



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
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The Road to Bridge Design

Guide for Curriculum Unit 12.04.06

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The emphasis of my curriculum unit is on students' learning mathematics and applying concepts learned to the real world through bridge design. They will write the equation of a parabola from a model suspension bridge; they will go on a field trip to find ratio, proportion, and symmetry on a bridge; and in a third lesson they will design a bridge using software.

My interest in teamwork has inspired me to apply it to student projects performed in the classroom. I have witnessed or been part of team exercises. The task of this curriculum unit is to develop my own exercises and the idea of teamwork further by allowing students to take charge of their learning.

This unit is an exercise in teaching strategies and sample activities that model engineering teamwork. Students will solve problems, troubleshoot, and work together. They have the opportunity to make their own decisions and take control of a project. All students are taken to the next level by developing a hypothesis that employs concepts already learned.

(Recommended for Algebra, Geometry, and Calculus, grades 9-12)

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