

Exercise #1

On October 1, 2021, Iron Mountain Ski Company purchases a new snow grooming machine for \$52,000. The machine is estimated to have a five-year useful life and a \$4,000 residual value. It is also estimated to have a total useful life of 6,000 hours. It is used 1,000 hours in the year ended December 31, 2021, and 1,300 hours in the year ended December 31, 2022. How much depreciation expense should Iron Mountain Ski record in each of 2021 and 2022 under each depreciation method: (a) straight-line, (b) double diminishing-balance, and (c) units-of-production?

ACTION PLAN

- Under straight-line depreciation, annual depreciation expense is equal to the depreciable amount (cost less residual value) divided by the estimated useful life.
- Under double diminishing-balance depreciation, annual depreciation expense is equal to double the straight-line rate of depreciation multiplied by the asset's carrying amount at the beginning of the year. Residual values are not used in this method.
- Under the straight-line and diminishing-balance methods, the annual depreciation expense must be pro-rated if the asset is purchased during the year.
- Under units-of-production depreciation, the depreciable amount per unit is equal to the total depreciable amount divided by the total estimated units of production. The annual depreciation expense is equal to the depreciable amount per unit times the actual usage in each year.

Exercise #2

On August 1, 2006, just after its year end, Fine Furniture Company purchased a building for \$500,000. The company used straight-line depreciation to allocate the cost of this building, estimating a residual value of \$50,000 and a useful life of 30 years. After 15 years of use, on August 1, 2021, the company was forced to replace the entire roof at a cost of \$25,000 cash. The residual value was expected to remain at \$50,000 but the total useful life was now expected to increase to 40 years. Prepare journal entries to record (a) depreciation for the year ended July 31, 2021; (b) the cost of the addition on August 1, 2021; and (c) depreciation for the year ended July 31, 2022.

ACTION PLAN

- Understand the difference between an operating expenditure (benefits only the current period) and a capital expenditure (benefits future periods).
- To revise annual depreciation, calculate the carrying amount (cost less accumulated depreciation) at the revision date. Note that the cost of any capital expenditure will increase the carrying amount of the asset to be depreciated.
- Subtract any revised residual value from the carrying amount at the time of the change in estimate (plus the capital expenditure in this case) to determine the remaining depreciable amount.
- Allocate the revised depreciable amount over the remaining (not total) useful life.

Exercise #3

Dummies 'R' Us Company purchased a copyright to a new book series for \$15,000 cash on August 1, 2020. The books are expected to have a saleable life of three years. One year later, the company spends an additional \$6,000 cash to successfully defend this copyright in court. The company's year end is July 31. Record (a) the purchase of the copyright on August 1, 2020; (b) the year-end amortization at July 31, 2021; (c) the legal costs incurred on August 1, 2021; and (d) the year-end amortization at July 31, 2022.

ACTION PLAN

- Amortize intangible assets with finite lives over the shorter of their useful life and legal life (the legal life of a copyright is the life of the author plus 50 years).
- Treat costs to successfully defend an intangible asset as a capital expenditure because they benefit future periods.
- Revise amortization for additions to the cost of the asset, using the carrying amount at the time of the addition and the remaining useful life.

Exercise #4

DuPage Company purchases a factory machine at a cost of \$17,500 on June 1, 2021. The machine is expected to have a residual value of \$1,500 at the end of its four-year useful life on May 31, 2025. DuPage has a December 31 year end.

During its useful life, the machine is expected to be used for 10,000 hours. Actual annual use is as follows: 1,300 hours in 2021; 2,800 hours in 2022; 3,300 hours in 2023; 1,900 hours in 2024; and 700 hours in 2025.

Instructions

Prepare depreciation schedules for the following methods: (a) straight-line, (b) units-of-production, and (c) diminishing-balance using double the straight-line rate.

ACTION PLAN

- Deduct the residual value in the straight-line and units-of-production methods, but not in the diminishing-balance method.
- In the diminishing-balance method, the depreciation rate is applied to the carrying amount (cost – accumulated depreciation). The residual value is not used in the calculations except to make sure the carrying amount is not reduced below the residual value.
- When the asset is purchased during the year, the first year's depreciation for the straight-line and diminishing-balance methods must be adjusted for the part of the year that the asset is owned. No adjustment is required for the units-of-production method. In the straight-line method, the final year must also be adjusted.
- Depreciation should never reduce the asset's carrying amount below its estimated residual value.

Exercise #5

On January 2, 2021, Skyline Limousine Co. purchased a specialty limo for \$78,000. The vehicle is being amortized by the straight-line method using a four-year service life and a \$4,000 residual value. The company's fiscal year ends on December 31.

Instructions

Prepare the journal entry or entries to record the disposal of the limo, assuming that it is:

- retired for no proceeds on January 2, 2024.
- sold for \$15,000 on July 1, 2024.
- traded in on a new limousine on January 2, 2024, for a trade-in allowance of \$25,000 and cash of \$52,000. The fair value of the old vehicle on January 2, 2024, was \$20,000.

ACTION PLAN

- Calculate the annual depreciation expense and accumulated depreciation at the end of the previous year.
- Update the depreciation to the date of the disposal for any partial period.
- Determine the asset's carrying amount at the time of disposal.
- Calculate any gain or loss by comparing proceeds with the carrying amount.
- Remove the asset's carrying amount by debiting accumulated depreciation (for the total depreciation to the date of disposal) and crediting the asset account for the cost of the asset. Record proceeds and any gain or loss.
- Ignore trade-in allowances.
- Record the new asset in an exchange situation at the fair value of the asset given up, plus the cash paid.