Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2007 Volume III: The Physics, Astronomy and Mathematics of the Solar System

Astronomy: The Mathematician's Perspective

Guide for Curriculum Unit 07.03.06
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This curriculum unit offers a way to teach mathematics through astronomy. Sometimes teaching mathematics becomes a matter of routine. Keeping students engaged is a challenge in today's world with competition from electronics.

Since astronomy is a fascinating subject and captures the attention of everyone it is no wonder that there is a desire to write an astronomical unit to be used in the classroom to teach secondary school mathematics. Instruction of astronomy does not have to be confined to use in only the science classes but may be used in mathematics classes to teach mathematical concepts in a captivating manner.

The unit proposed is to instruct about graphs, slope, the Pythagorean Theorem, trigonometric ratios, measure of an arc length, and area of a sector. It contains all the astronomical information and data necessary for students to construct graphs and an idea on how to introduce finding the slope of a line.

The astronomy ideas used to teach geometric concepts are more involved and so astronomical information, data, and sample lesson plans are included.

(Developed for Algebra I, grade 9, and Geometry, grade 10; recommended for Algebra I, grades 8-9, and Geometry, grade 10)