The Jane Goodall Environmental Middle School

Oregon Department of Education

Dissemination Grant

The Jane Goodall Environmental Middle School (JGEMS), a public charter school in Salem, has received a dissemination grant from the Oregon Department of Education. The purpose of the dissemination grant program is to share successful instructional practices developed in charter schools with regular public schools throughout the state. Four retired JGEMS teachers intend to visit schools throughout the state. We hope to meet with teachers to discuss ways to utilize the successful programs in their schools. We understand that each school has unique needs, but we hope that by working with teachers, parents and administrators, the programs that have worked so well for JGEMS can be adapted to be beneficial to any school.

Here is a summary of the projects and programs we are sharing:

- **The endangered species project:** This integrated project provides an engaging and meaningful opportunity for students to apply their skills and knowledge from a number of curriculum areas to solve a real world problem, the survival of endangered species. Students not only learn about the physical and behavioral characteristics of their species, but also about the complex economic, social and cultural issues associated with their endangered species. Appropriate for grades 4 – 8.
- **Field-based research projects:** Getting students out of the classroom to conduct research in a local meadow, forest or wetland can be engaging and powerful. Field-based research projects provide a unique opportunity for students to learn critical thinking, data collection, comparative analysis, the ability to work in groups and presentation skills, both written and oral. Appropriate for grades K – 12.
- **Diack Ecology Education Program:** JGEMS is partnering with the Diack project to provide grants and workshops to encourage schools to involve youth in field-based science inquiry and ecology studies. Grant funds can be used for equipment for field-based research and for transportation. Appropriate for grades K – 12.

Here is what we are proposing for participating schools:

- Planning sessions at your school on how to best utilize these projects and programs.
- Opportunity to experiment with a variety of field-based equipment appropriate for students K – 12.
- Access to extensive teaching materials and sample student works.
- Follow-up visits by JGEMS staff as needed.
- Participation in a network of participating teachers and schools.
- Invitation to Salem to meet with other participating teachers for a planning meeting and to view the JGEMS project presentations (May 5th for field-based research projects and May 12th for the endangered species project). The dissemination grant will pay travel expenses for visiting teachers (mileage and per diem) as well as substitute teacher costs.
- Opportunity to participate in the summer field-based science inquiry workshop in your region. All expenses will be covered by the grant and the Diack Ecology Education Program. Additionally, teachers will be paid a $100 stipend for attending.
- Funding for field equipment for your school's projects will be available from the Diack Ecology Education Program.

For more information or to become a project participating school, please contact Mike Weddle – mkweddle@comcast.net or 503-510-3032.

Here is a longer description of each project:

The endangered species project:

For sixteen years, JGEMS seventh grade students have done our endangered species project. This group project requires students to become experts on their species, not only its physical characteristics and behavior, but how it fits into the local environment, how it is affected by the human community, why it is endangered and what has been done so far to protect it. Then the students must develop their own recovery plan. This plan must include what they would do for the animal where it lives as well as what they could do in Salem, Oregon, to help. Each group is matched with an organization working to protect their species. In the sixteen years we have been doing this project we have made connections with experts and organizations for all the species we study. Students can use these experts as a resource as they develop their group's recovery project. In turn, the students raise money for these organizations. Our students have purchased building materials to improve livestock corrals in Ladakh, India, for the Snow Leopard Conservancy, purchased field equipment for the Golden Lion Tamarin Project in Brazil and raised funds to send one of our teachers to Namibia in the summer to develop educational materials for the Cheetah Conservancy. Groups of students also visit local elementary schools to talk to younger students about endangered species and environmental stewardship. The project ends with a presentation of the group's recovery plan to a panel of local experts from government agencies and conservation organizations. The presentation includes speeches by each group member, a poster display and a PowerPoint presentation. They know that through this project they are truly making a difference for their species and its habitat.

One can summarize the endangered species project instructional model in this way: knowledge leads to compassion which leads to action. When JGEMS students learn about a particular endangered species they begin to feel that it is "their" species. They want to learn as much as they can, not because they want a better grade, but because their care about the survival of the species. From this compassion springs a desire to take action by raising money to support organizations working to conserve their species or by raising awareness by talking to younger students. This model has been the key to our success with all students, particularly those with special needs.

This project is most appropriate for students in grades 4 to 8. The project can last anywhere from two weeks to a full year and can be part of a science curriculum or an integrated project in science, technology, art, language arts and social studies.

Field-based research projects:

The JGEMS eighth grade field-based research projects provide an extraordinary opportunity for students to learn critical thinking, data collection, comparative analysis, the ability to work in groups and presentation skills, both written and oral. Their research studies must be well thought out to provide all the information needed by the partner organization. At the completion of these projects students have a realistic sense of the environmental challenges we face today and how these new skills can be used not only for educating the public but also to develop the skills necessary to foster positive change. They have a sense of empowerment because they have accomplished something real. They have made a difference. By working with the staff from our partner organizations we have built connections with partners that can not only teach valuable skills, but also provide opportunities for additional research in the future. The research partners become role-models for the students.

Like the endangered species project in the seventh grade, this project ends with a presentation of the group's research to a panel of local experts from government agencies and conservation organizations. The panelists ask questions of the group which they must be able to answer, rather like defending your doctoral thesis. Parents, school district administrators and other staff also attend these presentations.

The JGEMS community (students, teachers, parents and community members) have undertaken service projects in the community since the school was created in 2000. These projects give students a sense of empowerment and purpose. They know they are making a difference in their communities and they know the subjects they study in the classroom make them better able to impact their local environment. The service projects are inevitably linked to the field-based research projects, providing a clear focus for instruction in all subject areas. Field research provides a service to JGEMS partner organizations and projects that start as service almost always lead to research on the effectiveness of the restoration projects.

This project is appropriate for students grade K to 12. Like the endangered species project, this project can last anywhere from two weeks to a full year and can be part of a science curriculum or an integrated project in science, math, technology, language arts and social studies.

Diack Ecology Education Program

The Diack Ecology Education Program provides a system of grants, workshops and resources that are distributed to teachers and students in Oregon to encourage them to involve youth in field-based science inquiry and ecology studies. Diack is working with JGEMS on this dissemination project to support teachers in their efforts to implement field-based science inquiry projects. Diack can provide grants for field equipment and transportation to participating schools. Additionally, JGEMS dissemination grant staff will conduct regional field-based science inquiry workshops in 2017 and 2018. The Diack Ecology Education Program has been conducting teacher workshop in field-based science inquiry for over twenty years. For the last three years these workshops have been conducted by JGEMS teachers. This course is designed to promote science inquiry in the K-12 classrooms by providing teachers with an opportunity to engage in field-based science inquiry project design.

In a two-day intensive format, teachers develop the knowledge and tools needed to implement field-based science inquiry activities with their students. The emphasis will be on student inquiry and long-term field studies. Resources for local partnerships and funding opportunities will be provided. Participants will first be introduced to the concepts of field-based science inquiry: the rationale, the supporting research and specific examples of successful programs. We will also discuss how field-based science inquiry supports Common Core and Next Generation Science Standards. Participants will be developing their own research projects during the workshop, projects that might be age appropriate for their own students. They will be introduced to field equipment that has been used successfully by students of various age levels. Participants will write a draft proposal to the Diack Ecology Education Program for equipment and supplies to do field-based science inquiry in their schools. Other funding sources will also be discussed.