



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2001 Volume V: Bridges: Human links and innovations

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## **Building Model Bridges Following the Engineering Process**

Guide for Curriculum Unit 01.05.04  
by Joe Lewis

The curriculum unit is designed to introduce students in grades 6 through 8 to the different types of bridges and to the some engineering principles. It also assists teachers with the planning of a bridge building contest in their classes. The unit contains meaningful activities to prepare the students to build model bridges. In addition to background information, this unit includes evaluative tool and lesson plans.

Upon completion of this unit, the students will be able to: (1) identify the engineering principles behind bridge building; (2) identify different types of bridges; (3) become aware of a process outlining how bridges are designed and built; (4) understand some of the physics important for designing, building and using bridges (5) understand some of the preliminary events that takes place before construction, and finally (6) draw and build a bridge according to specification using the principles of engineering.

“Bridge Building Following the Engineering Process” is divided into three major sections. The first section will introduce students to the different types of bridges. Secondly, the unit will discuss the engineering process in bridge design. The final part of unit will assist teachers in designing a bridge building contest based on the engineering principles. The evaluation tool included will help to keep students on task during the bridge building process and for grading the final product.

(Recommended for Science, grades 5-8.)

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