PLANT AND EQUIPMENT

Plant and Equipment are assets with a long life that are used to generate income and not intended for resale. Included in the cost of these assets are freight, transit insurance, installation, trial run costs, and other costs reasonable and necessary to place said assets in position and condition for use. In deciding whether something is a Capital Expenditure and therefore depreciable or a Revenue Expenditure to be immediately expensed, remember asset use over more than one accounting cycle makes them depreciable while use over less than a cycle requires immediate expense. Assets are categorized and expensed as follows:

Asset Type	Expense
Tangible Assets	
Land	None (Land improvements are depreciable)
Plant, Building, and Equipment	Depreciation
Natural Resources	Depletion
Intangible Assets (Patents, Copyrights, etc.)	Amortization

I. DEPRECIATION METHODS

Accounting principles allow for the proportional by time recovery of depreciable assets (Straight Line Method) or for accelerated recovery using the Sum-of-the-Years-Digits Method or the Double Declining Balance Method. The asset's actual loss in value is not meant to be accounted for. Historical costing requires depreciation be stored in Accumulative Depreciation rather than the asset's value being reduced. As long as the asset is in use, it will be represented on the Balance Sheet at book value (Cost minus accumulated depreciation). Fair market value may be footnoted. Tax law created a special accelerated depreciation method for assets purchased after 1980 called Accelerated Cost Recovery System. See Appendix II (page A2)

Shortly after starting his Emporium, Darin invested in a 286 computer/cash register for $6,000 with no residual value and an IRS recommended useful life of 5 years. Darin expected to make 300,000 sales transactions over 5 years with 25,000 transactions the first year. Darin's depreciation options were as follows:

KEY: n = useful life
nth = last in a series of numbers
Σn = summation of number components of an asset's useful life
P = Production Per Year

STRAIGHT LINE METHOD

$$D = \frac{\text{Cost - Residual Value}}{\text{Useful Life}}$$

$$= \frac{\$6,000 - 0}{5 \text{ years}}$$

= $1,200/year for 5 years

Total = $6,000

DOUBLE DECLINING BALANCE METHOD

D = (2/n)(Cost - Accumulated Depreciation)

First Year	= (2/5)($6,000 - 0) = .4($6,000)	= $2,400
Second Year	= .4($6,000 - $2,400)	= $1,440
Third Year	= .4($6,000 - $3,840)	= $ 864
Fourth Year	= .4($6,000 - $4,704)	= $ 518
Last Year	= $6,000 - ($4,704 + $518)	= $ 778
	Total	$6,000

Note: Could have switched to Straight Line Method after the third year. In addition, double the Straight Line rate is the maximum allowable depreciation per year and is not allowable on most assets. The IRS supplies recommended guidelines concerning the useful life of most assets.

SUM-OF-THE-YEARS-DIGITS METHOD

D = (nth/Σn)(Cost - Residual Value)

Σn = 1 + 2 + 3 + 4 + 5 = 15

First Year	= 5/15($6000 - 0) = 5/15($6000)	= $2,000
Second Year	= 4/15($6,000)	= $1,600
Third Year	= 3/15($6,000)	= $1,200
Fourth Year	= 2/15($6,000)	= $ 800
Last Year	= 1/15($6,000)	= $ 400
	Total	$6,000

UNITS OF PRODUCTION METHOD

$$\text{Depreciation} = \frac{\text{Cost - Residual Value}}{\text{Expected Production}} (P)$$

$$= \frac{\$6,000 - 0}{300,000 \text{ transactions}} (25,000)$$

= (2 cents/transaction)(25,000)

= $500

PARTIAL DEPRECIATION USING STRAIGHT LINE METHOD
Given same data only purchased Oct. 1st

First Year: $\frac{3}{12} \times \frac{\text{C-RV}}{n} = \frac{1}{4} \times \frac{\$6000-0}{5} = \frac{1}{4} \times (\$1200) = \$ 300$

Years 2,3,4,5: $\frac{\text{C-RV}}{n} = \frac{\$6000}{5} = \$1,200 \times 4 = 4,800$

Year 6: $\frac{9}{12} \times \frac{\text{C-RV}}{n} = \frac{3}{4} \times \frac{\$6000-0}{5} = \frac{3}{4} \times (\$1200) = 900$

Total: $6,000

II. REVISING DEPRECIATION

Suppose after 2 years, the useful life of the Computer/cash register is lowered from 5 to 4 years. The remaining $3,600 Book Value should be written off over 2 years. The Straight Line Method yields the following revised depreciation:

Cost	$6,000
Less two years' depreciation	2,400
Book Value	$3,600

$$\frac{\text{Book Value - Residual Value}}{\text{Remaining Life}} = \frac{\$3,600 - 0}{2} = \$1,800/\text{year}$$