

Name: _____ Partner: _____ Grade: _____/500pts

Wooden Tower Challenge

100 points for tower design, 50 points for each side, 200 points for tower testing and calculating efficiency.

Objective:

To design and construct the most efficient 4-sided tower possible that holds 20+ textbooks. **Efficiency will be calculated by weight held ÷ weight of the tower.**

Width Your tower must not be wider than 5 inches at any given span.

Height Your tower must be between 5 and 7 inches tall.

Deductions -1 point for every 1/8" over size. -50 points for each missing side

Your tower must have 4 sides.

Design: On the back of this sheet or on a blank sheet of paper or graph paper, draw your full scale truss. You will use this as your template for construction. Show to Mr. Cornwell before starting

Grading Rubric for Tower Testing

Grade	A	B	C	D	F
Requirements	Your tower must hold 20 textbooks without crushing	Your tower must hold 15 textbooks without crushing	Your tower must hold 10 textbooks without crushing	Your tower must hold 6 textbooks without crushing	Your tower holds 5 or less textbooks without crushing

each additional textbook held will result in 3 points extra credit on your project grade

*If a student can stand on the tower without it breaking, 50 extra credit points will be awarded.
300 extra credit points if Mr. Cornwell can stand on your tower*

Tower Strength Analysis (remember 1 pound = 453.6 grams)

Each textbook weighs _____pounds

My tower weighed _____ grams and held _____books which equals _____ pounds.

My tower efficiency is _____pounds per gram.

My tower held _____ times its body weight.