



Workbook activities

This section contains activities which are suitable for use with the first three chapters of *Costing & Reports Tutorial* from Osborne Books.

1 AN INTRODUCTION TO COST ACCOUNTING

- 1.1 (a) Distinguish between cost units and cost centres.
- (b) Suggest one cost unit and two cost centres for:
- a firm of accountants
 - a parcel delivery company

- 1.2 Suggest likely cost centres for each of the following:

A theatre in a provincial town, where touring productions are staged. The theatre has a bar and a confectionery counter. Ticket sales are dealt with by the theatre's own box office, and the plays are advertised locally.

A garage, which sells new and used cars of two different makes. Cars are also repaired, serviced and valeted.

- 1.3 The following cost codes are used by Proton Products Limited:
- factory, 200
 - office, 250
 - depreciation, 700

State the codes that will be used to charge depreciation to:

- (a) the factory cost centre
- (b) the office cost centre

- 1.4 The following are items of expenditure incurred in a company which manufactures clothing. Sort them and enter them into three columns, headed 'Materials costs', 'Labour costs', and 'Expenses'.
- (a) Cost of insurance of buildings
- (b) Salaries of the office staff
- (c) Cost of zip fasteners
- (d) Cost of electricity
- (e) Wages of storekeepers
- (f) Overtime payments for machinists
- (g) Cost of a consignment of blue denim
- (h) Cost of pre-printed stationery
- (i) Cost of television advertising
- (j) Cost of cones of thread
- (k) Road fund licences for vehicles
- (l) Canteen chef's wages

1.5 Which one of the following is normally classed as a fixed cost for a manufacturing business?

- (a) raw materials to make the product
- (b) salaries of maintenance staff
- (c) production workers paid on the basis of work done
- (d) royalties paid to the designer of the product

Answer (a) or (b) or (c) or (d)

1.6 Which one of the following is normally classed as a variable cost for a 'high street' printing shop?

- (a) supervisor's salary
- (b) rent of shop
- (c) electricity used
- (d) cost of paper

Answer (a) or (b) or (c) or (d)

1.7 The following figures relate to the accounts of Manley Manufacturing Limited for the year ended 31 December 2004:

	£
Raw materials used in factory	75,280
Wages of production workers	69,180
Salaries of maintenance staff	30,950
Royalties paid to designer of product	15,110
Depreciation of factory plant and machinery	5,000
Electricity	4,160
Rent and rates	10,290
Salaries of office staff	38,450
Depreciation of office equipment	2,400
Sundry factory expenses	3,020
Sundry office expenses	1,590
Sales revenue	315,840

You are to:

- (a) Prepare a total cost statement for the year which shows:
- prime cost
 - production cost
 - total cost

Discuss any assumptions that you make and state if you need further information from the company.

- (b) Prepare a profit statement for the year (on the assumption that all the goods manufactured have been sold).

Note: please see the Appendix (page 286) for specimen formats of a total cost statement and a profit statement.

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- 1.8** Bunbury Buildings Limited makes garages and garden sheds which are pre-fabricated as a 'flat pack' in the factory to customer specifications.

You are working in the costing section of Bunbury Buildings and are asked to analyse the following cost items for May 2004 into the appropriate column and to agree the totals:

COST ITEM	TOTAL COST	PRIME COST	PRODUCTION OVERHEADS	ADMIN COSTS	SELLING AND DISTRIBUTION COSTS
	£	£	£	£	£
Wages of employees working on pre-fabrication line	19,205				
Supervisors' salaries	5,603				
Materials for making pre-fabricated panels	10,847				
Cleaning materials for factory machinery	315				
Hire of specialist equipment for one particular job	454				
Sundry factory expenses	872				
Salaries of office staff	6,091				
Repairs to sales staff cars	731				
Depreciation of office equipment	200				
Magazine advertising	1,508				
Sundry office expenses	403				
Hire of display stands used at garden centres	500				
Office stationery	276				
TOTALS	47,005				

2 MATERIALS COSTS

- 2.1 (a) Suggest:
- two ordering costs
 - two stock holding costs
- for an organisation that holds a stock of stationery for its own use.
- (b) Calculate the Economic Order Quantity (EOQ) from the following information for boxes of 500 C5 envelopes:
- annual usage 200 boxes
 - ordering cost £30.00 per order
 - stock holding cost £1.20 per box per year

Note:

The formula for EOQ is

$$\sqrt{\frac{2 \times \text{annual usage} \times \text{ordering cost}}{\text{stock holding cost}}}$$

- 2.2 (a) Explain the principles of Just-In-Time (JIT) delivery systems and give one example for a manufacturing business and one example for a service business.
- (b) What are the factors that a business or organisation should consider before using JIT for delivery of its purchases from suppliers?
- 2.3 You are providing accounting help to a friend, Caryl Jones, who has recently set up in business making garden seats and tables. She understands the need to keep records of the different types of timber she has in stock. She has heard of the terms 'first in, first out' and 'last in, first out'; however, she thinks they refer to the physical movement of stock and are not relevant to the pricing of issues to production.

You are to explain by means of a memorandum:

- why FIFO and LIFO are used to price issues of materials
- whether or not FIFO and LIFO relate to the physical movement of stock

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- 2.4 The supplies department of Peoples Bank has the following movements of an item of stock for June 2004:

		units	cost per unit £	total cost £
1 June	Balance	2,000	2.00	4,000
15 June	Receipts	1,800	2.50	4,500
21 June	Issues	3,000		

You are to complete the following table for FIFO and LIFO:

DATE 2004	DESCRIPTION	FIFO £	LIFO £
21 June	Total issue value		
30 June	Total closing stock value		

- 2.5 Wyezed Limited manufactures a product using two types of materials, Wye and Zed. The accounting policy of the company is to issue material Wye to production using a FIFO basis, and material Zed on a LIFO basis.

The following are the stock movements of materials during the month of August 2004:

Material Wye – FIFO basis

2004		units	cost per unit £
1 Aug	Balance	5,000	5.00
10 Aug	Receipts	2,000	5.25
18 Aug	Receipts	3,000	5.50
23 Aug	Issues	8,000	

Material Zed – LIFO basis

2004		units	cost per unit £
1 Aug	Balance	10,000	4.00
6 Aug	Receipts	5,000	4.20
19 Aug	Receipts	6,000	4.40
24 Aug	Issues	12,000	

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(b) At 31 August 2004, the net realisable value of each type of stock is:

- material Wye £10,000
- material Zed £44,000

Show the amount at which stocks should be valued on 31 August 2004 in order to comply with standard accounting practice.

2.6 Wyevale Tutorial College is a private college which runs courses for local companies on business and management subjects. The stocks of paper used for photocopying course material are maintained on a FIFO basis at present. The College's accountant has suggested that a change should be made to the LIFO basis.

As an accounts assistant you have been asked to prepare information based on the stock movements of photocopying paper for February 2004 which are as follows:

1 February	Opening stock	100 reams* at £2.10 per ream
5 February	Issues	80 reams
10 February	Purchases	150 reams at £2.20 per ream
15 February	Issues	90 reams
18 February	Purchases	200 reams at £2.25 per ream
24 February	Issues	120 reams

* a ream is 500 sheets

You are to:

- (a) Complete the stores ledger record shown (see next page) for February, using the FIFO basis.
- (b) Calculate the closing stock value at 29 February 2004 using FIFO and LIFO, and then complete the following table:

Method	Closing stock valuation		
	Quantity (reams)	Cost (£)	Total Cost (£)
FIFO			
LIFO			

STORES LEDGER RECORD									
Photocopying paper (reams)									
Date	Receipts			Issues			Balance		
	Quantity	Cost £	Total Cost £	Quantity	Cost £	Total Cost £	Quantity	Cost £	Total Cost £
2004									
1 Feb	Balance						100	2.10	<u>210</u>

- (c) Write a short memorandum on behalf of the accountant, which explains the difference between the FIFO and LIFO methods of stock valuation. The memorandum will be circulated to members of the College's Finance Committee for discussion and should include your recommendation of the method to be used to ensure that the courses run by the College are not undercosted.

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- 2.7** Go Games Limited sells computer games. At the end of the financial year, the company's stocks include:

300 copies of 'X1X' game that cost £40 each and will sell at only £30, because it is an out-of-date version.

260 copies of a newly-released game, 'X-TRA-G' that cost £56 each and will be sold for £90 each.

100 copies of a current version of 'X-TREME 2' game, which is expected to be up-dated for 'X TREME 3' in the near future. These cost £35 each and normally sell for £55, but because they may soon be out of date, Go Games Limited has reduced the price to £42 each.

You are to:

Calculate the total value of the stock items described above, in order to comply with standard accounting practice.

- 2.8** A football club shop holds stocks of replica club strip as well as other goods and clothing. The club strip has recently been changed and the old version will have to be sold at greatly reduced prices. At the end of the financial year, the stocks in the shop include:

	Cost	Net realisable value
	£	£
Replica strip (old version)	3,800	2,500
Replica strip (new version)	8,400	11,000
	<u>12,200</u>	<u>13,500</u>

You are to:

Determine the total value of the stock items above, in order to comply with standard accounting practice.

- 2.9** SummerDaze Limited manufactures plastic garden furniture. Its best seller is the 'Calypso' seat made from white plastic.

The company uses the first in, first out (FIFO) method for valuing issues of materials to production and stocks of materials.

As an accounts assistant at SummerDaze you have been given the following tasks.

Task 1

Complete the following stores ledger record for white plastic for April 2004:

STORES LEDGER RECORD								
Product: White plastic								
Date	Receipts			Issues			Balance	
	Quantity kgs	Cost per kg £	Total Cost £	Quantity kgs	Cost per kg £	Total Cost £	Quantity kgs	Total Cost £
2004								
Balance at 1 April							20,000	20,000
7 April	10,000	1.10	11,000				30,000	31,000
12 April				25,000				
20 April	20,000	1.20	24,000					
23 April				15,000				

Task 2

All issues of white plastic are for the manufacture of the 'Calypso' seat. The following cost accounting codes are used to record materials costs:

<i>code number</i>	<i>description</i>
2000	stock of white plastic
2100	work-in-progress – Calypso seats
3000	creditors/purchases ledger control

Complete the following table, including the cost accounting codes, to record separately the two purchases and two issues of white plastic in the cost accounting records.

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2004	Code	Debit	Credit
7 April			
7 April			
12 April			
12 April			
20 April			
20 April			
23 April			
23 April			

2.10 Barkla Bakery Limited makes fruit cakes which are sold to supermarket chains.

You are an accounts assistant at the bakery; your duties include keeping the records of materials stocks up-to-date.

Task 1

Please refer to the stores ledger record shown on page 20.

- You are to complete the stores ledger record using the information from the materials documentation below and on the next page. You will need to identify and apply the stock valuation method in use. Note that VAT is not entered in the cost accounting records.
- Calculate the balance of stock at the close of the week ending 6 August 2004. Note that it is company policy for returns from production cost centres to stores to be valued at the price of the most recent batch issued from stores.

Task 2

Please refer to the materials requisition and the materials returned documentation below and on the next page.

- You are to complete the column headed 'For cost office use only' on each of these two documents.

MATERIALS REQUISITION			
Department: Baking		Document no: MR 112	
		Date: 5 August 2004	
<i>Code no</i>	<i>Description</i>	<i>Quantity</i>	For cost office use only <i>Value of issue (£)</i>
DMF	Dried mixed fruit	330 kgs	
Authorised by: <i>Jan Borthwick</i>		Received by: <i>J Trebah</i>	

MATERIALS RETURNED			
Department: Baking		Document no: MRN 41	
		Date: 4 August 2004	
Code no	Description	Quantity	For cost office use only Value of return (£)
DMF	Dried mixed fruit	10 kgs	
Authorised by: <i>Jan Borthwick</i>		Received by: <i>J Trebah</i>	

SALES INVOICE							
Fruit 'n Nuts Limited 222 Durning Road Chapeltown TR10 0UP							
Invoice to: Barkla Bakery Limited Porth Road Perranville TR5 8TZ	VAT Registration: 136 2496 82 Date/tax point: 6 August 2004 Invoice number: 4567 Your order number: 821						
Description	Total (£)						
Dried mixed fruit: 400 kgs at £0.62 per kg	248.00						
Goods total	248.00						
VAT at 17.5%	43.40						
Total due	291.40						
<div style="display: flex; justify-content: space-between;"> <div> Terms: net 30 days </div> <div style="border: 2px solid black; padding: 5px; transform: rotate(-10deg); width: 250px;"> <p style="text-align: center; margin: 0;">BARKLA BAKERY LIMITED</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding: 2px;">Checked against document number</td> <td style="padding: 2px;"><i>GRN 531</i></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Date received</td> <td style="padding: 2px;"><i>6 August 2004</i></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 2px;">Signed</td> <td style="padding: 2px;"><i>J. Trebah</i></td> </tr> </table> </div> </div>		Checked against document number	<i>GRN 531</i>	Date received	<i>6 August 2004</i>	Signed	<i>J. Trebah</i>
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Date received	<i>6 August 2004</i>						
Signed	<i>J. Trebah</i>						

3 LABOUR COSTS

3.1 Briefly describe *three* sources that are used to gather information about work done in order to make payment to employees.

3.2 Clock cards are used to calculate:

- (a) the wages of employees who work on piecework
- (b) the cost of direct materials
- (c) the salaries of monthly paid employees
- (d) the wages of hourly paid employees

Answer (a) or (b) or (c) or (d)

3.3 HSB Mouldings Limited makes cases for television sets at its modern purpose-built factory. The company uses standard hours produced to measure its labour output.

You are to explain what is meant by a standard labour hour produced.

3.4 An employee makes 160 units of product Exe, 100 units of product Wye, and 250 units of product Zed. The standard labour time allowance per unit is: Exe 5 minutes; Wye 6 minutes; Zed 4 minutes.

What is the number of standard labour hours produced?

- (a) 24
- (b) 35
- (c) 40
- (d) 44

Answer (a) or (b) or (c) or (d)

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- 3.5** Renne Limited pays its employees on a time rate, with a rate per hour for a 35-hour week. There are two overtime rates: time-and-a-third for weekdays (rate 1), and time-and-a-half for weekends (rate 2). The details of three employees for last week are as follows:

<i>Employee</i>	<i>Time rate per hour</i>	<i>Total hours worked</i>	<i>Overtime rate 1 (hours)</i>	<i>Overtime rate 2 (hours)</i>
L Constantinou	£ 8.70	40	3	2
H Gunther	£ 9.00	38	–	3
J White	£10.20	42	5	2

You are to calculate how much each employee earned for the week.

- 3.6** Elend Limited, a manufacturing company, pays its production-line employees on a piecework basis, but with a guaranteed time rate. The details of three employees for last week are as follows:

<i>Employee</i>	<i>Time rate per hour</i>	<i>Hours worked</i>	<i>Production</i>	<i>Piecework rate</i>
J Daniels	£10.00	38	800 units	45p per unit
L Ho	£9.50	35	650 units	55p per unit
T Turner	£9.75	36	500 units	73p per unit

You are to calculate how much each employee earned for the week.

- 3.7** Brock and Company, a manufacturing business, pays its production-line employees on a time basis. A bonus is paid where production is completed faster than the standard hour output; the bonus is 50 per cent of the standard hours saved and is paid at the actual labour rate per hour. The details of four employees for last week are as follows:

<i>Employee</i>	<i>Time rate per hour</i>	<i>Hours worked</i>	<i>Standard hour output</i>	<i>Actual production</i>
H Hands	£10.50	35	50 units	1,950 units
A Khan	£11.75	37	60 units	2,200 units
T Shah	£11.00	38	50 units	2,000 units
D Smith	£10.80	40	60 units	2,490 units

Note: there were no overtime payments last week.

You are to calculate how much each employee earned for the week.

- 3.8** Harts Doors and Windows Limited is a manufacturer of double-glazed doors and windows. The company has three production departments – cutting, assembly, and finishing. Data relating to labour for a four-week period is given on the labour cost sheet below.

The company uses a bonus scheme whereby employees receive 50 per cent of the standard hours saved in each department paid at the actual labour rate per hour. This is not included in the actual wages cost (below), which shows actual hours multiplied by the actual wage rate. There have been no overtime payments.

LABOUR COST SHEET			
for the four weeks ended 26 March 2004			
	CUTTING	ASSEMBLY	FINISHING
Actual wages cost (£)	6,210	4,214	2,268
Standard hours	556	420	290
Actual hours	540	430	270
Standard hours saved			
Bonus (£)			
Total labour cost (£)			

You are to calculate the total labour cost for each department.

- 3.9** The production manager at Chucky Chicken Limited, which produces ready-to-cook chicken dishes, has been talking with the accountant (your boss) about the possibility of introducing a system of bonus payments for production-line employees.

The accountant has asked you to draft a memorandum addressed from her to the production manager which sets out the merits of a bonus system for both the company and its employees.

- 3.10** You are an accounts assistant at Three Oaks Printing Company. One of your tasks is to deal with aspects of the company's payroll. The following queries on this week's payroll have been left for you by the book-keeper:
- We paid £400 as overtime to the production-line employees. Should this be treated as a direct or an indirect cost?
 - There was a machine breakdown in the binding department. As a consequence, production-line employees, who are normally paid on a piecework basis, were paid the time rate for the period of the stoppage, totalling £150. Should this be treated as a direct cost or an indirect cost?

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3.11 SummerDaze Limited manufactures plastic garden furniture. Its best seller is the 'Calypso' seat made from white plastic. The payroll for the week ended 18 June 2004 has been completed, with the following amounts to pay:

	£
• net wages to be paid to employees	8,000
• income tax and National Insurance Contributions (NIC) to be paid to the Inland Revenue	1,650
• pension contributions to be paid to the pension fund	850
TOTAL PAYROLL FOR THE WEEK	<u>10,500</u>

The total payroll for the week is analysed as:

	£
• direct labour costs	7,750
• indirect labour costs	1,500
• administration labour costs	1,250
	<u>10,500</u>

As an accounts assistant at SummerDaze you have been given the following tasks:

Task 1

Prepare wages control account for the week ended 18 June 2004:

Dr	Wages Control Account	Cr
	£	£

Task 2

All of the direct labour costs are for the manufacture of 'Calypso' seats. The following cost accounting codes are in use to record labour costs:

<i>code number</i>	<i>description</i>
2100	work-in-progress: Calypso seats
2200	production overheads
2300	non-production overheads: administration
3100	wages control

Complete the table below to show how the total cost of the payroll is split between the various cost centres of the business.

2004	Code	Debit	Credit
18 June	2100		
18 June	3100		
18 June	2200		
18 June	3100		
18 June	2300		
18 June	3100		

3.12 Perran Limited manufactures surf boards. The following data relates to the production of its 'Porth' brand of board for February 2004:

Total direct labour hours worked	3,000 hours
Normal time hours	2,600 hours
Overtime hours	400 hours
Normal time rate per hour	£10 per hour
Overtime premium per hour	£5 per hour

In the company's cost book-keeping system all direct labour overtime payments are included in direct costs.

The following cost accounting codes are in use to record labour costs:

<i>code number</i>	<i>description</i>
2100	work-in-progress: 'Porth' boards
4400	wages control

You are to:

- calculate the total cost of direct labour for February
- show the cost book-keeping entries, together with account codes, in order to transfer the direct labour costs to work-in-progress