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## Research Opportunities for Teachers

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# RESEARCH OPPORTUNITIES FOR TEACHERS

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Somewhere during undergraduate days, all students encounter a fork in the science education road. One way leads to teaching, along a path festooned with education, psychology and "general" courses. This road leads into a people-oriented, less specialized and very demanding form of science activity.

The other fork in that road leads toward specialization and the "publish or perish" life of a university or industrial scientist. College students who take this other fork become non-teaching scientists, researchers, authors and those who are invited to speak at symposia. They lead a different sort of professional life.

The underlying difference in the two roads taken may be wrapped up in one word — research. Many view research as "real" science and tend to downplay teaching as not as pure. Research brings discovery, prestige, speaking opportunities and publication. Research is seen as a glamour activity while supervising the lunchroom pales by comparison.

Classroom teachers can participate in research. Teachers do not need to be affiliated with a college, drug company or defense contractor to take part.

Beyond the obvious master's degree programs, independent study and guided research for graduate students at colleges or universities are many kinds of research which may be pursued. Some must be paid for, some pay and some are voluntary. Some are carried out by individuals and some involve group work. Some carry more prestige and/or self satisfaction than others.

## **Volunteer Research**

Some of the most enjoyable and rewarding projects fall in the category of volunteer research. The Audubon Society Christmas bird survey, The Iowa Department of Natural Resources bird feeder survey, and Dr. Lois Tiffany's morel mushroom project are examples of projects of this type. Anyone who wishes to participate may join. Volunteers work when they wish, as hard as they wish and choose the project they wish. Iowa's scientific history is full of examples of work done by interested amateurs in the fields of paleontology, herpetology, botany and others. Anyone may become involved with a minimum of investment.

## **Pay To Research**

Several organizations offer opportunities for non-specialists to become a part of serious field investigations. Most require that participants pay their own expenses plus a portion of the expedition costs. Expeditions turn out to be wondering/learning/working vacations. Opportunities exist in any scientific field anywhere in the world. Costs for participation run from hundreds to thousands of dollars. The author's experience with this kind of research was an Earthwatch expedition in Western Colorado digging minute dinosaurs out of Jurassic strata under the tutelage of a world famous paleontologist.

## Research for Pay

Many organizations have research money to grant and lack only the researchers. The Des Moines Public Schools, Iowa Science Foundation, and Society for the Study of Amphibians and Reptiles are examples of local, state and national organizations eager to grant research money to qualified persons who usually must promise to report in writing at the end of the project. State conservation organizations sometimes will also sponsor private research, particularly in the area of non-game wildlife.

Other opportunities are available for the interested secondary teacher. A recent report tells of a high school earth science teacher whose interest in seismology led to his classroom becoming an official seismic recording station. The federal government supplied the money and equipment. The possibilities are considerable and open to anyone with the desire to participate.

Teachers can become researchers as individuals, as members of a group or even with their students. The benefits are many. Teachers realize personal and professional growth, achieve recognition within the scientific community and find themselves having lots of fun.

### Teacher Research Contacts

National Audubon Society  
950 Third Avenue  
New York, NY 10022

Dr. Lois Tiffany  
Plant Pathology Extension Service  
Iowa State University  
Ames, IA 50011

Iowa Science Foundation  
P.O. Box 868  
Cedar Falls, IA 50613

Fund for Excellence  
Des Moines Public Schools  
1800 Grand Avenue  
Des Moines, IA 50307

Society for the Study of  
Amphibians and Reptiles  
Thomas H. Fritts, Chair  
SSAR Grants-in-Herpetology  
Committee  
U.S. Fish and Wildlife Service  
Department of Biology  
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680 Mt. Auburn Street  
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