APPENDIX B1

GK-12 Monitoring System Crosswalk: Award

DATA ELEMENTS OF THE GRADUATE STEM FELLOWS IN K–12 EDUCATION

MONITORING SYSTEM (GK–12): AWARD

(Data Collected Annually from Awards)

New Elements	Common Collection Categories Questions	Staff and Project Participant [illegible][iii]	Project Implementation	Project Outputs [iii]
	1. Award Information			
	Award Status		X	
	NSF Award ID		X	
	Grantee Institution		X	
	Award Title		X	
	Award Start Date (Month, Day, Year)		X	
	Award End Date (Month, Day, Year)		X	
X	Annual Carryover Funds: Dollar amount of current year of GK-12 support that will be carried over Total dollar amount that will be carried over Dollar amount of participant support costs that will be carried over Dollar amount of stipends that will be carried over		X	
X	List the top three subdisciplines associated with your GK-12 project: Subdiscipline 1: _____ Subdiscipline 2: _____ Subdiscipline 3: _____		X	
	Award URL		X	
	2. Partnerships and Collaborations			
	U.S. Academic Institution			
	Institution Name	X		
	City	X		
	State	X		
	Non-U.S. Academic Institution			
	Institution Name	X		
	Country	X		
	Non Academic Institution			
X	Institution Name	X		
X	Institution Type (mark all that apply) • Museum • Science Center • Industrial Partner	X		

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
	• Business Partner • Government Agency • National Laboratory • Nonprofit Organization • Other			
	3. Participating Schools In Your GK-12 Project			
	K-12 School			
	School Name	X		
	School Level (select one) • Elementary (K–5/6) • Middle (6–8) • High school grades (9–12) • Pre-K/kindergarten through middle school (K–8) • Middle through high (7–12)	X		
	State	X		
	District Name	X		
	School Setting/Location (select one) • Rural • Urban • Suburban	X		
	School Type (mark all that apply) • Charter • Private • Public	X		
	Percentage of students who are eligible for free or reduced price lunch (select one) • Not applicable • 1–10% • 11–20% • 21–30% • 31–40% • 41–50% • 51–60% • 61–70% • 71–80% • 81–90% • 91–100%	X		
	4. Lead Principal Investigators and Co-Principal Investigator Information			
	PI/Co-PI			

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
	Name: Title First name Middle name Last name Suffix	X		
	☐ Lead PI	X		
	Institutional affiliation (Name and State)			
	Phone: Number Extension	X		
	Alternate Phone: Number Extension Type (mark one) • U.S. number • Non-U.S. number	X		
	E-mail Address	X		
	Should the system e-mail a user ID and password to this participant? • Yes • No		X	
	Will this participant have authority to enter data? • Yes • No		X	
X	Should this participant receive announcements and reminders that are sent to the project's lead PI? • Yes • No		X	
	Title (e.g. Professor)		X	
X	Affiliation/Academic Department	X		
X	In what roles, functions, and activities does this PI/co-PI serve the project?		X	
	Academic Disciplines (mark all that apply) • Chemistry - Analytical • …see endnotes for complete list[iv]… • STEM Education and Learning Research – Other (please specify): _____ • Other (please specify): _____	X		
X	Does this co-PI belong to any of the following categories for education faculty? • Yes (mark all capacities that apply) • Education faculty in STEM department/college. For instance, she/he could be an education person who belongs to a Biology department; this person is responsible for biological education related matters that could be biological	X		

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
	education research and/or teaching in the department. • Education faculty in the school or college of education • Education and outreach director in a STEM department, college, university and/or research centers • Other educational faculty (please specify): _____ • No			
X	Ethnicity (select one) • Not Hispanic or Latino • Hispanic or Latino • Not reported	X		
X	Race (mark one or more) • American Indian or Alaska Native • Asian • Black or African American • Native Hawaiian or Pacific Islander • White • Not reported	X		
	Gender (select one) • Female • Male • Not reported	X		
	Disability (mark one or more) • None • Hearing impairment • Mobility or orthopedic impairment • Visual impairment • Not reported • Other (please specify) _____	X		
	5. Project Coordinator Information			
	☐ Mark the box if your project does not have a coordinator and skip the other questions in this section		X	
	Project Coordinator			
	Name: Title First name Middle name Last name Suffix	X		
X	Should the system e-mail a user ID and password to this Project Coordinator? • Yes • No		X	

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
X	Will this participant have the authority to enter data? • Yes • No		X	
X	Should this participant receive copies of announcements and reminders that are sent to your project's lead PI from this system and its Technical Support staff? • Yes • No		X	
	Phone: Number Extension	X		
	Alternate Phone: Number Extension Type (mark one) • U.S. number • Non-U.S. number	X		
	E-Mail Address	X		
	6. Graduate Fellow Information			
	Graduate Fellow			
	Name: Title First name Middle name Last name Suffix	X		
	Citizenship (select one) • U.S. citizen • Permanent resident • U.S. national • Non-U.S. citizen	X		
	Phone: Number Extension	X		
X	Alternate Phone: Number Extension Type (mark one) • U.S. number • Non-U.S. number	X		

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
	E-mail Address	X		
	Fellowship Start Date Month Year		X	
	Fellowship End Date Month Year		X	
	Total stipend received by graduate fellow • Funded by NSF at the full rate of $30,000/yr • Funded by other source(s), please specify: If funded by other source(s): Source(s) of non-NSF funding $ Amount		X	
	7. Cooperating Teacher Information			
	Cooperating Teacher			
	Name: Title First name Middle name Last name Suffix	X		
	Phone: Number Extension	X		
X	Alternate Phone: Number Extension Type (mark one) • U.S. number • Non-U.S. Number	X		
	School E-mail Address	X		
X	Other E-mail Address	X		
X	☐ Lead teacher and/or NSF supported Teacher		X	
X	What NSF GK-12 funds did this teacher receive during the current reporting period? Stipend $_____ Travel Budget $_____ Materials Budget $_____ Other $_____ Please Explain: _____		X	

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
	8. Award Evaluator Information			
	Award Evaluator			
	Name: Title First name Middle name Last name Suffix	X		
X	Phone: Number Extension	X		
X	Alternate Phone: Number Extension Type (mark one) • U.S. number • Non-U.S. number	X		
X	E-mail Address	X		
X	Organization/Unit	X		
	9. Other Participant Information			
	Other Participant			
	Name: Title First name Middle name Last name Suffix	X		
X	Should the system e-mail a user ID and password for this participant? • Yes • No		X	
X	Will this participant have the authority to enter data? • Yes • No		X	
X	Participant Role (select one) • Programmer • Technician • Other (Please specify) :_____		X	

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
	Phone: Number Extension	X		
X	Alternate Phone: Number Extension Type (mark one) • U.S. number • Non-U.S. number	X		
	E-mail Address	X		
	10. Academic Achievements Related to GK-12 Activities and Themes			
	Achievement			
	Academic Achievement Product (select one) • Educational product – Educational research – Journals – Refereed • Educational product – Educational research – Journals – Non-refereed • Educational product – Educational research – Book • Educational product – Educational research – Book Chapter • Educational product – Institutional presentation – Conference presentation/poster • Educational product – Institutional presentation – Conference proceeding • Educational product – Institutional presentation – Invited talk/seminar • Educational product – Instructional product – Instructional materials • Educational product – Instructional product – Teaching modules • Educational product – Instructional product – Curriculums and lesson plans • Scientific Product – Refereed journal • Scientific Product – Non-refereed journal • Scientific Product – Book • Scientific Product – Book chapter • Scientific Product – Conference proceeding • Scientific Product – Conference presentation/poster • Scientific Product – Invited talk • Scientific Product – Seminar • Patent application • Patent awarded • Other (please specify): _____			X
	Citation (with NSF-funded GK-12 fellows noted by "*" and cooperating teachers noted by "+")			X
	11. Additional Funding Sources			
	Source			
	Source Name		X	
	Additional funding source type (select one) • Business		X	

<table>
<tr><th>New Elements</th><th>Common Collection Categories

Questions</th><th>Staff and Project Participant</th><th>Project Implementation</th><th>Project Outputs</th></tr>
<tr><td></td><td>• Foundation
• State government
• Federal Government
• Local government
• Home institution
• Other (please specify):_____</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Amount of additional funding $_____</td><td></td><td>X</td><td></td></tr>
<tr><td>X</td><td>Additional funding type (mark all that apply)
• Monetary contribution
• Materials and supplies
• Equipment
• Other (please specify):_____</td><td></td><td>X</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>12. Program Outreach Information</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Outreach Activity</td><td></td><td></td><td></td></tr>
<tr><td>X</td><td>Activity Title</td><td></td><td></td><td>X</td></tr>
<tr><td></td><td>Activity description</td><td></td><td></td><td>X</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>13. Development Activities</td><td></td><td></td><td></td></tr>
<tr><td>X</td><td>Fellows' Developmental Activities:

<table>
<tr><th rowspan="2">Activity</th><th colspan="5">Frequency (mark one per activity)</th></tr>
<tr><th>Summer</th><th>Weekly</th><th>Bimonthly</th><th>Monthly</th><th>Other (please specify)</th></tr>
<tr><td>Fellows took coursework/training (e.g., new courses, seminars) that included regular critique of and feedback on communication skills.</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td></tr>
<tr><td>Fellows received training in collaboration and team building.</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td></tr>
<tr><td>Fellows received training to develop their leadership skills.</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td></tr>
<tr><td>Fellows received training in pedagogy (definition: science of teaching, education, and instructional methods).</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td></tr>
<tr><td>Fellows participated with teachers in content and pedagogy sessions related to developing GK-12 activities.</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td></tr>
<tr><td>Fellows received training on effective time and task management.</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td></tr>
<tr><td>Fellows developed multimedia materials, Web sites, or other cyber-</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td></td></tr>
</table>
</td><td></td><td></td><td>X</td></tr>
</table>

New Elements	Common Collection Categories Questions						Staff and Project Participant	Project Implementation	Project Outputs
	enabled tools to communicate their research activities to external audiences.								
	Fellows had other preparation in professional skills development (please specify): _____	☐	☐	☐	☐				
X	Fellows' other development activities: (mark all that apply) • Fellows participated with teachers in content and pedagogy sessions related to developing GK-12 activities • Fellows developed multimedia materials or other cyber-enabled tools to communicate to external audiences • Fellows developed and presented course and/or curriculum materials • Fellows served as a mentor to others (e.g., graduate students, undergraduates, laboratory technicians) • Fellows authored/coauthored and submitted grant proposals • Fellows had professional interactions other than internships with non-academic employers (e.g., industry, government) in order to learn about carrier opportunities and requirements • Fellows communicated, worked, or collaborated with scientists of other nationalities • Fellows made presentations to non-academic public • Fellows received other preparation in professional skills development (please specify): _____								X
X	Cooperating Teachers' Development Activities: (mark all that apply)								X
	Activity				*Summer*	*Yearlong*			
	Teachers and fellows participated in content and pedagogy training related to developing GK-12 activities.				☐	☐			
	Teachers participated with fellows in training that stressed teamwork.				☐	☐			
	Teachers received training in effective mentoring skills.				☐	☐			
	Teachers participated in coursework/training sessions that helped increase their science content knowledge.				☐	☐			
	Teachers participated as team members engaged in joint research and educational efforts.				☐	☐			
	Teachers made presentations at academic/scientific professional conferences or meetings.				☐	☐			
	Teachers participated in the development of multimedia materials, Web sites, or other cyber-enabled tools for teaching/learning.				☐	☐			
	Teachers participated in training in authoring, submitting, or publishing professional papers.				☐	☐			
	Teachers had other preparation in professional skills development (please specify):_____				☐	☐			
	14. International Experience								
X	☐ Mark the box if your project did not participate in an international							X	

New Elements	Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
	experience and skip the other questions in this section.			
X	What country or countries did any your project participants visit as part of the GK-12 international experience (select all that apply) • Afghanistan • Albania …		X	
X	How many of your fellows engaged in an international experience through the GK-12 project during this reporting period:_____		X	
X	How many of your teachers engaged in an international experience through the GK-12 project during this reporting period:_____		X	
X	Identify the following international activities involving GK-12 fellows (mark all that apply) • Fellow(s) worked in a university and conducted research overseas. • Fellow(s) worked as a team with teachers and students overseas. • Fellow(s) worked with their teachers overseas. • Fellow(s) attended conferences/workshops. • Other international activities (please specify):_____		X	
X	Identify the following international activities involving GK-12 teachers (mark all that apply) • Teacher(s) worked as a team with their fellow in similar to GK-12 activities with international teachers and students. • Teacher(s) attended conferences/workshops. • Teacher(s) took coursework/training. • Teacher(s) worked or conducted research/field work with their fellow. • Other international activities (please specify):_____		X	
X	Identify the opportunities for PIs and co-PIs that resulted from the international experiences associated with the GK-12 project. (mark all that apply) • Developed new collaborations • Developed new access to facilities/skills • Developed new opportunities for research/education/training • Other (please specify): _____			X
X	Do you plan to maintain the collaborations developed from the international experience • No • Yes, please specify:_____			X
X	Please specify why your project does or does not plan to maintain collaborations developed from the international experiences:		X	
X	Briefly identify up to three research or educational achievements resulting from the international component of your GK-12 project. Each achievement may involve a single fellow or a group of fellows. Achievement 1:_____ Achievement 2:_____ Achievement 3:_____			X

<table>
<tr><th>New Elements</th><th>Common Collection Categories

Questions</th><th>Staff and Project Participant</th><th>Project Implementation</th><th>Project Outputs</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>15. Program Impact</td><td></td><td></td><td></td></tr>
<tr><td>X</td><td>Do you have an overall plan in place and active with a specific set of goals and timelines for recruitment and retention of GK-12 fellows, including specifics for broadening participation of groups underrepresented in science and engineering?
• Yes
• No</td><td></td><td>X</td><td></td></tr>
<tr><td>X</td><td>Regardless of your response to the previous question, please describe up to three of the best practices you employed to recruit qualified fellows to your GK-12 project during this reporting period.
Best Practice 1:_____
Best Practice 2:_____
Best Practice 3:_____</td><td></td><td>X</td><td></td></tr>
<tr><td>X</td><td>Please describe the extent to which each of the following practices has been productive for recruiting fellows overall to your GK-12 project during this reporting period

<table>
<tr><th>Practice</th><th>Productive</th><th>Somewhat Productive</th><th>Not Productive</th><th>N/A</th></tr>
<tr><td>*Relationships with NSF programs that can provide an undergraduate pool of potential GK-12 fellows (e.g., REU’s NSF Centers)</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>*Relationships with faculty and programs at other academic institutions</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>*Use of recruiting resources on the GK-12 campus (e.g., career service office, graduate studies office)</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>*Collaboration with other NSF-funded programs to improve recruitment</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>*Use of professional meetings, conferences, associations to communicate, research, and market to potential GK-12 fellows</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>Other (please specify): _____</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
</table></td><td></td><td></td><td>X</td></tr>
<tr><td>X</td><td>Please describe the extent to which each of the following practices has been productive for recruiting underrepresented minority and women fellows overall to your GK-12 project during this reporting period.</td><td></td><td>X</td><td></td></tr>
</table>

New Elements	Common Collection Categories Questions									Staff and Project Participant	Project Implementation	Project Outputs
	Practice	*Underrepresented Minorities*				*Women*						
		Productive	*Somewhat*	*Not*	*N/A*	*Productive*	*Somewhat*	*Not*	*N/A*			
	*Relationships with NSF programs that specifically focus on broadening participation of women or underrepresented minorities in STEM (e.g., LSAMP, AGEP, TCUP, ADVANCE)	☐	☐	☐	☐	☐	☐	☐	☐			
	*Use of resources on the campus (e.g., academic development programs, offices for campus diversity, or minority and women's student groups)	☐	☐	☐	☐	☐	☐	☐	☐			
	*Interaction with professional associations, organizations, or committees serving women or underrepresented minority communities (e.g., National Action Council for Minorities in Engineering, Society of Women Engineers, committees in professional societies focused on minority communities and women)	☐	☐	☐	☐	☐	☐	☐	☐			
	*Bridge programs for entering graduate students	☐	☐	☐	☐	☐	☐	☐	☐			
	*Mentoring or advisement arrangements that take advantage of underrepresented minorities or women faculty or graduate students on campus	☐	☐	☐	☐	☐	☐	☐	☐			
	*Relationships with faculty and programs at minority-serving academic institutions (e.g., historically black colleges and universities, Hispanic-serving institutions, tribal colleges)	☐	☐	☐	☐	☐	☐	☐	☐			
	*Collaboration with other GK-12 projects for recruitment	☐	☐	☐	☐	☐	☐	☐	☐			
	Other (please specify): _____	☐	☐	☐	☐	☐	☐	☐	☐			

<table>
<tr><th>New Elements</th><th>Common Collection Categories
Questions</th><th>Staff and Project Participant</th><th>Characteristics</th><th>Project Outputs</th></tr>
<tr><td></td><td>16. Verify Fellows Interactions with K-12 Students</td><td></td><td></td><td></td></tr>
<tr><td>X</td><td>Approve/edit/add fellow-teacher pairs submitted by fellows and teachers
<table>
<tr><td></td><td colspan="10">Fellow Names</td></tr>
<tr><td>Teacher Names</td><td>Last, First</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Last, First</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
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</table></td><td></td><td>X</td><td></td></tr>
<tr><td>X</td><td>Approve/edit/add in- classroom locations submitted by fellows
<table>
<tr><th>School</th><th>Class Name</th><th>Other Identifying Information</th><th>Subject(s)</th><th>GK-12 Teacher(s)</th><th>Fellow(s)</th><th>Grade(s)</th><th># Students</th><th>Delete Class</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>☐</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>☐</td></tr>
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</table></td><td></td><td></td><td>X</td></tr>
<tr><td>X</td><td>Approve/edit/add out-of-classroom activities submitted by fellows
<table>
<tr><th>Location</th><th>Activity Type</th><th>Fellow(s)</th><th># Teachers</th><th># Students</th><th>Delete Activity</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>☐</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>☐</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>☐</td></tr>
</table></td><td></td><td></td><td>X</td></tr>
</table>