# **Declining-Balance Method of Depreciation**

The straight-line method of depreciation charges an equal amount of depreciation expense each year. However, many plant assets depreciate more in the early years of useful life than in later years. For example, a truck's value will decrease more in the first year than in later years. Therefore, charging more depreciation expense in the early years may be more accurate than charging the same amount each year.

Multiplying the book value by a constant depreciation rate at the end of each fiscal period is called **declining-balance method of depreciation**. The declining-balance depreciation rate is a multiple of the straight-line method rate. Many businesses use a declining-balance rate that is two times the straight-line rate. This method of depreciation is referred to as the **double declining-balance method**.

Estimated Depreciation Expense ÷ Years of Useful Life = Straight-Line Rate

 $100\% \div 5 = 20\%$ 

Straight-Line Rate x 2 = Double-Declining Balance Rate

20%  $\times$  2 = 40%

Plant Asset: Tru Depreciation M	ck ethod: Double-Declining Balance	Original Cost: \$25,000. Estimated Salvage Valu	ıe: \$2,500.00 *	
Year	Beginning Book Value	Estimated Useful Life: !  Declining-Balance  Rate	Annual  Depreciation	Ending Book Value
1	\$25,000.00	40%	\$10,000.00	\$15,000.00
2	15,000.00	40%	6,000.00	9,000.00
3	9,000.00	40%	3,600.00	5,400.00
4	5,400.00	40%	2,160.00	3,240.00
5	3,240.00		740.00 *	2,500.00 *

Although the depreciation rate is the same each year, the annual depreciation expense declines from one year to the next. A plant asset is never depreciated below its estimated salvage value. Therefore, in the last year, only enough depreciation expense is recorded to reduce the book value of the plant asset to its salvage value.

Regardless of the depreciation method used, the total depreciation expense over the useful life of a plant asset is the same. The accounts used in the journal entries to record depreciation expense and the sale of plant assets are also the same. Each depreciation method is acceptable according to generally accepted accounting principles (GAAP).

The straight-line method is easy to calculate. The same amount of depreciation expense is recorded for each year of estimated useful life. The double-declining balance method is slightly more complicated. This method records a greater depreciation expense in the early years than the straight-line method. The declining-balance method is referred to as an accelerated depreciation method. The method accelerates depreciation in the early years of the asset's useful life.

#### **Practice Problem 1: Declining Balance Method of Depreciation**

Plant Asset:	Truck	Original Cost: \$22,000		
Depreciation	Method: Double-Declining Balance	Estimated Salvage Valu	ue: \$2,200.00	
		Estimated Useful Life:	4 years	
	Beginning	Declining-Balance	Annual	Ending
Year	Book Value	Rate	Depreciation	Book Value
1		50%		
2		50%		
3		50%		
4				

### **Practice Problem 2: Declining Balance Method of Depreciation**

Plant Asset:	Cash Register	Original Cost: \$1,200.0	00	
Depreciation	Method: Double-Declining Balance	Estimated Salvage Valu	ue: \$100.00	
		Estimated Useful Life:	5 years	
	Beginning	Declining-Balance	Annual	Ending
Year	<b>Book Value</b>	Rate	Depreciation	Book Value
1				
2				
3				
4				
5				

### **Practice Problem 3: Declining Balance Method of Depreciation**

Plant Asset: 0	Clothing Rack	Original Cost: \$500.00		
Depreciation	Method: Double-Declining Balance	Estimated Salvage Valu	ıe: \$50.00	
		Estimated Useful Life: 8	8 years	
	Beginning	Declining-Balance	Annual	Ending
Year	Book Value	Rate	Depreciation	Book Value
1				
2				
3				
4				
5				
6				
7				
8				

# **Practice Problem 4: Declining Balance Method of Depreciation**

Plant Asset: [	Delivery Truck	Original Cost: \$25,000.	00	
Depreciation	Method: Double-Declining Balance	Estimated Salvage Valu	ıe: \$2,000.00	
		Estimated Useful Life: 3	3 years	
	Beginning	Declining-Balance	Annual	Ending
Year	Book Value	Rate	Depreciation	Book Value
1				
2				
3				

# **Practice Problem 5: Declining Balance Method of Depreciation**

Plant Asset: F	Filing Cabinet	Original Cost: \$600.00		
Depreciation	Method: Double-Declining Balance	Estimated Salvage Valu	ıe: \$50.00	
		Estimated Useful Life: 4	4 years	
	Beginning	Declining-Balance	Annual	Ending
Year	Book Value	Rate	Depreciation	Book Value
1				
2				
3				
4				

# **Disposing of Plant Assets**

When a plant asset is no longer useful to a business, the asset may be disposed of. The old plant asset may be sold, traded for a new asset, or discarded. When a plant asset is disposed of, a journal entry is recorded that achieves the following:

- 1. Removes the original cost of the plant asset and its related accumulated depreciation.
- 2. Recognizes any cash or other asset received for the old plant asset.
- 3. Recognizes any gain or loss on the disposal.

#### Sample Problem: Sale for Book Value

On January 6, 2017, received cash from sale of display case, \$250.00: original cost, \$3,250.00; total accumulated depreciation, \$3,000.00. Receipt No. 4.

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		Equipment,								3	17,	5	0	00																		

#### Sample Problem: Sale for More Than Book Value

On April 4, 2017, received cash from sale of safe, \$425.00: original cost, \$1,800.00; total accumulated depreciation, \$1,500.00. Receipt No. 47.

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		Equipment							Î	1	8	0	0	00																
		Gäin on Plant, Assets									1	2	5	00																

#### Sample Problem: Sale for Less Than Book Value

On October 6, 2017, received cash from sale of computer, \$150.00: original cost, \$1,900.00; total accumulated depreciation, \$1,500.00. Receipt No. 98.

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		Loss on Plant, Assets				2 2	5 0	0	0																						
		Equipment							1	1	9	0	0	00																	

#### **Practice Problem 6: Sale for Book Value**

On January 10, 2017, received cash from sale of computer monitor, \$150.00: original cost, \$500.00; total accumulated depreciation, \$350.00. Receipt No. 9.

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### **Practice Problem 7: Sale for More Than Book Value**

On July 15, 2017, received cash from sale of notebook computer, \$800.00: original cost, \$2,000.00; total accumulated depreciation, \$1,500.00. Receipt No. 34.

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### Practice Problem 8: Sale for Less Than Book Value

On November 18, 2017, received cash from sale of shredder, \$50.00: original cost, \$600.00; total accumulated depreciation, \$450.00. Receipt No. 75.

CASH RECEIPTS JOURNAL PAGE 1

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