Announcing the Eleventh Annual Iowa Junior Science, Engineering and Humanities Symposium "Mankind, Science, and Tomorrow"
The grant provides for travel allowances and a small book allowance and fee exemption. Applicants should have at least 8 hours of physics and should live not more than 75 miles from Cedar Falls.

Write to Dr. Robert W. Hanson, Department of Chemistry, University of Northern Iowa, Cedar Falls, Iowa 50613, for application materials.

TEACHING TIP ON CORRECTING STUDENTS' PAPERS
William Hartman
Chairman of Chemistry Department
Ellsworth Community College
Iowa Falls, Iowa

For those of us who are not fortunate enough to have an electric scoring machine, it is imperative that we design our apparatus or technique to correct teacher-made tests quickly. The simplest and easiest method we have found is to take the answer sheet and make a 3M thermofax transparency. With a red wax pencil, the correct answers are then marked. The transparent template is placed directly over the student's responses and the instructor can count either the number right or the number wrong. Multiple choice, essay, and short answer questions can be intermixed and be analyzed without removing the transparent answer key. We have used this method for eight years and have found it to be simple, quick, and efficient.

WINTER ECOLOGY AND NATURE STUDY
Dr. Floyd Sandford
Coe College
Cedar Rapids, Iowa 52402

Coe College, Cedar Rapids, Iowa, will be offering a course "Winter Ecology and Nature Study" at the Conservation Education Center, Iowa Conservation Commission, Guthrie Center, Iowa from January 5, 1973 to January 25, 1973. This college credit course offers five quarter hours or three semester hours of college credit to participants. Students will reside in the dormitories at the Conservation Education Center and most of their learning activities will be centered in the Springbrook State Park area. A wide variety of educational activities are planned to provide students with information concerning the environment and eco-systems. Activities include field trips, lectures, individual projects, and recreational opportunities, to name a few.

Participants will have the opportunity to study the environment in a natural setting and to study with qualified individuals in the field. This course is open to all college students and adults, not necessarily Coe students only. All Registrations must be completed by the end of December.

More information concerning costs, what to bring and registration procedures may be obtained by writing to: Dr. Floyd Sandford, Coe College, Cedar Rapids, Iowa, 52402 or Conservation Education Center, Route 1, Box 133C, Guthrie Center, Iowa 50115.

ANNOUNCING THE ELEVENTH ANNUAL IOWA JUNIOR SCIENCE, ENGINEERING AND HUMANITIES SYMPOSIUM
"MANKIND, SCIENCE, AND TOMORROW"
February 22, 23, and 24, 1973

Headlined Problems: "Engineering for Tomorrow," "Interdisciplinary Approaches to Population Problems," "Humanistic Science," and "Futuristic Science - Fact or Fantasy?"

The 1973 Iowa JSEH Symposium will attempt to refute these generalities by seeking directions for correcting some of the problems upon which such partially true headlines are based. Three hundred highly-motivated high school science students and fifty concerned science teachers will be invited to interact with more than forty renowned scientists and professors on present and future issues concerning our science-based society. Thus researchers, science teachers, and future leaders will convene to face some of the most pressing problems concerning "Mankind, Science, and Tomorrow."
Tentative Program:

Thursday, February 22
4:00 - 6:00 P.M. - Registration - Iowa Memorial Union
7:00 - 9:00 P.M. - Banquet and First General Session - "An Interdisciplinary Approach to Population Problems," Dr. Willard Jacobson, Science Department Chairman, Columbia University; Introduction of Student Research Participants.

Friday, February 23
7:15 - 8:00 A.M. - Breakfast
8:15 - 9:15 A.M. - First Student Research Symposia; Presentation of high school student research reports.
9:30 - 11:45 A.M. - Laboratory Visits and Concurrent Sessions; Choice of University Lab visit, including a research scientist presenting current findings and efforts.
Noon - 1:00 P.M. - Luncheon, Iowa Memorial Union
1:15 - 2:30 P.M. - Second Student Research Symposia; Presentation of high school student research reports.
2:45 - 4:00 P.M. - Rap Sessions; Small informal group discussions on such topics as drugs, V.D., pollution, etc.
4:00 - 7:00 P.M. - Free Time.
7:00 - 9:00 P.M. - Second General Session; "Remote Sensing of the Environment," Dr. James Taranik, Remote Sensing Supervisor, University of Iowa.

Saturday, February 24
7:30 - 8:15 A.M. - Breakfast
8:30 - 10:00 A.M. - Third Student Research Symposia; Presentation of high school student research reports.
10:15 - 11:45 A.M. - Laboratory Visits; Choice of another University lab visit and discussion of careers in fields of interest.
Noon - 1:30 P.M. - Buffet and Third General Session; Keynote Address, NASA Speaker, Huntsville, Alabama
1:30 P.M. - Check-out and Departure

Applications and further information concerning the Symposium can be obtained by contacting: Dr. William L. Sharp, Director, Iowa Symposium, 459 Physics Building, University of Iowa, Iowa City, Iowa 52240.

A NEW APPROACH TO THE TRAINING OF CHEMISTRY/PHYSICS TEACHERS

Kenneth E. Borst
Associate Professor of Chemistry
Rhode Island College
Providence, Rhode Island 02900

In 1950, during my first week as a junior high school science teacher, it became apparent to me that my training to become such a teacher was almost a complete waste of time. I have also observed that there has been very little effort on the part of colleges to change the situation and, although great strides have been made in using "discovery" approaches (CBA, CHEMS, PSSC, IPS, ISCS, etc.) in the secondary schools, the college teachers, for the most part, still go through their ineffectual patterns of teaching science teachers in the same way that they teach potential scientists, and the major tool of ineffectual teaching, the "lecture," still holds its honored place. Furthermore, since people usually teach the way they were taught, the products of these sterile teaching methods are likely to be ineffectual also. A logical solution would be to use good teaching techniques continuously during the entire undergraduate preparation of science teachers. This is the route that Rhode Island College elected to take in 1970 when the physical science department was asked to take part in an innovative chemistry/physics teacher preparation pilot program. We are now completing our second year as a pilot school.

The courses used in the pilot program have been, or are being, developed by the Physical Science Group (Uri Haber-Schaim, Director), PSG, located at Newton College of the Sacred Heart, Newton, Massachusetts. Although the courses used a variety of approaches, the majority of the time devoted to the learning process is spent in the laboratory and little or no "lecturing" is done during the first two years of study. The third year course will divide instructional patterns roughly equally between laboratory experiences, formal classroom discussion, and independent study. It is hoped that we will educate a group of science teachers who will be "guides in learning, rather than dispensers of information." (U. Haber-Schaim)