Company management wants to maintain a minimum monthly cash balance of $15,000. At the beginning of March, the cash balance is $16,500, expected cash receipts for March are $210,000, and cash disbursements are expected to be $220,000. How much cash, if any, must be borrowed to maintain the desired minimum monthly balance?

Action Plan

✔ Write down the basic form of the cash budget, starting with the beginning cash balance, adding cash receipts for the period, deducting cash disbursements, and identifying the needed financing to achieve the desired minimum ending cash balance.

✔ Insert the data given into the outlined form of the cash budget.

Solution

Martian Company
Cash Budget
For the Month Ending March 31, 2014

Beginning cash balance	$ 16,500
Add: Cash receipts for March	210,000
Total available cash	226,500
Less: Cash disbursements for March	220,000
Excess of available cash over cash disbursements	6,500
Financing	8,500
Ending cash balance	$ 15,000

To maintain the desired minimum cash balance of $15,000, Martian Company must borrow $8,500 of cash.

Related exercise material: **BE9-9, E9-13, E9-14, E9-15, E9-16, and DO IT! 9-5.**

Comprehensive DO IT! 1

Barrett Company has completed all operating budgets other than the income statement for 2014. Selected data from these budgets follow.

Sales: $300,000
Purchases of raw materials: $145,000
Ending inventory of raw materials: $15,000
Direct labor: $40,000
Manufacturing overhead: $73,000, including $3,000 of depreciation expense
Selling and administrative expenses: $36,000 including depreciation expense of $1,000
Interest expense: $1,000

Principal payment on note: $2,000
Dividends declared: $2,000
Income tax rate: 30%

Other information:

Assume that the number of units produced equals the number sold.
Year-end accounts receivable: 4% of 2014 sales.
Year-end accounts payable: 50% of ending inventory of raw materials.
Interest, direct labor, manufacturing overhead, and selling and administrative expenses other than depreciation are paid as incurred.
Dividends declared and income taxes for 2014 will not be paid until 2015.

Barrett Company
Balance Sheet
December 31, 2013

Assets		
Cash		$20,000
Raw materials inventory		10,000
Equipment	$40,000	
Less: Accumulated depreciation	4,000	36,000
Total assets		$66,000
Liabilities and Stockholders' Equity		
Accounts payable	$ 5,000	
Notes payable	22,000	
Total liabilities		$27,000
Common stock	25,000	
Retained earnings	14,000	39,000
Total liabilities and stockholders' equity		$66,000

Instructions

(a) Calculate budgeted cost of goods sold.
(b) Prepare a budgeted income statement for the year ending December 31, 2014.
(c) Prepare a budgeted balance sheet as of December 31, 2014.

Action Plan

- ✔ Recall that beginning raw materials inventory plus purchases less ending raw materials inventory equals direct materials used.
- ✔ Prepare the budgeted income statement before the budgeted balance sheet.
- ✔ Use the standard form of a cash budget to determine cash on the budgeted balance sheet.
- ✔ Add budgeted depreciation expense to accumulated depreciation at the beginning of the year to determine accumulated depreciation on the budgeted balance sheet.

Solution to Comprehensive DO IT! 1

(a) Beginning raw materials + Purchases − Ending raw materials = Cost of direct materials used ($10,000 + $145,000 − $15,000 = $140,000)
Direct materials used + Direct labor + Manufacturing overhead = Cost of goods sold ($140,000 + $40,000 + $73,000 = $253,000)

(b)

Barrett Company
Budgeted Income Statement
For the Year Ending December 31, 2014

Sales		$300,000
Cost of goods sold		253,000
Gross profit		47,000
Selling and administrative expenses	$36,000	
Interest expense	1,000	37,000
Income before income tax expense		10,000
Income tax expense (30%)		3,000
Net income		$ 7,000

Action Plan (cont'd)

- ✔ Add budgeted net income to retained earnings from the beginning of the year and subtract dividends declared to determine retained earnings on the budgeted balance sheet.
- ✔ Verify that total assets equal total liabilities and stockholders' equity on the budgeted balance sheet.

(c)

Barrett Company
Budgeted Balance Sheet
December 31, 2014

Assets		
Cash[1]		$17,500
Accounts receivable (4% × $300,000)		12,000
Raw materials inventory		15,000
Equipment	$40,000	
Less: Accumulated depreciation	8,000	32,000
Total assets		$76,500
Liabilities and Stockholders' Equity		
Accounts payable (50% × $15,000)	$ 7,500	
Income taxes payable	3,000	
Dividends payable	2,000	
Note payable	20,000	
Total liabilities		$32,500
Common stock	25,000	
Retained earnings[2]	19,000	44,000
Total liabilities and stockholders' equity		$76,500

[1]Beginning cash balance		$ 20,000
Add: Collections from customers (96% × $300,000 sales)		288,000
Total available cash		308,000
Less: Disbursements		
Direct materials ($5,000 + $145,000 − $7,500)	$142,500	
Direct labor	40,000	
Manufacturing overhead	70,000	
Selling and administrative expenses	35,000	
Total disbursements		287,500
Excess of available cash over cash disbursements		20,500
Financing		
Less: Repayment of principal and interest		3,000
Ending cash balance		$ 17,500

[2]Beginning retained earnings + Net income − Dividends declared = Ending retained earnings ($14,000 + $7,000 − $2,000 = $19,000)

Comprehensive DO IT! 2

Action Plan

- ✔ Know the form and content of the sales budget.
- ✔ Prepare the sales budget first as the basis for the other budgets.
- ✔ Determine the units that must be produced to meet anticipated sales.
- ✔ Know how to compute the beginning and ending finished goods units.

Asheville Company is preparing its master budget for 2014. Relevant data pertaining to its sales and production budgets are as follows.

Sales. Sales for the year are expected to total 2,100,000 units. Quarterly sales, as a percentage of total sales, are 15%, 25%, 35%, and 25%, respectively. The sales price is expected to be $70 per unit for the first three quarters and $75 per unit beginning in the fourth quarter. Sales in the first quarter of 2015 are expected to be 10% higher than the budgeted sales volume for the first quarter of 2014.

Production. Management desires to maintain ending finished goods inventories at 20% of the next quarter's budgeted sales volume.

Instructions

Prepare the sales budget and production budget by quarters for 2014.

Solution to Comprehensive DO IT! 2

Asheville Company
Sales Budget
For the Year Ending December 31, 2014

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Year
Expected unit sales	315,000	525,000	735,000	525,000	2,100,000
Unit selling price	× $70	× $70	× $70	× $75	—
Total sales	$22,050,000	$36,750,000	$51,450,000	$39,375,000	$149,625,000

Asheville Company
Production Budget
For the Year Ending December 31, 2014

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Year
Expected unit sales	315,000	525,000	735,000	525,000	
Add: Desired ending finished goods units	105,000	147,000	105,000	69,300[a]	
Total required units	420,000	672,000	840,000	594,300	
Less: Beginning finished goods units	63,000[b]	105,000	147,000	105,000	
Required production units	357,000	567,000	693,000	489,300	2,106,300

[a]Estimated first-quarter 2015 sales volume 315,000 + (315,000 × 10%) = 346,500; 346,500 × 20%
[b]20% of estimated first-quarter 2014 sales units (315,000 × 20%)

DO IT! REVIEW

Identify budget terminology.
(LO 2, 3), K

DO IT! 9-1 Use this list of terms to complete the sentences that follow.

Long-range plans	Participative budgeting
Sales forecast	Operating budgets
Master budget	Financial budgets

1. ____________ establish goals for the company's sales and production personnel.
2. The ____________ is a set of interrelated budgets that constitutes a plan of action for a specified time period.
3. ____________ reduces the risk of having unrealistic budgets.
4. ____________ include the cash budget and the budgeted balance sheet.
5. The budget is formed within the framework of a ____________.
6. ____________ contain considerably less detail than budgets.

Production budget.
(LO 3), AP

DO IT! 9-2 Zeller Company estimates that 2014 unit sales will be 20,000 in quarter 1, 24,000 in quarter 2, and 29,000 in quarter 3, at a unit selling price of $20. Management desires to have ending finished goods inventory equal to 10% of the next quarter's expected unit sales. Prepare a production budget by quarter for the first six months of 2014.

Prepare sales, production, and direct materials budgets.
(LO 3), AP

DO IT! 9-3 Ash Creek Company is preparing its master budget for 2014. Relevant data pertaining to its sales, production, and direct materials budgets are as follows.

Sales. Sales for the year are expected to total 1,000,000 units. Quarterly sales are 20%, 20%, 30%, and 30%, respectively. The sales price is expected to be $40 per unit for the first three quarters and $45 per unit beginning in the fourth quarter. Sales in the first quarter of 2015 are expected to be 20% higher than the budgeted sales for the first quarter of 2014.

Production. Management desires to maintain the ending finished goods inventories at 25% of the next quarter's budgeted sales volume.

Direct materials. Each unit requires 2 pounds of raw materials at a cost of $12 per pound. Management desires to maintain raw materials inventories at 10% of the next quarter's production requirements. Assume the production requirements for first quarter of 2015 are 450,000 pounds.

Prepare the sales, production, and direct materials budgets by quarters for 2014.

Calculate budgeted total unit cost and prepare budgeted income statement.
(LO 4), AP

DO IT! 9-4 Ash Creek Company is preparing its budgeted income statement for 2014. Relevant data pertaining to its sales, production, and direct materials budgets can be found in DO IT! 9-3.

In addition, Ash Creek budgets 0.3 hours of direct labor per unit, labor costs at $15 per hour, and manufacturing overhead at $20 per direct labor hour. Its budgeted selling and administrative expenses for 2014 are $6,000,000.

(a) Calculate the budgeted total unit cost.
(b) Prepare the budgeted income statement for 2014.

Determine amount of financing needed.
(LO 5), AP

DO IT! 9-5 Batista Company management wants to maintain a minimum monthly cash balance of $20,000. At the beginning of April, the cash balance is $25,000, expected cash receipts for April are $245,000, and cash disbursements are expected to be $255,000. How much cash, if any, must be borrowed to maintain the desired minimum monthly balance?