

### 5.3 Sinking Fund Method



### Intended Learning Outcomes

At the end of the lesson, the student shall be able to:

1. Describe how the sinking fund method works as a depreciation method.
2. Apply the formulas/equations in a sinking fund method to solve word problems.

## SINKING FUND METHOD

In this method, it is assumed that a sinking fund is established in which funds will accumulate for replacement purposes and will bear interest. The total depreciation which has occurred up to any given time is assumed to equal the amount in the sinking fund at that time.

## Useful Equations/Formulas

$$d = (C_O - C_L) \left[ \frac{i}{(1+i)^L - 1} \right]$$

$$D_n = (C_O - C_L) \left[ \frac{(1+i)^n - 1}{(1+i)^L - 1} \right]$$

$$C_n = C_0 - D_n$$

where:

$d \longrightarrow$  annual depreciation cost

$C_0 \longrightarrow$  original or first cost

$C_L \longrightarrow$  book value at the end of life of the property  
 $\longrightarrow$  salvage or scrap value

$L \longrightarrow$  useful life of the property in years

$D_n \longrightarrow$  total depreciation up to " n " years

$C_n \longrightarrow$  book value at the end of " n " years

$i \longrightarrow$  interest rate per period

**Reference:** *Engineering Economics* by Hipolito Sta. Maria



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