Depreciation: Sum-of-the-Years'-Digits Method

Depreciation is the allocation of the cost of a plant or fixed asset (equipment, building, truck, etc.) to expense over the useful life of the asset. The sum-of-the-years'-digits (SYD) method is an accelerated method of depreciation. This means that the amount of depreciation expense in the early years of the asset's life is greater than the amount using the straight-line method. The depreciation expense in later years will be less than the original straight-line amount. The total depreciation expense over the life of the asset will be the same under any depreciation method: cost minus the estimated salvage value.

Sum-of-the-years'-digits (SYD) depreciation expense for one full year of the asset's life = **Asset's depreciable cost** *times* (asset's **years of life remaining** at the beginning of the year *divided by* the **sum of the years' digits**)

Calculation of the **sum-of-the-years'-digits (SYD) depreciation expense** for one full year:

Cost of asset	$ _____	**C**
minus Estimated salvage value	$ _____	**ES**
= Depreciable cost	$ _____	**DC** (C - ES)
times SYD fraction	_____	**F** (see below)
= **Depreciation expense for full year**	$ _____	**DE** (DC x F)

Journal entry for a full year's depreciation:

debit	Depreciation expense	_____ **DE**	
credit	Accumulated depreciation		_____ **DE**

Notes:

F The SYD fraction has as its *denominator* the total of the digits from 1 through the number of years of the asset's life. For example, if an asset has a 5-year life, the denominator will be 15 (1 + 2 + 3 + 4 + 5). If an asset's life is 10 years, the denominator will be 55 (1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10).

The *numerator* in the SYD fraction will be the number of years of life remaining as of the beginning of the year. For example, an asset with a 5-year life will have a numerator of 5 at the time it is placed into service. At the beginning of the second year of the asset's life, its numerator will be 4, and so on.

This means that the depreciation expense in the first year of a 5-year asset's life will be 5/15 of the asset's depreciable cost. The second year will be 4/15; the third year will be 3/15; the fourth year will be 2/15; and the fifth year will be 1/15.

The SYD fraction for an asset with a 10-year life will be 10/55 in the first year of the asset's life, 9/55 in its second year, 8/55 in its third, and so on.

See **Filled-In Form D3** for an illustration.
Learn more about depreciation at www.AccountingCoach.com.