

BUILDING A SOLDIERS' HUT



GRADES 4-5

OVERVIEW

This math activity features word problems related to measuring materials needed to build a soldiers' hut at Ticonderoga. The included worksheet can be used to introduce or review converting feet into inches and using addition, multiplication, and simple division to determine the materials soldiers will need for their hut.

After completing the activity, we welcome you to bring your students to check out our recreated soldiers' huts at Fort Ticonderoga, which were built to the specifications in this activity.

LEARNING OBJECTIVES

Students will be able to:

- * Read and utilize a scale key diagram
- * Convert units of measure including feet and inches
- * Calculate the size of the hut's foundation
- * Determine the amount of materials needed to build a floor, walls, roof, and door
- * Determine how many soldiers can sleep in the hut

STUDENT STANDARDS

COMMON CORE:

CCSS.MATH.CONTENT.4.OA.A.2

Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

CCSS.MATH.CONTENT.4.OA.A.3

Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

CCSS.MATH.CONTENT.4.MD.A.2

Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.



INTRODUCTION

Following the completion of fortifications atop Liberty Hill--½ mile west of Fort Ticonderoga--in early September of 1776, soldiers of the 4th Pennsylvania Battalion received orders from Colonel Anthony Wayne to build more suitable shelter. Officers and soldiers alike had been living in tents since July while they constructed fortifications in front of their camp. With these cannon batteries and entrenchments completed, "[t]he Cols next wish is to see the officers and soldiers as comfortably accommodated with regard to their encampments and lodgings as the nature of the campaign will admit, and therefore requests the Captains of each company previous to any other business to see that completed as soon as possible."

Many other Continental Army encampments were deliberately built in wooded areas where logs were available for construction. However, the 4th Pennsylvania Battalion built their small houses or, 'huts,' on a hill that was cleared of trees in 1758. With the Pennsylvanians' encampment bare of timber, the saw mill provided much of the lumber needed to construct the soldiers' huts.

ACTIVITY

Students will complete the attached worksheet, showing their work for all calculations.

Additional Resources:

For more information on soldier's huts at Fort Ticonderoga, visit <https://www.fortticonderoga.org/news/lodging-as-the-nature-of-the-campaign-will-admit/>.