



# Depreciation Worksheet

(A STEM integration assignment in Mathematical applications)

**Purpose:** This guide cover the calculations of depreciation and provides examples with keys to check your work. This worksheet is a continuation of the depreciation guide, which provides a more complete overview of depreciation. This worksheet also offers mathmatical applications in agriculture (STEM).

## Depreciation Formulas:

<b>(1) Annual Depreciation Expense =</b> $\frac{\text{Beginning Value} - \text{Salvage Value}}{\text{Useful Life}}$	<b>(2) Annual Asset Book Value (Ending Yr. 2) =</b> $\text{Beginning Value less} \\ - \text{Yr. 1 Depreciation} - \text{Yr. 2 Depreciation}$
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*\* Year 1, Year 2 depreciation etc...are identified as accumulated depreciation*

**Example:** A Show Box that is purchased in year 1 of your project for \$800, has a useful life of 10 years and is estimated to be sold at the end of your use for \$600. In the space below, calculate the annual depreciation and show the book value for year 4 ending.

<i>Annual depreciation =</i> $(\$800 - \$600) / 10 = \$20 \text{ year}$ <i>(Cost - salvage value) / useful life = depreciation</i>	<i>Book Value Ending Yr. 4</i> $\$800 - \$20 - \$20 - \$20 - \$20 = \$720$ <i>(Beginning value - yr1-yr2-yr3-yr4)</i>
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Depreciation exercises:

### Situation 1 – Beginning Inventory of a Livestock Trailer for livestock SAEs

The beginning value is \$8,500, a useful life of 20 years and a salvage value \$7,000. Calculate annual depreciation and book value at year 4.

<i>Annual depreciation =</i>	<i>Book Value Ending Yr. 4</i>

### Situation 2 – Purchased Sow used in a swine breeding SAE

Purchased in your second year for \$700, useful life of 5 years and a salvage value of \$550. Calculate annual depreciation and value at the end of year 4.

<i>Annual depreciation =</i>	<i>Book Value Ending Yr. 4</i>

### Situation 3 – Building a horse stall/barn for your Equine SAE

Purchased all materials for \$2,500 in your first year, useful life of 10 years and the ability to sell the barn and panels for \$1,500 at the end of your use. Calculate book value year 3.

<i>Annual depreciation =</i>	<i>Book Value Ending Yr. 3</i>

**Situation 4 – Purchased animal traps for wildlife business SAE**

*Purchased traps for \$1,200 in your last year, they have a useful life of 10 years and a resale value of \$800. Calculate the annual depreciation expense and book value at the end of year 1.*

<i>Annual depreciation =</i>	<i>Book Value Ending Yr. 1</i>

**Situation 5 – Beginning Inventory of Bull for Breeding Beef SAE**

*The beginning value of a bull for \$2,500 with a planned resale back to the breeder for salvage value \$2,400 and carries a useful life of 7 years. Calculate annual depreciation and book value at the end of year 2.*

<i>Annual depreciation =</i>	<i>Book Value Ending Yr. 2</i>

**Situation 6 – Purchased tractor for livestock and hay SAEs**

*Purchase a 56HP tractor for \$26,600 in your first year, salvage value of \$15,000 and a useful life of 20 years. Calculate annual depreciation and the book value at end of year 4.*

<i>Annual depreciation =</i>	<i>Book Value Ending Yr. 4</i>

**Situation 7 – Purchased animal scales for swine and goat SAEs**

*Purchased animal scales for \$1,100 with salvage value of \$900 and carries a useful life of 10 years. Calculate annual depreciation and book value at the end of year 4.*

<i>Annual depreciation =</i>	<i>Book Value Ending Yr. 4</i>

\* Your teacher has a key in their teacher account, so check your work!

