



Some Mathematical Principles of Architecture

Guide for Curriculum Unit 83.01.12
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This unit deals with Architecture and is divided into two broad categories. These categories are: the tangible and intangible aspects of architecture. Under the intangible I discuss the use of space, light, proportion, and the emotional impact that a building has upon a person. Under the tangible, I deal with geometry and other mathematical concepts used in designing and constructing a building. There is a photo section which gives examples of both the tangible and intangible. There is a section on geometric construction and also one on geometric proofs. Another section deals with proportion, the Golden Ratio in particular and how the Golden Ratio can be obtained through the use of the Fibonacci Series. There are four lesson plans and each is designed to expand upon the information in my paper as well as to create student involvement. The students are encouraged to discover the use of these mathematical concepts in the world around them and to use what they learn. These lessons will also broaden their knowledge of their historical development. Overall, this unit will give new insights to both teacher and student into the subjects of architecture and geometry.

(Recommended for 10th and 11th grade Geometry)

Key Words

Architecture Geometry Mathematics

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