

Master Budgeting

The Basic Framework of Budgeting

A **budget** is a detailed quantitative plan for acquiring and using financial and other resources over a specified forthcoming time period.

1. The act of preparing a budget is called **budgeting**.
2. The use of budgets to control an organization's activity is known as **budgetary control**.

Planning and Control

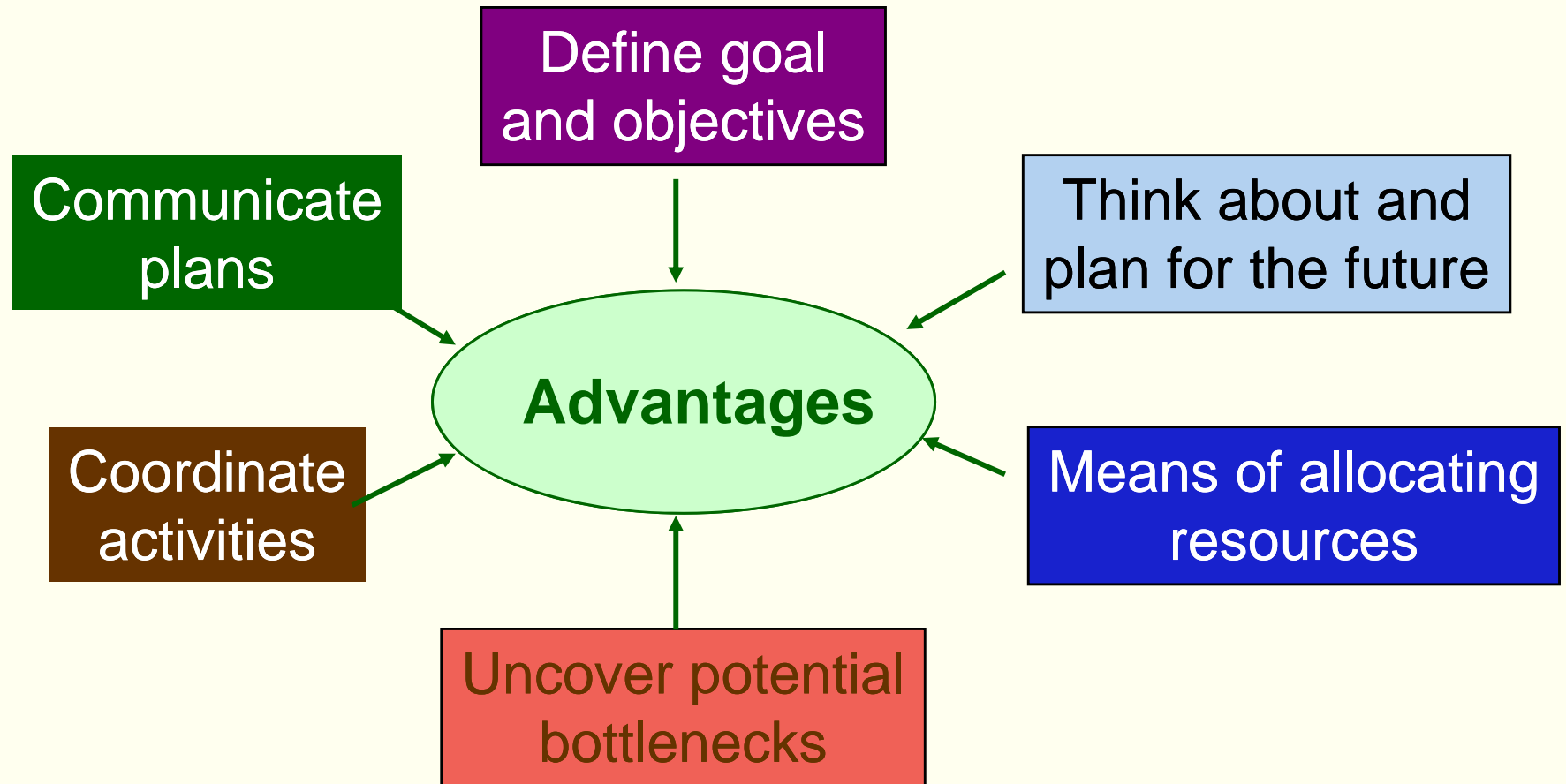
Planning –

involves developing objectives and preparing various budgets to achieve these objectives.

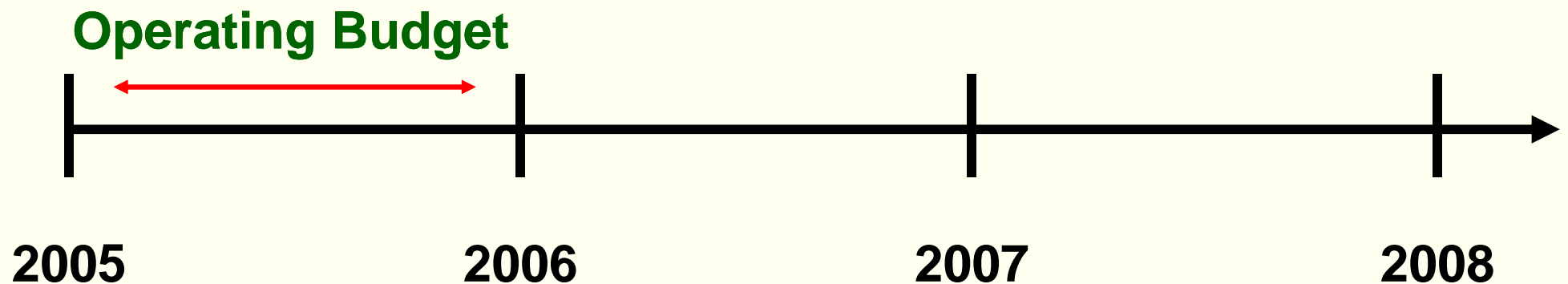
Control –

involves the steps taken by management that attempt to ensure the objectives are attained.

Advantages of Budgeting



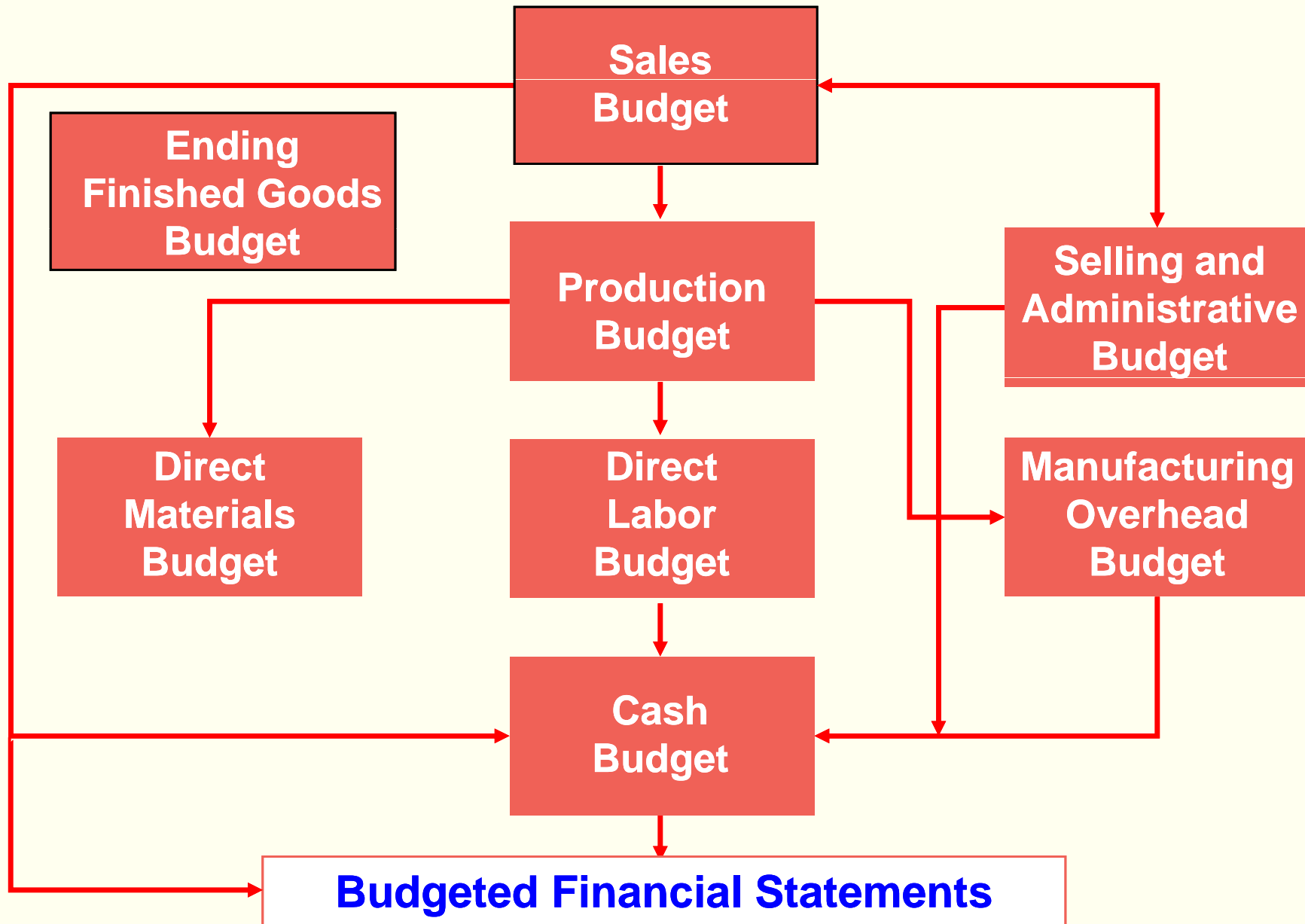
Choosing the Budget Period



The annual operating budget may be divided into quarterly or monthly budgets.

A continuous budget is a 12-month budget that rolls forward one month (or quarter) as the current month (or quarter) is completed.

The Master Budget: An Overview



Budgeting Example

① Royal Company is preparing budgets for the quarter ending June 30.

② Budgeted sales for the next five months are:

April 20,000 units

May 50,000 units

June 30,000 units

July 25,000 units

August 15,000 units.

③ The selling price is \$10 per unit.

The Sales Budget

The screenshot shows a spreadsheet application window with a menu bar (File, Edit, View, Insert, Format, Tools, Data, Window, Help, Adobe PDF) and a toolbar. The active cell is N13. The spreadsheet contains a table with the following data:

	A	B	C	D	E	F	G	H	I
1									
2			April	May	June	Quarter			
3	Budgeted sales in units		20,000	50,000	30,000	100,000			
4	Selling price per unit		\$ 10	\$ 10	\$ 10	\$ 10			
5	Total budgeted sales		\$ 200,000	\$ 500,000	\$ 300,000	\$ 1,000,000			
6									

Expected Cash Collections

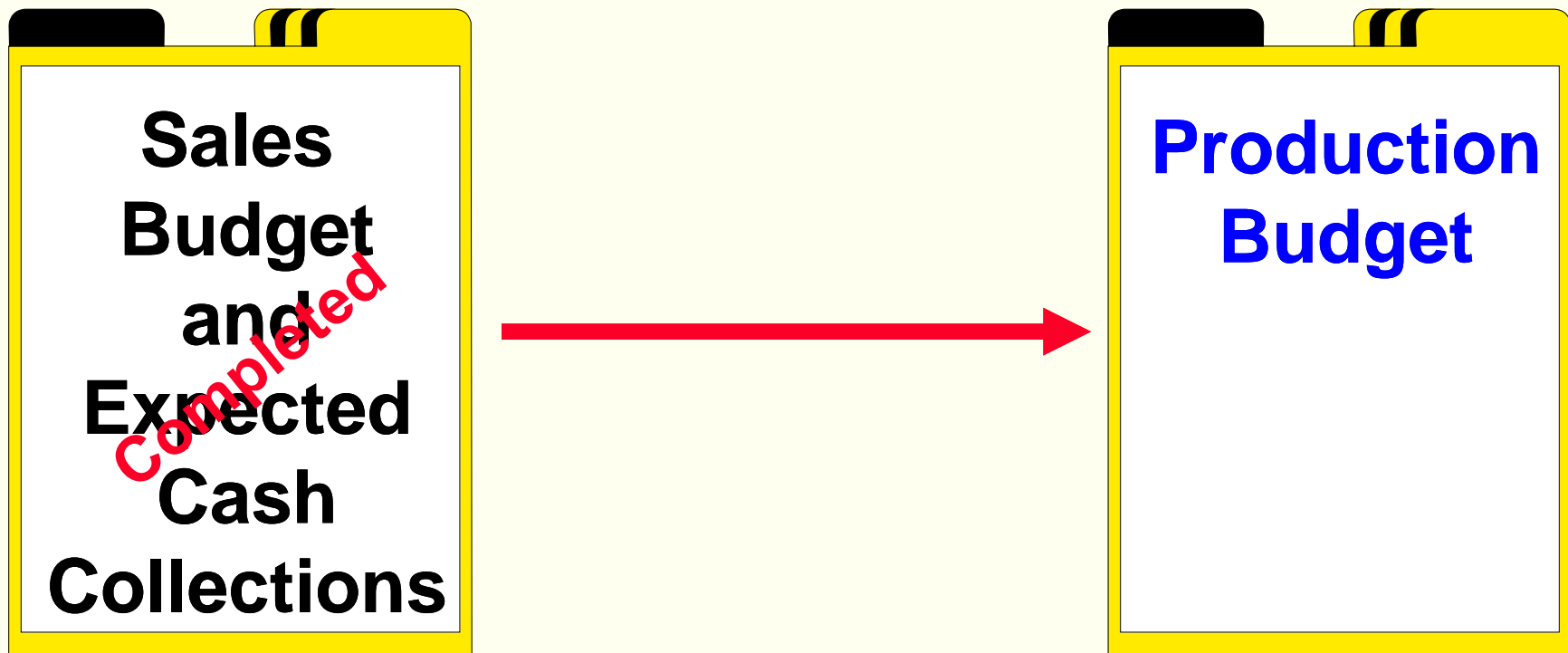
- All sales are on account.
- Royal's collection pattern is:
 - 70% collected in the month of sale,
 - 25% collected in the month following sale,
 - 5% uncollectible.
- The March 31 accounts receivable balance of \$30,000 will be collected in full.

Expected Cash Collections

File Edit View Insert Format Tools Data Window Help Adobe PDF										
N23 &										
	A	B	C	D	E	F	G	H	I	J
8			April		May		June		Quarter	
9	Accounts receivable 3/31		\$ 30,000						\$ 30,000	
10	April Sales									
11	70% x \$200,000		140,000						140,000	
12	25% x \$200,000				50,000				50,000	
13	May Sales									
14	70% x \$500,000				350,000				350,000	
15	25% x \$500,000						125,000		125,000	
18	Total cash collections		\$ 170,000		\$ 400,000					

From the Sales Budget for May.

The Production Budget



Production must be adequate to meet budgeted sales and provide for sufficient ending inventory.

The Production Budget

- The management at Royal Company wants ending inventory to be equal to 20% of the following month's budgeted sales in units.
- On March 31, 4,000 units were on hand.

Let's prepare the production budget.

The Production Budget

		April	May	June	Quarter
21					
22	Budgeted Sales	20,000	50,000	30,000	100,000
23	Add: Desired ending inventory	10,000	6,000	5,000	5,000
24	Total Needs	30,000	56,000	35,000	105,000
25	Less: Beginning inventory	4,000	10,000	6,000	4,000
26	Required production	26,000	46,000	29,000	101,000
27					

Assumed ending inventory.

The Production Budget

The Direct Materials Budget

- At Royal Company, *five pounds* of material are required per unit of product.
- Management wants materials on hand at the end of each month equal to *10%* of the following month's production.
- On March 31, 13,000 pounds of material are on hand. Material cost is *\$0.40* per pound.
Let's prepare the direct materials budget.

The Direct Materials Budget

M51										
	A	B	C	D	E	F	G	H	I	J
28			April		May		June		Quarter	
29	Production		26,000		46,000		29,000		101,000	
30	Materials per unit (pounds)		5		5		5		5	
31	Production needs		130,000		230,000		145,000		505,000	
32	Add: Desired ending inventory		23,000		14,500		11,500		11,500	
33	Total needed		153,000		244,500		156,500		516,500	
34	Less: Beginning inventory		13,000		23,000		14,500		13,000	
35	Materials to be purchased		140,000		221,500		142,000		503,500	
36										

Assumed ending inventory

The Direct Materials Budget

Expected Cash Disbursement for Materials

- Royal pays *\$0.40 per pound* for its materials.
- *One-half* of a month's purchases is paid for in the month of purchase; the other half is paid in the following month.
- The March 31 accounts payable balance is \$12,000.

Let's calculate expected cash disbursements.

Expected Cash Disbursement for Materials

	A	B	C	D	E	F	G	H	I	J
28			April		May		June		Quarter	
37		Accounts payable 3/31	\$ 12,000						\$ 12,000	
38		April purchases								
39		50% x \$56,000	28,000						28,000	
40		50% x \$56,000			28,000				28,000	
41										
42										
43										
44										
45										
46		Total cash disbursements								
47										

Compute the expected cash disbursements for materials for the quarter.

$$140,000 \text{ lbs.} \times \$0.40/\text{lb.} = \$56,000$$

The Direct Labor Budget

- At Royal, each unit of product requires *0.05* hours (3 minutes) of direct labor.
- The Company has a “no layoff” policy so all employees will be paid for 40 hours of work each week.
- In exchange for the “no layoff” policy, workers agree to a wage rate of \$10 per hour regardless of the hours worked (no overtime pay).
- For the next three months, the direct labor workforce will be paid for a minimum of 1,500 hours per month.

Let's prepare the direct labor budget.

The Direct Labor Budget

	A	B	C	D	E	F	G	H	I	J
1										
28			April	May	June		Quarter			
48		Units of production	26,000	46,000	29,000		101,000			
49		Direct labor per unit	0.05	0.05	0.05		0.05			
50		Labor hours required	1,300	2,300	1,450		5,050			
51		Guaranteed labor hours	1,500	1,500	1,500					
52		Labor hours paid	1,500	2,300	1,500		5,300			
53		Hourly wage rate	\$ 10	\$ 10	\$ 10		\$ 10			
54		Total direct labor costs	\$ 15,000	\$ 23,000	\$ 15,000		\$ 53,000			
55										

Manufacturing Overhead Budget

- At Royal, manufacturing overhead is applied to units of product on the basis of direct labor hours.
- The variable manufacturing overhead rate is \$20 per direct labor hour.
- Fixed manufacturing overhead is \$50,000 per month and includes \$20,000 of noncash costs (primarily depreciation of plant assets).

Let's prepare the manufacturing overhead budget.

Manufacturing Overhead Budget

Manufacturing Overhead Budget

O113										
	A	B	C	D	E	F	G	H	I	J
84										
85			April	May	June	Quarter				
86		Budgeted DLH	1,300	2,300	1,450	5,050				
87		Variable mfg. OH rate	\$ 20	\$ 20	\$ 20	\$ 20				
88		Variable mfg. OH costs	\$ 26,000	\$ 46,000	\$ 29,000	\$ 101,000				
89		Fixed mfg. OH costs	50,000	50,000	50,000	150,000				
90		Total mfg. OH costs	76,000	96,000	79,000	251,000				
91		Less: noncash costs	20,000	20,000	20,000	60,000				
92		Cash disbursements								
93		for manufacturing OH	\$ 56,000	\$ 76,000	\$ 59,000	\$ 191,000				
94										

Depreciation is a noncash charge.

Ending Finished Goods Inventory Budget

<u>Production costs per unit</u>	<u>Quantity</u>	<u>Cost</u>	<u>Total</u>
Direct materials	5.00 lbs.	\$ 0.40	\$ 2.00
Direct labor	0.05 hrs.	\$10.00	0.50
Manufacturing overhead	0.05 hrs.	\$49.70	2.49
			<u>\$ 4.99</u>
<u>Budgeted finished goods inventory</u>			
Ending inventory in units			5,000
Unit product cost			<u>\$ 4.99</u>
Ending finished goods inventory			<u><u>\$24,950</u></u>

Production Budget.

Selling and Administrative Expense Budget

- At Royal, the selling and administrative expenses budget is divided into variable and fixed components.
- The variable selling and administrative expenses are \$0.50 per unit sold.
- Fixed selling and administrative expenses are \$70,000 per month.
- The fixed selling and administrative expenses include \$10,000 in costs – primarily depreciation – that are not cash outflows of the current month.

Let's prepare the company's selling and administrative expense budget.

Selling and Administrative Expense Budget

Selling and Administrative Expense Budget

	A	B	C	D	E	F	G	H	I	J
1										
28			April	May	June	Quarter				
48		Budgeted sales	20,000							
57		Variable S & A rate	\$ 0.50							
58		Variable expenses	\$ 10,000							
59		Fixed S & A expenses	70,000							
60		Total S & A expenses	80,000							
61		Less: Noncash expenses	10,000							
62		Cash S & A expenses	\$ 70,000							?
63										

Calculate the selling and administrative cash expenses for the quarter.

The Cash Budget

Royal:

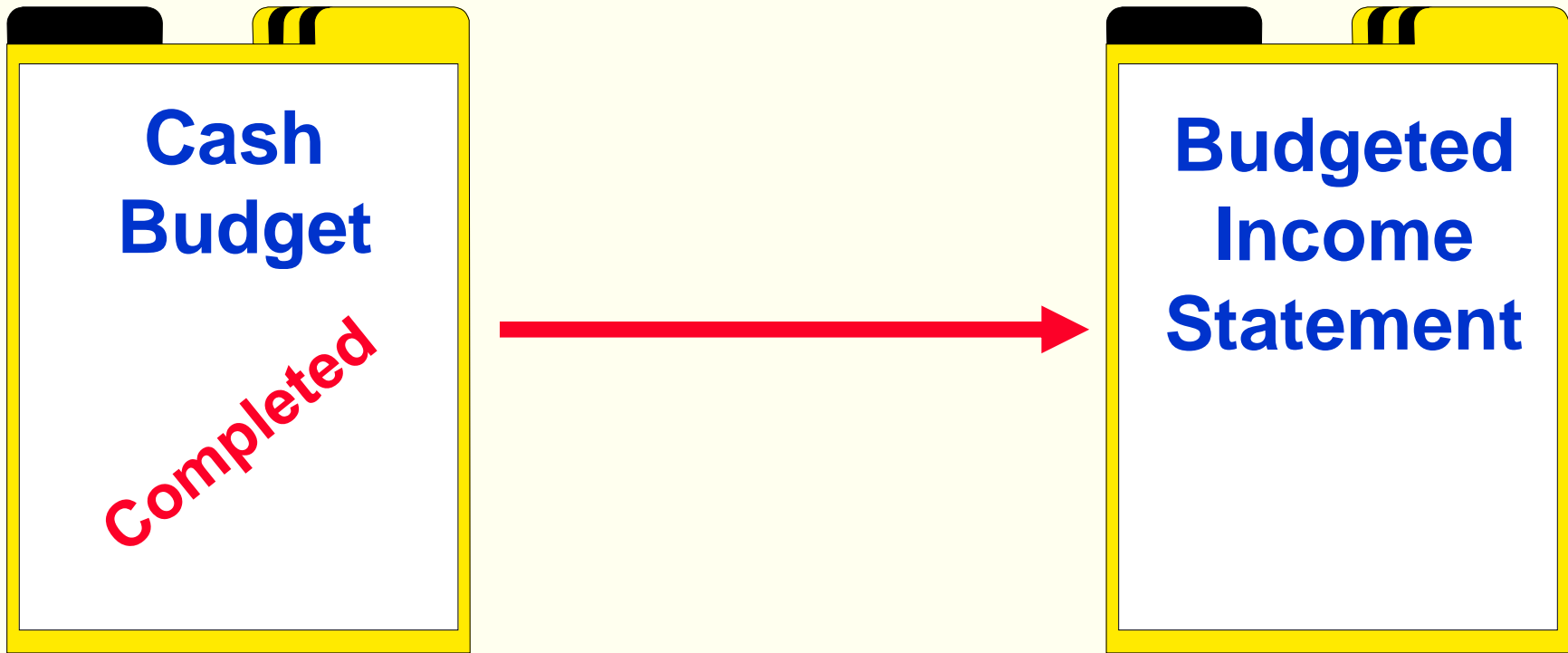
- Maintains a 16% open line of credit for \$75,000
- Maintains a minimum cash balance of \$30,000
- Borrows on the first day of the month and repays loans on the last day of the quarter.
- Pays a cash dividend of \$49,000 in April
- Purchases \$143,700 of equipment in May and \$48,300 in June (both purchases paid in cash)
- Has an April 1 cash balance of \$40,000

The Cash Budget

	A	B	C	D	E	F	G	H	I	J
63			April		May		June		Quarter	
64	Beginning cash balance	\$ 40,000	\$ 30,000	\$ 30,000	\$ 40,000					
65	Add: Cash collections	170,000	400,000	335,000	905,000					
66	Total cash available	210,000	430,000	365,000	945,000					
67	Less: Cash disbursements									
				72,300	72,700	185,000				
				23,000	15,000	53,000				
				76,000	59,000	191,000				
				85,000	75,000	230,000				
				143,700	48,300	192,000				
73	Dividend	49,000	-	-	49,000					
74	Total disbursements	230,000	400,000	270,000	900,000					
75	Excess (deficiency)	(20,000)	30,000	95,000	45,000					
76	Financing:									
77	Borrowing	50,000	-	-	50,000					
78	Repayments	-	-	(50,000)	(50,000)					
79	Interest	-	-	(2,000)	(2,000)					
80	Total financing	50,000	-	(52,000)	(2,000)					
81	Ending cash balance	\$ 30,000	\$ 30,000	\$ 43,000	\$ 43,000					
82										

$\$50,000 \times 16\% \times 3/12 - \$2,000$
 Borrowings on April 1 and
 repayment on June 30.

The Budgeted Income Statement



After we complete the cash budget, we can prepare the budgeted income statement for Royal.

The Budgeted Income Statement

Royal Company Budgeted Income Statement For the Three Months Ended June 30	
Sales (100,000 units @ \$10)	\$ 1,000,000
Cost of goods sold (100,000 @ \$4.99)	499,000
Gross margin	<u>501,000</u>
Selling and administrative expenses	<u>260,000</u>
Operating income	241,000
Interest expense	<u>2,000</u>
Net income	<u><u>\$ 239,000</u></u>

Sales Budget.

Ending Finished Goods Inventory.

Selling and Administrative Expense Budget.

Cash Budget.

The Budgeted Balance Sheet

Royal reported the following account balances prior to preparing its budgeted financial statements:

- Land - \$50,000
- Common stock - \$200,000
- Retained earnings - \$146,150
- Equipment - \$175,000

**Royal Company
Budgeted Balance Sheet
June 30**

Current assets

Cash	\$	43,000
Accounts receivable		75,000
Raw materials inventory		4,600
Finished goods inventory		24,950
Total current assets		147,550

Property and equipment

Land		50,000
Equipment		367,000
Total property and equipment		417,000

Total assets \$ 564,550

Accounts payable	\$	28,400
Common stock		200,000
Retained earnings		336,150
Total liabilities and equities		\$ 564,550

25% of June sales of \$300,000.

11,500 lbs. at \$0.40/lb.

5,000 units at \$4.99 each.

50% of June purchases of \$56,800.

**Royal Company
Budgeted Balance Sheet
June 30**

Current assets

Cash

\$ 49,000

Accounts receivable

Raw materials inventory

Finished goods inventory

Total current assets

Property and equipment

Land

50,000

Equipment

367,000

Total property and equipment

417,000

Total assets

\$ 564,550

Accounts payable

\$ 28,400

Common stock

200,000

Retained earnings

336,150

Total liabilities and equities

\$ 564,550

Beginning balance	\$146,150
Add: net income	239,000
Deduct: dividends	(49,000)
Ending balance	<u>\$336,150</u>

