

NSF GK-12 Project Flowing Waters **Teacher Application**

Overview of Project Flowing Waters

Project Flowing Waters is a National Science Foundation and Texas Pioneer Foundation supported collaboration between Texas State University and San Marcos CISD. It is founded on the interdisciplinary theme of water and emphasizes inquiry-based teaching of sciences related to water. Water is the overall theme of *Project Flowing Waters* but all scientific disciplines are welcome and encouraged to be a part of the program.

Project Flowing Waters has six main goals: (1) improve communication, collaboration, teaching and team-building skills of Texas State graduate students in science (Resident Scientists), (2) increase the interest of secondary school students in the scientific disciplines and in higher education, (3) provide professional development for 7-12th grade science teachers, (4) bring excitement to the scientific process for 7-12th grade students through engagement in the Resident Scientists' research correlated with the appropriate science Texas Essential Knowledge and Skills (TEKS), (5) strengthen partnerships between Texas State University and SMCISD, and (6) infuse a deeper understanding of inquiry-based science teaching into Texas State science graduate programs

Project Flowing Waters will prepare Resident Scientists and SMCISD science teachers to team together in presenting inquiry-based science TEKS lessons to secondary students and to share their experiences in a series of four meetings throughout the year beginning with the May *Headwaters* meeting. Resident Scientists will spend 10 hours per week with their partnered teachers and secondary students and 5 hours in preparation for the secondary classrooms. Resident Scientists will be prepared for communicating science and mentoring in SMCISD schools by completion of the Summer I course *Professional Development - Inquiry Science Teaching* taught by PI Dr. Julie Westerlund. Project faculty and teacher/fellow teams will also meet bi-weekly throughout the academic year to help ensure the successful implementation of newly created lessons that are based upon the science TEKS. The SMCISD science teachers, Resident Scientists, and Texas State faculty will work together to design, develop, and implement science TEKS based, hands-on, technology-driven and inquiry-based activities. Activities include: 1) lesson plans that focus on a single, specific topic in one or two classes; 2) units that focus on a coherent theme with activities lasting one to two weeks; and 3) research projects that are long term research experiences.

March 10, 2009

Dear SMCISD Science Teacher,

Thank you for considering our NSF GK-12 program *Project Flowing Waters*. We are all very excited about this wonderful collaboration in scientific research and science education between San Marcos CISD and Texas State University. This is a five year grant and secondary science can reapply each year.

The application process requires two steps **1)** emailing your intent to apply and **2)** mailing six forms with appropriate initials and signatures.

Step 1. Please email your intent to apply to three individuals, Ms. Pam Guettner (Pam.Guettner@smcisd.net), Ms. Janet Wisian (jkwisian@txstate.edu) and Dr. Julie Westerlund (jw33@txstate.edu) by **Friday April 24th**. Simply state in your email your intent to apply to the program, your school, your subject, grade level(s) and telephone numbers (school, cell, home). In the subject line of your email, please write SMCISD teacher-(your last name).

Step 2. Please complete and mail by **Friday May 1st** the following six forms with required initials and signatures to:

Ms. Janet Wisian
Texas State University
122 Freeman Aquatic Biology
San Marcos, TX. 78666

1. Roles and Responsibilities Contract of The Science Teacher
2. Teacher Demographic and Contact Information Form.
3. Teacher Essay Application Form.
4. Course Scope and Sequence for each course scheduled to be taught during 2008-2009 in which a Fellow (Resident Scientist) may participate.
5. Teacher/Principal Agreement Form.
6. Curriculum/Instruction Checklist

If you have any difficulty, with the application process, please contact:
Ms. Janet Wisian at (512) 245-2284, or email: jkwisian@txstate.edu

I look forward to meeting with you.

Thank you,
Julie F. Westerlund, PhD
Associate Professor
Biology Department, Texas State University
601 University Drive, San Marcos, TX. 78666
Fax: 512-245-8713
Phone: 512-245-3361, Cell phone: 512-560-8276, Home phone: 512-280-1419
E-Mail: jw33@txstate.edu, Alternate email: jwesterlund@austin.rr.com

ROLES AND RESPONSIBILITIES CONTRACT OF THE SCIENCE TEACHER

Read and initial each responsibility in the blank provided. This contract is part of your application package.

I, as a SMCISD science teacher involved in Project Flowing Waters, will

1. _____ Commit to participate for an annual stipend of **\$4500**. Project Flowing Waters begins in May 2009 and ends in May 2010.
2. _____ Commit to attend and participate in 6 days of Project Flowing Waters meetings throughout the year beginning with **the 2 day Headwaters Meeting on May 21-22, 2009, the 2 day Confluence Meeting on August 5-6, 2009, the Mid-Stream Meeting on December 8, 2009 and the River's End Meeting on May 6, 2010**. This represents four meetings over 6 days. The first two meetings are for planning and the last two meetings are for evaluation and for presentation of results. Substitutes will be provided for by SMCISD for all of the meetings during the school year. As part of the annual \$4500 stipend, each Project Flowing Waters meeting day is worth \$200.00. Hence, if a Project Flowing Waters meeting day is missed due to illness or other commitment, \$200.00 will be deducted from the stipend for each missed meeting day.
3. _____ Interact with the Fellow (henceforth called "Resident Scientist") informally through email or telephone over the summer, prior to the start of the school year, to foster the partnership and plan activities well in advance for the coming year.
4. _____ Act as mentors and role models for the Resident Scientist, role-modeling inquiry science teaching, direct teaching, and application of "best" educational practices and methods.
5. _____ Allow open access to your classroom according to school guidelines.
6. _____ Commit to participate in 30-45 minute once-a-week planning sessions during the teacher's planning period with the Resident Scientist at the school throughout the academic year. This should be an established set time for a weekly Resident Scientist / SMCISD science teacher planning time.
7. _____ Participate in a collaborative process with the Resident Scientist for each lesson beginning with several brainstorming discussions in order to focus on specific topics; Resident Scientists will focus on linking their expertise to the TEKS standards and researching possible activities; presenting to the teacher several possible activity scenarios in which choices are made for the benefits of the students.
8. _____ Work jointly with a Resident Scientist to deliver instruction as a team, realizing that the **Resident Scientist cannot legally be left alone to work with students during class time**. The Resident Scientists cannot do lessons by themselves even if the lessons are developed by them. The teacher will assign a role for the Resident Scientist to do within each lesson. For example, the Resident scientist may be assigned to demonstrate a technique, present a short powerpoint presentation, work with a small group etc.

ROLES AND RESPONSIBILITIES OF THE SCIENCE TEACHER continued

9. _____ Assist the Resident Scientist with implementation of activities in the classroom.
10. _____ Assist the Resident Scientist to develop lesson plans and units, and, if possible, research projects during the academic year.
11. _____ Understand that **Resident Scientists cannot serve as substitutes in the classrooms, cannot serve as graders and cannot work alone on projects.**
12. _____ Participate in all Project Flowing Waters projects developed for your classroom based upon the TEKS standards in your subject.
13. _____ Provide feedback to the Resident Scientist about lesson development and implementation.
14. _____ Allow and encourage Resident Scientist to participate in classroom activities.
15. _____ Assist Fellows in collecting consent forms from students and parents for permission to participate in Project Flowing Waters.
16. _____ Complete Resident Scientist evaluations and other assessment forms on time.
17. _____ Present the collaborative projects at professional conferences, if possible. Travel funds will be provided to present at professional conferences. Disseminate Project Flowing Waters activities to other mathematics and science teachers within your building and in your district.
18. _____ Facilitate grant evaluation activities such as collection of student data, survey instruments and focus groups during Mid-Stream and River's End Meetings.

I have read and understand my roles and responsibilities as a SMCISD science teacher in *Project Flowing Waters*. I understand that if I am not able to fulfill these roles and responsibilities for any reason, I will relinquish the rest of my stipend determined by a prorated rate based upon the time I have spent within the program.

_____(Print name)

_____(Signature)

TEACHER DEMOGRAPHIC INFORMATION FORM
Science Teacher

Name:
Gender:
Ethnicity:

Educational Background

Major, Degree:

Institutions Attended:

Occupational History

Teaching – grade levels, subjects taught, teaching certifications held:

Relevant non-teaching employment:

Professional development/enrichment programs:

Teaching awards:

Active professional memberships:

Voluntary professional activities:

Contact Information:

Name _____

We need to be able to contact you throughout the year, please provide all necessary information below.

School Mailing Address:

Home Mailing Address:

Telephone & Fax numbers:

Home:

School:

Cell:

Fax:

E-Mail Address:

School:

Personal:

Planning Period time:

School Starting and Ending Time:

List the Courses and Grade Levels you are currently teaching:

List the Courses, Grade Levels, and Semesters you expect to be teaching during the 2008-2009 school year:

Best times to contact you:

Preferred method of contact:

Participant Signature

Date _____

Program funded by National Science Foundation GK-12 Program and Texas Pioneer Foundation.

TEACHER ESSAY APPLICATION FORM

Briefly describe your ideas on how you would like to incorporate the NSF *Program Project Flowing Waters* into your curriculum or instruction. Use additional pages if necessary.

Briefly describe what personal and professional attributes and/or opportunities you, your classroom, and your students will be able to provide for a GK-12 Fellow (Resident Scientist) working with you in your classroom. Use additional pages if necessary.

Briefly describe any special training you think a Resident Scientist would require before participating in your classroom. Use additional pages if necessary.

COURSE SCOPE AND SEQUENCE

For each course to be taught in 2008-2009 academic year provide the following information **with** the Scope and Sequence for your course.

1. Course Title
 2. Grade Level
 3. Start and End Date
 4. Course Description
 5. Required Course Materials
 6. Common Course Activities (number of labs per week, small groups, pod casts, videos, student projects, powerpoint presentation, use of internet, etc.)
 7. Course Outline with Time Line (approximate dates) for Delivery
 8. Desired Fellow (Resident Scientist) Activities for Topics in Course Outline
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**NSF *Project Flowing Waters*
TEACHER/ PRINCIPAL AGREEMENT FORM**

Texas State University and _____ (school) , agree to the following stipulations pertaining to the *Project Flowing Waters* program for the 2008-2009 school year.

The following resources will be given to each teacher participating in Project Flowing Waters in order to assist in the enhancement of their curriculum:

- 1) \$4,500 annual stipend
- 2) \$800 travel fund for attending conferences and workshops, etc. These funds are allocated to the teachers to disseminate *Project Flowing Waters* activities at professional meetings and workshops. We are looking for teachers who are enthusiastic about such dissemination with the assistance of the Resident Scientists and are willing to take the time to make this happen.
- 3) Scientific equipment, if needed, to implement *Project Flowing Waters* activities.
- 4) Payment for substitute teachers when teachers are at *Project Flowing Waters* meetings (May 28-29, December 10, May 7)
- 5) Publication of *Project Flowing Waters* activities on the *Project Flowing Waters* website.

The principal agrees to:

1. Support the teacher and GK-12 Fellow (Resident Scientist) in their efforts on the project.

The participating teacher agrees to:

1. Provide support for the Resident Scientist allowing them to become more effective communicators.
2. Guide the teaching framework according to school and State standards.
3. Be positive, motivating, open, and flexible throughout the year.
4. Assist Resident Scientists in collecting consent forms from students and parents for permission to participate in Project Flowing Waters.

Teacher _____ Date _____

Principal _____ Date _____

Dr. Julie Westerlund _____ Date _____

Note: A copy with both signatures will be returned to the teacher and principal.

Program funded by National Science Foundation GK-12 Program and Texas Pioneer Foundation.

Project Flowing Waters
Curriculum/Instruction Checklist
Science Teachers

Name: _____ School: _____

Date: _____ Class: _____

Grade Level: _____

Please indicate what the Fellow would likely encounter in a typical classroom in which they might be interacting

Activity/Strategy	Frequency				
	Never	Almost Never	Sometimes	Often	Very Often
Lecture method					
Teacher presentation					
Textbook reading					
Audio-Visuals					
Films/movies/video/DVD					
Slides					
Cartoons					
Power point presentations					
Posters					
Diagrams					
Overheads					
Learner-centered instruction					
Discussions					
Open-ended labs					
Problem solving activities					
Brainstorming					
Discovery learning					
Examples - Teaching Objects					
Incorporate current events; media etc					
Incorporate student experience					
Hands on activities					
Lab demonstrations/instruction					
Models					
Observation					
Field trips					
Questioning techniques					
Incorporate questioning					
Probe for further explanation					
Call on students randomly					
Wait for volunteers					

Incorporated Bloom's higher level questioning					
Career information					
Relate lessons to relevant careers					
Posters, handouts					
Guest speakers					
Alignment with math and science education standards					
National standards					
State/district standards					

Comments: