

# Depreciation and useful life



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Buildings, machinery, equipment, furniture, fixtures, computers, outdoor lighting, parking lots, cars, and trucks are examples of assets that will last for more than one year, but will not last indefinitely. Over time, these assets depreciate. Depreciation is defined as a non-cash expense that reduces the value of an asset as a result of physical or functional factors over time. Therefore, the costs of the fixed assets should be recorded as an expense over their useful lives, since they depreciate and must be replaced once the end of their useful life is reached.

Physical depreciation factors include wear and tear during use or from being exposed to such things as weather. Functional depreciation factors include obsolescence or changes in customer needs that cause the asset to no longer provide services for which it was intended or needed. When it comes to computing depreciation, there are three factors that determine the depreciation expense for a fixed asset: the asset's initial cost, expected useful life, and estimated residual value. And there are also three different ways to calculate depreciation: the straight-line method, the units-of-production method, and the double-declining-balance method.

The straight-line method of depreciation provides the same amount of depreciation expense for each year of the asset's useful life, and is known to be the most commonly used method of calculating depreciation. The unit's-of-production method of depreciation provides the same amount of depreciation expense for each unit of production. Based on what the asset is, the unit's-of-production method can be expressed in terms of quantity produced, miles, hours, etc. and is often used when the fixed assets in service time or use varies from year to year.

The double-declining-balance method of depreciation provides for a declining periodic expense over the expected useful life of the asset. The double-declining-balance method shows a higher depreciation in the first year of the asset's use, followed by declining depreciation amounts in the years following, which is why this method is also referred to as an accelerated depreciation method. There are several different types of assets that depreciate over time. Depreciation refers to fixed assets, which exist physically, thus making them tangible assets.

In some cases, there are assets that do not depreciate. An example of an asset that does not depreciate would be land since it has an unlimited useful life. If land has a limited useful life, as is the case with a quarry, then it is acceptable to depreciate it over its useful life. One example of an asset that would depreciate would be a MacBook Pro laptop. This is an asset that I would use the straight-line method for being that while computers and technology are constantly changing; devices such as MacBook Pro's seem to consistently hold their value.

Let's say you purchased the MacBook Pro for \$2800 with an expected useful life of 5 years and an estimated residual value of \$700, according to the straight-line method of depreciation, it would be calculated as: Annual Depreciation =  $\text{Cost} - \text{Residual Value} = \$2800 - \$700 = \$420.00$  Useful life 5  
Another example of an asset that would depreciate over time would be a vehicle. This is an asset that I would use the units-of-production method for being that the usage and mileage may vary from year to year.

Let's say you purchased the vehicle for \$59,900 that is expected to have a useful life of 95,000 miles and an estimated residual value of \$19,560, and during the year the vehicle was operated 21,000 miles. According to the units-of-production method of depreciation, it would be calculated as: Step 1: Depreciation per Unit = Cost - Residual Value = \$59,900 - \$19,560 = \$0.42 per mile Total Units of Production 95,000 miles Step 2: Depreciation Expense = Depreciation per unit X Total Units of Production Used Depreciation Expense = \$0.42 X 21,000 Miles = \$8,820