



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
1998 Volume VI: Selected Topics in Contemporary Astronomy and Space Science

Astronomy and Your Place in the World

Guide for Curriculum Unit 98.06.10
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This unit is designed for 7-12 grade use. My particular teaching assignment is at Wilbur Cross Annex, an alternative school serving students with high absenteeism. The students feel uncomfortable in science. They often feel they are not smart enough, and that science is unapproachable. Very few students know anyone who has made a career choice of science. Most fail to realize the improvements implemented in any job, no matter how humble, are the result of scientific discovery. Only a fraction of students have achieved the minimum of two credit hours required by the city of New Haven.

This unit is designed to take a semester in the New Haven School System. As with all course outlines, not everything can be accomplished in this time period nor may it academically appropriate to attempt to do so. However, there are certain exercises, I must emphasize that should not be overlooked because they develop a sense of confidence in the students. These are the pie method, using picture with numbers to a power, making a rocket, and using a theodolite to calculate the altitude.

The pie method helps students to conquer their fears with math. If this method is used properly, they will always obtain the proper answer. Math may start to make sense for them.

Using pictures with numbers to a power allows students to imagine and to put their thought to words. (a writing exercise - don't tell them that, though.)

Making a rocket is good hands on fun and teaches the students to follow instructions. Using a theodolite allows them to calculate the altitude of the rocket. They may then begin to calculate the height of structures around town.

If I may suggest use the Sun and our planet at the beginning, as it will be familiar to them. Then any number of topics can be introduced.

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