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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

Geometric, Classroom Object Calculations

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Geometric, Classroom Object Calculations includes an entire unit study that adheres to Virginia Standards of Learning covering the geometrical concepts of perimeter, area and volume. The process for the implementation of a Geometric unit study for second through fifth grade students is outlined.

There are modeled sample lessons with details on a student's perception of each geometric concept, as students should think of the linear edge of an object for perimeter, the inside two dimensional surface of an object for area, and the three dimensional layers of an object for volume. The importance of the terminology that students will use is indicated such as the term, "array". Common misconceptions that students experience are addressed and accompanied with interventions. Strategies are also featured within this unit, such as the use of manipulatives, anchor charts, journal writing, other visual aids, tools and methods. A method that is one of the focal points of this unit has to do with the manipulatives called pentominoes. The pentominoes are used to facilitate the differentiation between area and perimeter. A popular educational short story by Marilyn Burns called, *Spaghetti and Meatballs for All, A Mathematical Story* is another focal point of the unit including extended activities. Classroom activities such as: Geometrical Exiting before Lunch (questions are asked of the students detailing specific points which are relevant to the geometrical concepts taught), Geometrically Creating Objects and Analyzing Classroom Objects to perform perimeter, area, and volume tasks are the culminating activities of this unit.

(Developed for Mathematics - Geometry, grade 2; recommended for Mathematics - Geometry, grades 2-5)

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