Survey of GK-12 Principal Investigators

1. PROJECT OBJECTIVES AND THEMES	
1.1. Project Goals: Fellows	*To be asked separately for Masters and Doctoral Fellows* Which of the following (if any) are intended outcomes of your GK-12 project for participating Fellows? *[Scale: Not a goal, minor goal, major goal]* *STEM = Science, Technology, Engineering, Mathematics* *As a result of participating in our GK-12 project, Fellows will gain…* - teaching skills - ability to communicate STEM content - ability to communicate about STEM research - research skills - ability to work in a team - knowledge of STEM education policy issues - understanding of their own research - an expanded view of the role of STEM professionals towards supporting STEM education - career development - Other: _____
1.2. Project Goals: K-12 Teachers	*[If K-12 Teachers are target participants]* Which of the following (if any) are intended outcomes of your GK-12 project for participating K-12 teachers? *[Scale: Not a goal, minor goal, major goal]* *STEM = Science, Technology, Engineering, Mathematics* *As a result of participating in our GK-12 project, Teachers will gain increased…* - STEM content knowledge - skills and techniques for STEM instruction - access to university resources - participation in professional activities related to STEM education - sense of professionalism and motivation - understanding of how to use STEM technologies or tools - familiarity with current STEM research

1.3. Project Goals: K-12 Students	*[If K-12 Students are target participants]* Which of the following (if any) are intended outcomes of your GK-12 project for participating K-12 students? *[Scale: Not a goal, minor goal, major goal]* *STEM = Science, Technology, Engineering, Mathematics* *As a result of participating in our GK-12 project, K-12 students will gain…* - Enhanced STEM awareness and appreciation - Increased STEM subject matter knowledge - Greater interest in STEM careers - A deeper understanding of who STEM professionals are and the work that they do - Other: _____
1.4. Project Goals: Broader Impacts	Which of the following (if any) are intended broader outcomes of your GK-12 project? *[Scale: Not a goal, minor goal, major goal]* *STEM = Science, Technology, Engineering, Mathematics* - Strengthening partnerships between higher education institutions and local school districts - Strengthening collaborations between higher education institutions and the surrounding community - Enhancing the general public's STEM awareness, knowledge, and appreciation - Developing inter/multidisciplinary collaborations and research - Incorporating GK-12 like activities into the training of graduate students in participating departments - Increasing support for K-12 collaborations within the university community - Other: _____

2. PROJECT CHARACTERISTICS	
2.1. Partner organizations	Which of the following institutions or organizations are partners in your GK-12 project? (Check all that apply) - Elementary schools - Middle schools - High schools - Museums - Zoos or aquariums - STEM policy organizations - STEM research organizations - Foundations - District/county, state, or federal education departments - Publishing and/or curriculum development companies - Other: _____
2.2. Leadership team	Who contributed to the original design and implementation of your GK-12 project (e.g., writing the proposal)? (*Check all that apply*) - PI - Co-PIs - project manager/coordinator - participating faculty members - Fellows - K-12 Teachers - K-12 school or district staff - Other: _____

2.3. GK-12 Staff responsibilities	Are any K-12 administrators and/or teachers involved in the administration, management, or day to day operation of the GK-12 project? --Yes ---No *If yes…* Please briefly explain their administrative, managerial or operational role on the project: _____ Are any faculty members from your university's department or School of Education involved in the administration, management, or operation of the GK-12 project? - Yes - No *If yes…* Please briefly explain their administrative, managerial or operational role on the project: _____
2.4. Degree level of Fellows	Which of the following students have been funded as GK-12 Fellows in your project? (Check all that apply) - Undergraduate students - Masters students - Doctoral students - Other:
2.5. Participating academic departments	Please list the university departments, centers, or units that participate in your GK-12 project and indicate whether Fellows and/or Faculty members participate from each department. *Ask this question separate for fellows/faculty*

	Fellows?	Faculty?
Department 1: _____	Y N	Y N
Department 2: _____	Y N	Y N
[survey will have 20 slots]		
Department 20: _____	Y N	Y N

2.6 Multi/ interdisciplinary theme	Is your project organized around multidisciplinary or interdisciplinary theme(s), collaboration(s), and/or research? - Yes - No *If project is organized around an inter/multidisciplinary theme* Which disciplines are involved? (*Check all that apply*) ☐₁ Agricultural Sciences/Natural Resources ☐₁ Astronomy ☐₁ Atmospheric Science and Meteorology ☐₁ Biological/Biomedical Sciences ☐₁ Chemistry ☐₁ Communications ☐₁ Computer and Information Sciences ☐₁ Education ☐₁ Engineering ☐₁ Geological and Earth Sciences ☐₁ Health Sciences ☐₁ Humanities ☐₁ Mathematics ☐₁ Ocean/ Marine Sciences ☐₁ Physics ☐₁ Professional Fields/Business Management/Administration ☐₁ Psychology ☐₁ Social Sciences ☐₁ Other Please describe the nature of the multidisciplinary or interdisciplinary theme(s), collaboration(s), and/or research. _____

3. RECRUITMENT, SELECTION, AND MATCHING OF FELLOWS AND TEACHERS

3.1. Fellow recruitment: *Selection criteria*	How important are the following selection criteria to your project when deciding how to award Fellows with a GK-12 Fellowships? *[Scale: Not important, Somewhat important, Important, Very important]* - Prior teaching or K-12 classroom experience - Demonstrated interest in working with K-12 students - Financial need - Grade point average - Research potential - Faculty advisor recommendation - Member of underrepresented STEM population - Other: _____
3.2 Extent to which teachers volunteer versus are mandated to participate in GK-12	How do teachers become involved with your project? (*Check all that apply*) *Teachers…* - Volunteer directly to program - Are recommended by university faculty members - Are recruited by school administrators - Are nominated by school administrators - Are required to participate by school administrators - Other: _____
3.3 Teacher selection	How does your project select participating teachers? (*Check all that apply*) - Project staff evaluates teacher applications - Teachers are randomly selected - No selection is required – all teachers who desire to participate do so - Other: _____
3.4 Teacher selection criteria	How important are the following criteria when choosing which teachers will participate in your project? (Check all that apply) *[Scale: Not important, Somewhat important, Important, Very important]* - Willingness to participate - Extensive prior STEM teaching experience - Little prior STEM teaching experience - Demonstrated strength in STEM content knowledge - Demonstrated need for additional STEM content knowledge - Prior participation in GK-12 and/or related program (e.g. MSP) - Other: _____

3.5 Fellows' assignments	Which of the following best describes the nature of Fellows' activities in your GK-12 project? *Fellows work with:* - A single teacher in a single school - Multiple teachers in a single school - Multiple schools - An entire school district - A museum or other informal educational organization - Other, specify_____
3.6 Nature of assignments for Masters versus Doctoral Fellows	*If Fellows include both Masters and Doctoral students:* In your GK-12 project, are roles and responsibilities of Masters and Doctoral Fellows typically the same or different? - Same - Different *If different…* How do the roles and responsibilities differ between Masters and Doctoral Fellows? _____
3.7 Matching of Fellows and teachers	*If Fellows work with single or multiple teachers.* Do Fellows have any input in how they are matched with teachers? - Yes - No *If Yes…* In what ways do Fellows have input into how they are matched with teachers? *Fellows can express preference regarding:* - The STEM discipline in which they will work - The school or grade level at which they will work - The specific teacher(s) with whom they will work - The site at which they will work - Other: _____

3.8 Matching of teachers and Fellows	Do Teachers have any say in how they are matched with Fellows? - Yes - No *If Yes…* In what ways do teachers have input into how they are matched with Fellows? *Fellows can express preference regarding:* - The STEM discipline of their GK-12 activities - The specific Fellow(s) with whom they will work - The general qualifications or characteristics of Fellow(s) with whom they will work - Other
4. FELLOWS TRAINING	
4.1. Fellows Training	Do you provide Fellows with any formal training before or during their GK-12 experience? (*Check all that apply*) - Yes - No *If Yes, ask subsequent questions below.* Are Fellows required to participate in your project's formal training activities? - Yes, Fellows are required to participate in all training activities planned for the project - Yes, but not all training activities offered by the project are required - No
4.2. Nature of training for Masters versus Doctoral Fellows	*If Fellows include Masters and Doctoral students:* Do Masters and Doctoral Fellows receive the same or different GK-12 training? - Same - Different *If different…* Please explain how the training differs between Masters and Doctoral Fellows: _____

4.3. Content of training for Fellows	*[If Fellows receive training during their GK-12 experience]* On the left, please indicate which topics (if any) are covered by your project's formal training activities? On the right, please indicate when Fellows receive training on these topics (i.e., in the summer prior to Fellows beginning their GK-12 experience and/or during the school year). *(Check all that apply in the left column)* - Classroom management strategies - Inquiry based instruction techniques - State and National curriculum standards and assessments - Lab equipment and resources available in the classroom - Conducting safe and effective classroom lab/field activities - Student cognition (how students learn, students' learning needs and abilities) - Student diversity and equity issues - How to develop age-appropriate lessons and activities - How to successfully participate in GK-12 (e.g. time management, working in K-12 schools, etc.) - Other (please specify)_____
4.4. Providers of training for Fellows	Who is responsible for leading the formal training activities? (Check all that apply) - GK-12 PI/Co PI - STEM faculty members other than PI or Co PI* - Education faculty members - GK-12 staff at IHE other than faculty - Staff from K-12 schools or districts - Staff from organizational partner (e.g. museum staff) - Other _____ *If checked, follow-up question asking which departments these faculty members are part of? *(present with list of departments previously filled in question 2.5)*

4.5. Frequency and intensity of Fellows' training	Approximately, how often does your project hold formal training activities for Fellows over the course of a year? (*Check one)* - Once during the summer - Once during the school year - Once or twice a semester - Weekly - Bi-weekly - Monthly - Other_____ Follow-up question asks how long these activities lasted
4.6. Opportunities made available by GK-12 to further develop Fellows' skills in communication, teamwork, research and teaching	In the left column, please indicate which (if any) of the following activities have been established by your GK-12 project for Fellows to engage in? In the right column, please indicate whether participation in any activity(s) you've checked on the left is required or optional for the Fellows. (Check all that apply on the left) *As part of their GK-12 participation, Fellows have the opportunity to…* - Develop classroom lessons together *(K-12 partner only)* - Teach in the classroom together *(K-12 partner only)* - Work with other Fellows on community-based STEM projects - Work on team-oriented research projects with Fellows from other disciplines - Work on team-oriented research projects with K-12 teachers - Present their research to Fellows in other disciplines - Present their research to a non-technical audience (e.g., K-12 teachers, students, community members) - Attend scientific conferences - Attend educational conferences - Provide professional development to teachers - Take an education-related course (e.g., course offered in the School of Education) - Other_____
5. Fellow interactions	

5.1 Opportunities for Fellows to interact with other Fellows	Which of the following activities (if any) have been established by your GK-12 project that allows Fellows to interact with each other? (Select all that apply): -- Seminar/Workshop -- Group work time -- Scheduled planning time -- Informal meeting time -- Social gatherings -- Other_____
5.2 Opportunities for Fellows to interact with teachers	Which of the following activities (if any) have been established by your GK-12 project that allows Fellows to interact with teachers/ other organizational partners? (Select all that apply): -- Seminar/Workshop -- Group work time -- Scheduled planning time -- Informal meeting time -- Social gatherings -- Other_____

6. TEACHERS' REQUIREMENTS, BENEFITS, AND PROFESSIONAL DEVELOPMENT ACTIVITIES

6.1 K-12 teacher obligations	Does your project have requirements that K-12 teachers must fulfill in order to participate in GK-12?
	
	  - Yes
	
	  - No
	
	If Yes, what are the requirements that K-12 Teachers have to fulfill?
	
	  - Required attendance at training sessions or programs
	
	  - Required attendance at two or more project-wide meetings (i.e., for all teachers working with GK-12 Fellows) during the school year
	
	  - Teacher evaluations of Fellows' activities in their K-12 schools and classrooms
	
	  - Other, please specify: _____

6.2 K-12 teacher benefits	Does your project provide benefits to K-12 teachers who participate in GK-12? - Yes - No *If Yes, what benefits does your project provide to participating K-12 teachers?* - Stipends for attendance at professional development workshops - Opportunities to attend special professional development activities during the school year - Opportunities to be presenters in the project's professional development activities - Equipment and materials loaned to schools through the GK-12 project - Equipment and materials provided to schools by the GK-12 project - Time set aside for planning with Fellows during the school year - Special access to University resources (e.g., library, website, equipment) - Stipend for having a Fellow or for participating in the GK-12 project - Continuing education credit - Other, please specify: _____
6.3 Professional development for teachers	Do you provide K-12 teachers with any professional development before or during their GK-12 experience? - Yes - No
6.4 Topics addressed in professional development sessions for teachers	Please check if the professional development activity(s) addressed any of the following topics: - GK-12 project administrative information - How to successfully participate in GK-12 (e.g. working with Fellows, etc.) - STEM content - STEM research - Other (please specify)_____

6.5 Providers of professional development for teachers	Who led the professional development activity(s) for teachers? - STEM faculty - Education Faculty - GK-12 staff at IHE other than faculty (please describe position (s) - K-12 staff (please describe position(s)) - Staff from organizational partner (e.g. museum staff) - Other
6.6 Frequency and intensity of professional development for teachers	Approximately how often does your project hold professional development activities for teachers over the course of a year? (*Check one)* - Once during the summer - Once during the school year - Once or twice a semester - Weekly - Bi-weekly - Monthly - Other_____
7. CULTURE OF THE GK-12 PROJECT AND IHE	
7.1 Tenure trifecta breakdown (research, education, service) teaching/outreach, awards or any other departmental recognition	In Column A, indicate the degree to which faculty at your university are formally recognized for the following activities. In Column B, indicate the degree to which they are rewarded for these activities. *(Column A – Recognized – Very much, somewhat, not too much, not at all)* *(Column B – Rewarded – Very much, somewhat, not too much, not at all)* - Research - Service to the department - Teaching/education - Community outreach

7.2 Collaboration with federally funded programs that involve outreach to K-12 schools/districts	Does your GK-12 program collaborate with any other federally funded programs that involve outreach to K-12 schools/districts (i.e., MSP, CLT, etc.)? --Yes --No *If yes…* Please list the name of the program(s) and the funder(s), and describe the nature of this collaboration: _____
7.3 Influence of those programs on GK-12 program	Did these programs have an influence on any of the following for your GK-12 project? - Graduate student interest in GK-12 - Recruitment of GK-12 teachers and schools - Relationship with teachers and schools - Teachers' level of participation in GK-12 - Space for GK-12 activities at your institution - Faculty participation in GK-12 - Faculty support of GK-12 - Administrative staff availability - Organization of your GK-12 project - Fellows' training - Fellows' work assignments - Other_____
8. IHE OUTCOMES	
8.1 Availability of training or education activities for non GK-12 students	Are any aspects of your GK-12 project (e.g., training sessions, resources, courses, lectures) made available to non-GK-12 students? --Yes --No If yes… Please explain what aspects of your project are available to non GK-12 students: _____

8.2 Changes in departmental culture as a result of GK-12	Has your department or IHE made changes to any of the following as a result of GK-12? (*Please select all that apply*) - Pedagogy - Course content - Courses offered - Degree requirements - Graduate student research training and responsibilities - Graduate student recruitment and selection - Professional development for faculty - Other_____ *If respondent checks any of the following, provide with an open-ended question to elaborate on these changes.*
8.3 Institutional support for GK-12	Does your institution provide support for your GK-12 project in any of the following ways? - Office space - Staff - Additional Fellowship slots - Lab equipment, computer software, other resources - Conference travel and/or attendance - Other_____ Did you receive any external funding from your university/department for GK-12 activities or resources? --Yes --No

8.4 Outside funding sources for GK-12 activities	Did you receive any external funding outside of your university for GK-12 activities or resources? --Yes --No *If yes,* What was the funding source? (*Please check all that apply*) - NSF (other than GK-12) - Federal (other than NSF) - State - Another university or Institution - Industry/ Business - Local K-12 district or county - Other
9. NATURE OF PARTNERSHIP(S), OUTREACH ACTIVITIES	
9.1 Nature of K-12 partnership	Which of the following (if any) are components of your GK-12 award? (*Check all that apply*) - Fellows provide publicly accessible web-based resources to teachers and/or the community - Faculty and/or Fellows provide computer software or lab equipment to teachers - Teachers provide my GK-12 project and/or institution with teaching activities and/or strategies - Faculty involve teachers in their research and/or teaching - K-12 teachers and students visit your campus for tours, demonstrations, and/or talks - Faculty give STEM lectures, presentations, or demonstrations at schools and/or in community - Faculty participate with schools or community in jointly sponsored educational activities (e.g. science fairs, community fairs) - GK-12 Fellows, staff, and teachers collaboratively develop informational displays for the public at museums, libraries, etc. - GK-12 Fellows, staff, and teachers collaboratively participate in community projects (e.g. recycling or watershed study) - None of the above

9.2 Influence of GK-12 on outreach programs at IHE	Have any other STEM departments in your institution become involved in outreach or service learning programs, beyond GK-12, as a result of GK-12? - Yes - No - I don't know *If yes*, Who is the partner organization? - K-12 schools - Museums - Zoos or Aquariums - STEM policy organizations - Other
10. SUSTAINABILITY	
(*For projects in which funding has ended*) **10.1 Continuation of these training/educational opportunities after GK-12 funding ended**	Please describe any aspects of your GK-12 program that have been sustained since your GK-12 funding ended: _____
For currently active projects: **10.2 Potential for GK-12 activities to continue after funding (sustainability)**	Do you or your institution have a formal or informal plan to continue GK-12 like activities after NSF funding ends? (Select one) -- Yes, developed a formal plan -- Yes, developed an informal plan -- No, there are no plans at this time -- No, GK-12 activities will not continue after NSF funding ends *[If yes to formal or informal plan]* Please describe your institution's plan to continue GK-12 like activities, including a description of the activities and the nature of the financial commitment to these activities. _____

END OFSURVEY

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0187. Public reporting burden for this

collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne H. Plimpton, Reports Clearance Officer, Facilities and Operations Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.