YALE NATIONAL INITIATIVE
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Curriculum Units by Fellows of the National Initiative
2019 Volume V: Perimeter, Area, Volume, and All That: A Study of Measurement

Area, Surface Area and Volume: From Misconceptions to Skyscrapers

Guide for Curriculum Unit 19.05.07, published September 2019
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In my unit students will work hands on with two dimensional arrays and three dimensional rectangular prisms or boxes. Area is introduced with manipulative activities such as working with foam square units in composing and decomposing rectangular arrays. Surface area is understood as a way of product of columns and rows of units. The focus on volume will be centered on how cubic units occupy the space of solid prisms as layers and the concluding with how formulas are used

My aim is to bring clarity in such learning goals as visualizing arrays and how using rows and columns aid in the determination of area. How focusing on key terms such as compare, combine, and replicate feed into the strengthening of teaching strategies. The bulk of this unit's activities will focus on understanding the functions of rectangular arrays, geometric nets and rectangular prisms.

It is a privilege to be a teacher and be able to share the beauty of math with my students. I love the discovery of math concepts as an adult and the thrill I make with my students when a connection is made between teacher and student.

(Developed for Mathematics, grade 6; recommended for Mathematics, grades 5-7)