Key Concept 2.9

Perpetual inventory system

Using this system, the inventory account is perpetually updated, being debited with purchases of inventory as they are made and credited with the cost of goods sold, which is transferred (debited) to a cost of sales account at the time of the sale. The cost of goods sold is the balance in the cost of sales account at the end of the period.

The main features of the physical and perpetual inventory systems

	Perpetual system	Physical system
Costs	For most businesses it will require expenditure on computer hardware and software and on staff training	Minimal establishment costs
Treatment of stock purchases	Debited to Cost of sales expense account	Debited to Purchases expense account
Treatment of stock sales	Sales proceeds credited to Sales account, cost of stock sold transferred from Inventory to Cost of sales	Sales proceeds credited to Sales account, no change made to Inventory
Determination of cost of sales	Can be derived at any time from the balance in the Cost of sales account	Requires a physical stocktake: Cost of sales = opening inventory + purchases – closing inventory
Determination of inventory levels	Can be derived at any time from the balance in the Inventory account	Can only be determined accurately by a stocktake or may be roughly estimated by management
Purpose of stocktake	Check actual stock levels against records to identify shrinkage	Determine stock levels for the purpose of calculating cost of sales
Timing of stocktake	May be done at any time convenient to the business. May be done on a departmental basis and at short notice	Needs to be done at the end of the financial period
Ease of gross profit determination	Gross profit may be determined at any time by deducting the Cost of sales balance from the Sales balance	Accurate determination of gross profit requires a stocktake

Inventory costing methods

Before going on to show the accounting entries to deal with inventory, we will briefly consider the question of inventory costing (i.e. exactly what cost will be transferred from Inventory to Cost of sales when a sale is made). The cost of the item sold may be easy to identify (e.g. the cost of a particular car or piece of machinery may be known). In a sense this type of product is a unique and separate stock item. For most products, however, this is not the case – one can of beans looks very much like another and they will all have the same barcode. If, as often happens, the items in stock were purchased at different prices, the question arises: which price should be used as the cost of sale when some of these items are sold? The two most commonly-used methods of stock costing are *First in, First out (FIFO)* and *Weighted average.*

Under the FIFO method, it is assumed that the inventory sold at any time will be the inventory that was first purchased and the cost of sales to be transferred out of the inventory account will be the cost of those 'oldest' units in stock. Under the weighted average system the total cost of inventory at any time is divided by the number of units in stock at that time to get an average unit cost and the amount transferred to the Cost of sales account will be the number of units sold × average cost.

EXAMPLE:

Example 2.11

Grinnings is a hardware store selling a variety of tools, materials and building equipment. One of its stock items is a 2-litre can of Scottish Paint interior gloss enamel. On 1 August it had 26 cans of this paint in stock. Of these, three had been purchased on 15 July at a cost of \$18.90 each, five had been purchased on 22 July, also at \$18.90 each and 18 on 29 July at a cost of \$21.40 each.

On 1 August the firm sold three cans of this paint. What would the cost of sale and the value of the remaining inventory be on both the FIFO and weighted average bases?

COST OF SALE – FIFO

On the first in, first out assumption, the cans sold would be taken to be those purchased on 15 July. Cost of sales is therefore 3 × 18.90 = \$56.70. The value of the remaining inventory is (5 × 18.90) + (18 × 21.40) = \$479.70.

COST OF SALE – WEIGHTED AVERAGE

At 1 August the total value of the inventory is (8 × 18.90) + (18 × 21.40) = \$536.40. Dividing this by 26 gives an average unit cost of \$20.63, which would provide a cost of sale for those three cans (3 × 20.63) of \$61.89 and a remaining inventory after the sale (536.40 – 61.89) of \$474.51.

Which method should be used? In the short term, where stock prices are rising – as was the case in our example and is usually true of most manufactured products – the weighted average will result in a higher cost of sales and hence a lower profit and lower income tax liability. If stock prices are falling, as may happen with some agricultural or horticultural products on a seasonal basis and with products such as petrol, which responds to fluctuations in world markets, FIFO might give a higher short-term cost of sales. In the long run, of course, it makes no difference: the same total cost will be allocated as an expense and any short-term differences will, in the end, cancel each other out. The choice of inventory costing methods will come down to which seems easier and therefore cheaper to apply, considering the nature of the firm's products and its recording system.

Accounting entries for the perpetual inventory system

When goods are sold by a firm using the perpetual inventory system, there are essentially three elements that need recording:

- purchase of inventory
- proceeds of the sale
- cost of the sale.

The recording of inventory purchases will be as follows:

Debit	Inventory
Credit	Cash at bank (for a cash purchase) or Account payable (for a credit purchase) with the cost of the goods purchased

The recording of the sale of the inventory will be as follows:

Debit	Cash at bank (for a cash sale) or Account receivable (for a credit sale)
Credit	Sales with the proceeds of the sale

The recording of the cost of sale will be as follows:

Debit	Cost of sales (expense)
Credit	Inventory with the cost of the goods sold