

# Instructional Scenario

## Building Materials Calculations



Course/Duty Area: Agricultural Production Technology / Calculating a Bill of Materials

### Scenario:

Tim is a local swine producer in need of finishing his barn's walls. The walls must be boarded to accommodate new galvanized swine gates. He currently has an empty structure with concrete floors, running water, and electricity. The inside dimensions of the barn are 48 feet x 30 feet, with external support posts 8 feet on center. He is looking to have 8 x 6-foot pens with support posts every 12 feet down the center alley. The barn has large sliding doors on the short sides of the structure that are 10 feet wide. Tim would like the local agricultural program to create a bill of materials to calculate the amount of lumber needed to complete this project. He wants the bottom three boards to be pressure treated and the rest of the wall boarded with red oak boards so that the wall will be 6 feet tall.

### Materials:

- 1"x6"x16' Pressure Treated
- 1"x6"x10' Pressure Treated
- 2"x4"x12' Pressure Treated
- 6"x6"x12' Pressure Treated
- 1"x6"x16' Red Oak
- 1"x6"x10' Red Oak

### Big Question:

How many boards will Tim need to purchase to complete this project, and, using a local supplier's pricing, how much will it cost him?

### Focused Questions:

- How can the cost of a project be determined using a price sheet or current pricing of materials?
- What is the actual cost of the project?

### Project-Based Assessment:

Create a bill of materials, and construct the walls needed for this project.

*Scenario submitted by Brandon Strosnider, Wilson Middle School, Augusta County Public Schools*