



Lumber Worksheet

Objective:

Students will learn how to calculate board footage, a resourceful skill that can be used in their future when conducting home projects.

Indiana Academic Standards:

Mathematics: Grade 7

Geometry and Measurement:

7.GM.3 - Solve real world and other mathematical problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing.

National Agricultural Literacy Outcomes

Culture, Society, Economy & Geography Outcomes

T5.6-8.d. - Explain how prices for agricultural goods are determined.

Materials:

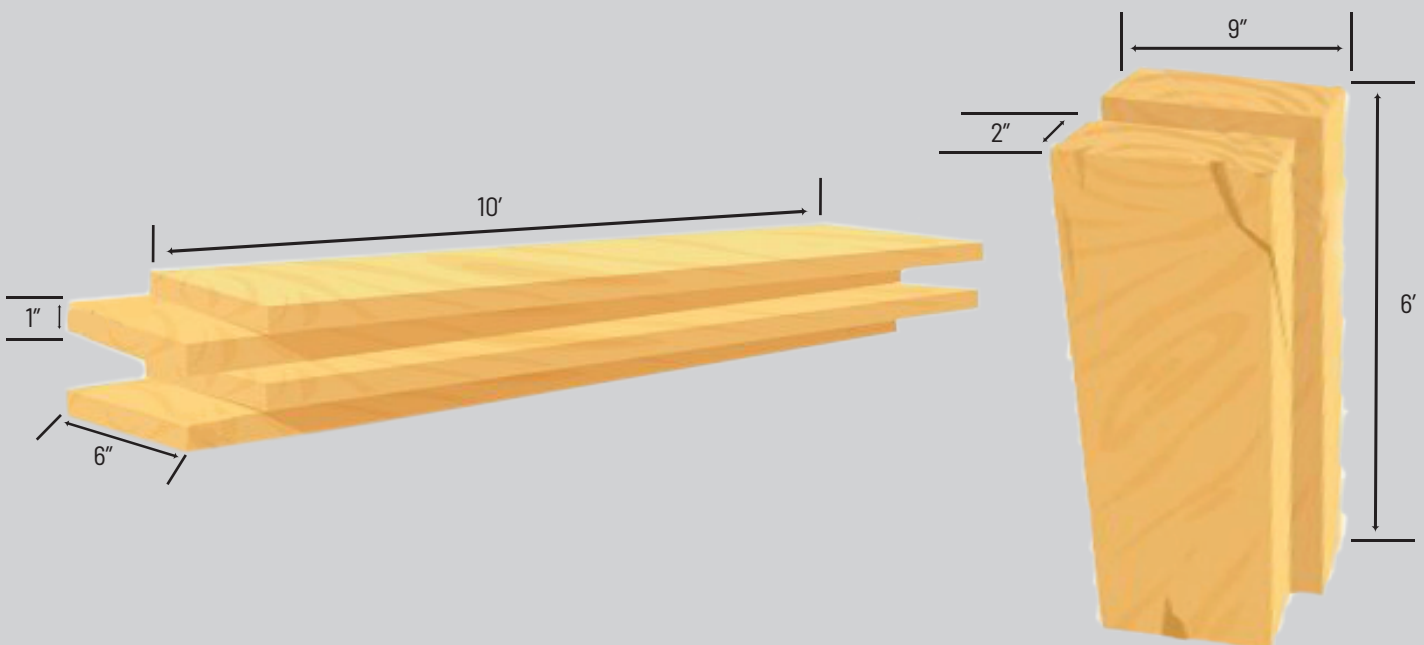
- Writing Utensil
- Student Worksheet

Instructions: Solve the following mathematical problems.

A board foot is a useful measurement and is actually the measure of volume. Therefore, to calculate board footage you must multiply width in inches x length in feet x thickness in inches and divide by 12. Board feet is a unit of wood measurement and can be used by sawmillers and suppliers to calculate pricing.

1. If you have a board that is one inch thick, six inches wide and 10 feet long, how many board feet is this? What is the total board footage if you had four boards?

2. A contractor is installing hardwood flooring on a small outdoor landing area of a new home. He needs to purchase 25 boards that are two inches thick, nine inches wide and six feet long. He would like for these boards to be custom cut by the local sawmill. The price at the local sawmill is \$0.75 per board foot of sawn lumber. What is the total cost for the new flooring at the entry way of this new home?





Teacher Answer Key

1. Five board feet for one board. 20 board feet for four boards with the same dimensions.
2. $2 \times 9 \times 6 = 108 \div 12 = 9$ board feet
Cost: $\$0.75$ per board feet \times 9 board feet = $\$6.75 \times 25 = \underline{\$168.75}$

Once students have solved this activity, they receive the lumber puzzle piece.

Background Information:

- Indiana is #1 in wooden furniture, kitchen cabinets and hardwood flooring.
- Indiana ranks sixth in the nation in lumber manufacturing.
- Dubois County is the top county for lumber production in the state.
- Lumber production in Indiana employs over 56,000 people.
- The United States uses 28% of the earth's lumber production.
- Most forest land is in Alaska.
- More than 750 million acres of the United States is covered in forest land.

Careers:

National park ranger, forester, forest health specialist and conservationist