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Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
1993 Volume I: The Symbolic Language of Architecture and Public Monuments

Mathematics of Ornaments and Architecture

Guide for Curriculum Unit 93.01.10
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This unit was designed to be used as an enrichment unit in Basic Geometry. The ideas in the unit can be taught through the course when the relevant topics are taught rather than teaching the unit as a whole. The unit on translation, tessellation and reflection can be used to supplement the materials in the text. The ideas on line designs and knot designs can be used when teaching lines and line segments. In providing practice in using a pair of compasses, students can be presented with the ideas on daisy designs.

The main purpose for the development of this unit was to generate ideas for projects, that are relevant to the geometric concepts in the Basic Geometry curriculum. This will also enable the students to make connections between geometric concepts and real-life situations. The introduction to African designs will probably generate an interest in the students, and as a result they will produce their own designs.

The unit can also be used by the Art, History, and Social Studies teachers. The unit provides an introduction to African art and architecture with some implication of religion and society in traditional African society. It would make a good introduction to the study of African art and culture. Topics for research, such as the symbols used in religions, the connections to African economic system to religion, the part ornaments play in the lives of women can, be generated from this unit. This unit is thus an attempt to connect mathematics to architecture, history, and art.

(Recommended for Basic Geometry, Grade 10)

Key Words

Mathematics Architecture African Basic

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