Attachment C1

Graduate STEM Fellows in K-12 Education (GK-12) Monitoring System

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GK-12: Crosswalk – Awards Survey

Common Collection Categories	Staff and Project Participant	Project Implementation	Project Outputs ³
Questions			
1. Award Information		V	
Award Status		X	
NSF Award ID Grantee Institution		X X	
Award Title		X	
Award Start Date (Month, Day, Year)		X	
Award End Date (Month, Day, Year) Award End Date (Month, Day, Year)		X	
Award Dollar Amount		X	
Annual Carryover Funds:		Λ	
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	
List the top three subdisciplines associated with your GK-12 project:			
Subdiscipline 1: Subdiscipline 2: Subdiscipline 3:		X	
Award URL		X	
Awdid CICL		Λ	
2. Partnerships and Collaborations			
U.S. Academic Institution			
Institution Name	X		
City	X		
State	X		
Zip Code	X		
Non-U.S. Academic Institution			
Institution Name	X		
Country	X		
Non Academic Institution			
Institution Name	X		
Institution Type (mark all that apply)	X		
Museum			

¹ Elements of these characteristics include: Name, address, date of birth, gender, ethnicity, race, disability status, class, major, grade point average, yearly fellowship or stipend amount, and project role.

² Elements of these characteristics include: Sources and amount of funds, fellowships, scholarships, traineeships, partnerships, training, and research methods.

³ Elements of these characteristics include: research findings, publications, presentations, degrees granted, and educational materials.

Common Collection Categories	Staff and Project Participant	Characteristics	Project Outputs
Questions	\mathbf{S}		
Science Center			
Industrial Partner			
Business Partner			
Government Agency			
National Laboratory			
Nonprofit Organization			
• Other			
- Oulei			
2 Doubling Cohools In Very CV 12 Decient			
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)	X		
• High school grades (9–12)	Λ		
• Pre-K/kindergarten through middle school (K–8)			
• Middle through high (7–12)			
State	X		
District Name	X		
School Setting/Location (select one)			
• Rural			
• Urban	X		
 Suburban 			
School Type (mark all that apply)			
• Charter			
• Private	X		
• Public			
Percentage of students who are eligible for free or reduced price lunch (select			
one)			
Not applicable			
• 1–10%			
• 11–20%			
• 21–30%	* 7		
• 31–40%	X		
• 41–50%			
• 51–60%			
61–70%71–80%			
• 71–80% • 81–90%			
• 91–100%			
4. Lead Principal Investigators and Co-Principal Investigator Information			
PI/Co-PI			
F1/CU-F1			

Common Collection Categories	Staff and Project Participant	Project Implementation	Project Outputs
Questions	01		
Name:			
Title			
First name	X		
Middle name			
Last name			
Suffix			
□ Lead PI	X		
Institutional affiliation (Name and State)			
Phone:			
Number	X		
Extension			
Alternate Phone:			
Number			
Extension	X		
Type (mark one)			
• U.S. number			
• Non-U.S. number	v		
E-mail Address	X		
Should the system e-mail a user ID and password to this participant? • Yes		X	
• No		Λ	
Will this participant have authority to enter data?			
• Yes		X	
• No		7.1	
Should this participant receive announcements and reminders that are sent to the project's lead PI from this system and from the Technical Support staff?? • Yes • No		X	
Title (e.g. Professor)		X	
Affiliation/Academic Department	X		
In what roles, functions, and activities does this PI/co-PI serve the project?		X	
Academic Disciplines (mark all that apply)			
Chemistry – Analytical	X		
•see footnote 4 for complete list ⁴			

<sup>Academic disciplines used throughout the GK-12 surveys:

Chemistry – Analytical

Chemistry – Bio-inorganic

Chemistry – Bio-organic

Chemistry – Biophysical</sup>

- Chemistry Environmental Chemistry Inorganic Chemistry Materials

- Chemistry Physical

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
 STEM Education and Learning Research – Other (please specify): Other (please specify): 			

- Chemistry Polymer
- Chemistry Theoretical
- Chemistry Other (please specify):
- Comp/IS/Eng Artificial Intelligence (including Robotics, Computer Vision, and Human Language Processing)
- Comp/IS/Eng Computer Architecture and Grids
- Comp/IS/Eng Computer Science Languages and Systems
- Comp/IS/Eng Computer Science Theoretical Foundations
- Comp/IS/Eng Database Information Retrieval and Web Search
- Comp/IS/Eng Graphics and Visualization
- Comp/IS/Eng Human Computer Interaction
- Comp/IS/Eng Information Security and Assurance
- Comp/IS/Eng Information Technology and Organizations
- Comp/IS/Eng Networks and Communications
- Comp/IS/Eng Operating Systems and Middleware
- Comp/IS/Eng Scientific Computing and Informatics
- Comp/IS/Eng Software Engineering
- Comp/IS/Eng Other (please specify):
- Engineering Aeronautical and Aerospace
- Engineering Agricultural
- Engineering Bioengineering
- Engineering Biomedical
- Engineering Chemical
- Engineering Civil
- Engineering Computer Engineering
- Engineering Electrical and Electronic
- Engineering Energy
- Engineering Engineering Mechanics
- Engineering Engineering Science
- Engineering Environmental
- Engineering Industrial
- Engineering Materials
- Engineering Mechanical
- Engineering Metallurgical
- Engineering Nuclear
- Engineering Ocean
- Engineering Petroleum
- Engineering Polymer
- Engineering Systems Engineering
- Engineering Other (please specify):
- Geosciences Aeronomy
- Geosciences Atmospheric Chemistry
- Geosciences Chemical Oceanography
- Geosciences Climate Dynamics
- Geosciences Geochemistry
- Geosciences Geology
- Geosciences Geophysics
- Geosciences Hydrologic Sciences

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
Does this co-PI belong to any of the following categories for education faculty?	X		

- Geosciences Large Scale Dynamics Meteorology
- Geosciences Magnetospheric Physics
- Geosciences Marine Geology and Geophysics
- Geosciences Mesoscale Dynamic Meteorology
- Geosciences Paleoclimate
- Geosciences Paleontology
- Geosciences Physical Meteorology
- Geosciences Physical Oceanography
- Geosciences Solar-Terrestrial
- Geosciences Other (please specify):
- Life Sciences Agriculture
- Life Sciences Agronomy
- Life Sciences Anatomy
- Life Sciences Animal Behavior
- Life Sciences Animal Science
- Life Sciences Biochemistry
- Life Sciences Biological Oceanography
- Life Sciences Biophysics
- Life Sciences Botany (including Plant Physiology)
- Life Sciences Cell Biology
- Life Sciences Computational Biology
- Life Sciences Developmental Biology
- Life Sciences Ecology
- Life Sciences Ecosystem Ecology
- Life Sciences Entomology
- Life Sciences Environmental Sciences
- Life Sciences Evolutionary Biology
- Life Sciences Fish and Wildlife
- Life Sciences Forestry
- Life Sciences Genetics
- Life Sciences Horticulture
- Life Sciences Immunology
- Life Sciences Marine Biology
- Life Sciences Microbiology
- Life Sciences Molecular Biology
- Life Sciences Neurosciences
- Life Sciences Nutrition
- Life Sciences Pharmacology
- Life Sciences Physiology
- Life Sciences Plant Pathology
- Life Sciences Population and Community Ecology
- Life Sciences Soil Science
- Life Sciences Structural Biology
- Life Sciences Virology
- Life Sciences Zoology
- Life Sciences Other (please specify):
- Mathematical Sciences Algebra or Number Theory

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
 Yes (mark all capacities that apply) Education faculty in STEM department/college. For instance, she/he could 			

- Mathematical Sciences Analysis
- Mathematical Sciences Applications of Mathematics (including Biometrics and Biostatistics)
- Mathematical Sciences Geometry
- Mathematical Sciences Logic or Foundations of Mathematics
- Mathematical Sciences Operations Research
- Mathematical Sciences Probability and Statistics
- Mathematical Sciences Topology
- Mathematical Sciences Other (please specify):
- Physics and Astronomy Astronomy
- Physics and Astronomy Astrophysics
- Physics and Astronomy Atomic and Molecular
- Physics and Astronomy Condensed Matter Physics
- Physics and Astronomy Nuclear
- Physics and Astronomy Optics
- Physics and Astronomy Particle Physics
- Physics and Astronomy Physics of Fluids
- Physics and Astronomy Plasma
- Physics and Astronomy Solid State
- Physics and Astronomy Theoretical Physics
- Physics and Astronomy Other (please specify):
- Psychology Cognitive
- Psychology Cognitive Neuroscience
- Psychology Computational Psychology
- Psychology Developmental
- Psychology Experimental or Comparative
- Psychology Industrial/Organizational
- Psychology Neuropsychology
- Psychology Perception and Psychophysics
- Psychology Personality and Individual Differences
- Psychology Physiological
- Psychology Psycholinguistics
- Psychology Quantitative
- Psychology Social
- Psychology Other (please specify):
- Social Sciences Archaeology
- Social Sciences Cliometric History
- Social Sciences Communications
- Social Sciences Cultural Anthropology
- Social Sciences Decision Making
- Social Sciences Demography
- Social Sciences Econometrics
- Social Sciences Economics (except Business Administration)
- Social Sciences Geography
- Social Sciences History of Science
- Social Sciences International Relations
- Social Sciences Law and Social Science
- Social Sciences Linguistics Anthropology

Common	<u>+</u>	_	·
Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
be an education person who belongs to a Biology department; this person is responsible for biological education related matters that could be biological 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):			
Ethnicity (select one) Not Hispanic or Latino Hispanic or Latino Not reported	X		
Race (Mark one or more)	Х		
Gender (select one) • Female • Male • Not reported	X		
Disability: (Select one) • Yes (Mark "yes" if any of the following apply: • Deaf or serious difficulty hearing • Blind or serious difficulty seeing even when wearing glasses • Serious difficulty walking or climbing stairs • Other serious disability related to a physical, mental, or emotional condition) • No	X		

- Social Sciences Linguistics
- Social Sciences Medical Anthropology
- Social Sciences Philosophy of Science
- Social Sciences Physical Anthropology
- Social Sciences Political Science Social Sciences Public Policy
- Social Sciences Risk Analysis
- Social Sciences Science Policy
- Social Sciences Sociology (except Social Work)
- Social Sciences Urban and Regional Planning
- Social Sciences Other (please specify):
- STEM Education and Learning Research Engineering Education
- STEM Education and Learning Research Mathematics Education
- STEM Education and Learning Research Science Education
- STEM Education and Learning Research Technology Education
- STEM Education and Learning Research Other (please specify):
- Other (please specify):

Common Collection Categories	Staff and Project Participant	Project Implementation	Project Outputs
Questions			
Do not wish to provide			
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	37		
Middle name	X		
Last name			
Suffix			
Should the system e-mail a user ID and password to this Project Coordinator?			
• Yes		X	
• No			
Will this participant have the authority to enter data?			
YesNo		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		X	
• No			
Phone:	v		
Number	X		
Extension Alternate Phone:			
Number			
Extension			
Type (mark one)	X		
• U.S. number			
Non-U.S. number			
E-Mail Address	X		
6. Graduate Fellow Information			
Graduate Fellow			
Name:			
Title			
First name			
Middle name	X		
Last name			
Suffix			

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
Citizenship (select one)			
 U.S. citizen Permanent resident U.S. national Non-U.S. citizen 	X		
Phone:			
Number	X		
Extension			
Alternate Phone:			
Number			
Extension	X		
Type (mark one)			
U.S. numberNon-U.S. number			
E-mail Address	X		
Fellowship Start Date	A		
Month		X	
Year		71	
Fellowship End Date			
Month		X	
Year			
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			
7. Cooperating Teacher Information Cooperating Teacher			
Name:			
Title			
First name			
Middle name	X		
Last name			
Suffix			
Phone:			
Number	X		
Extension			
Alternate Phone:	X		
Number			
Extension			

Common Collection Categories	Staff and Project Participant	Project Implementation	Project Outputs
Questions			
Type (mark one)			
U.S. numberNon-U.S. Number			
School E-mail Address	X		
Other E-mail Address	X		
	Λ	X	
☐ Lead teacher and/or NSF supported Teacher		Λ	
What NSF GK-12 funds did this teacher receive during the current reporting			ı
period?			ı
Stipend \$		X	ı
Travel Budget \$ Materials Budget \$			ı
Other \$ Please Explain:			ı
Other \$ Frease Explain.			
8. Award Evaluator Information			
Award Evaluator Award Evaluator			
Name:			
Title			
First name			ı
Middle name	X		ı
Last name			İ
Suffix			ı
Phone:			
Number	X		İ
Extension			İ
Alternate Phone:			
Number			ı
Extension	***		Ì
Type (mark one)	X		Ì
• U.S. number			ı
Non-U.S. number			
E-mail Address	X		
Organization/Unit	X		
9. Other Participant Information			
Other Participant			
Name:			,
Title			
First name	X		
Middle name	'1		
Last name			
Suffix			
Should the system e-mail a user ID and password for this participant?		X	

Common Collection Categories	Staff and Project Participant	Project Implementation	Project Outputs
• Yes			
• No			
Will this participant have the authority to enter data?			
YesNo		X	
Participant Role (select one)			
• Programmer		v	
• Technician		X	
Other (Please specify):			
Phone:			
Number	X		
Extension			
Alternate Phone:			
Number			
Extension	X		
Type (mark one)			
• U.S. number			
Non-U.S. number			
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 anadom Institutional and anti-tion Conference and and	1		
 Educational product – Institutional presentation – Conference proceeding Educational product – Institutional presentation – Invited talk/seminar 			
Educational product – Institutional presentation – Invited talk/seminar			
Educational product – Institutional presentation – Invited talk/seminar			
 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 			Y
 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 			X
 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 			X
 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 			X
 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 			X
 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 			X
 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 			X
 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 – Invited talk Scientific Product – Seminar 			X
 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 – Invited talk Scientific Product – Seminar Patent application 			X
 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 – Invited talk Scientific Product – Seminar 			X

	Commo Co	on llection Catego	ories			Staff and Project Participant	Project Implementation	Project Outputs
Questions								
teachers noted by "+")								
11. Additional Funding Sources								
Source								
Source Name							X	
Additional funding source type (s	elect one)					X	
 Federal Government Local government Home institution Other (please specify): 								
Amount of additional funding \$							X	
 Additional funding type (mark all Monetary contribution Materials and supplies Equipment Other (please specify): 	that app	ly)					X	
12. Program Outreach Informa	tion							
Outreach Activity								v
Activity Title Activity description								X
Activity description								Λ
13. Development Activities								
Fellows' Developmental Activition	es:							X
	1	F	(.)			
		rrequent	cy (mark one	per activity	Other			
Activity Fellows took coursework/training	Summer	Weekly	Bimonthly	Monthly	(please specify)			
(e.g., new courses, seminars) that included regular critique of and feedback on communication skills.								
Fellows received training in collaboration and team building.								
Fellows received training to develop their leadership skills.								
Fellows received training in pedagogy (definition: science of teaching, education, and instructional methods).								
Fellows participated with teachers in content and pedagogy sessions								

	Staff and Project Participant	Project Implementation	Project Outputs					
Questions	1		T					
related to developing GK-12								
activities. Fellows received training on			_	_				
effective time and task management.								
Fellows developed multimedia								
materials, Web sites, or other cyber- enabled tools to communicate their research activities to external audiences.								
Fellows had other preparation in								
professional skills development								
(please specify):								
 Fellows developed multimedia to external audiences Fellows developed and presented as a mentor to control to the laboratory technicians Fellows authored/coauthored as a mentor to control technicians Fellows authored/coauthored as a mentor to control technicians Fellows had professional interasemployers (e.g., industry, gove and requirements Fellows communicated, worked Fellows made presentations to the fellows received other preparates specify):	ed course a others (e.g., nd submitte ctions othe rnment) in d, or collab non-acader tion in prof	nd/or curr graduate ed grant pr er than inte order to le orated wit nic public essional sl	iculum materistudents, under oposals ernships with rearn about carrels of kills developm	ials ergraduates non-academ rier opportu f other natio	, nic nnities onalities			X
Gooperating reactions Developing	ichi / ichi	vitics. (11.	iark air triat	арргу)				
Activit				Summer	Yearlong			
Teachers and fellows participated in co		pedagogy 1	raining					
related to developing GK-12 activities. Teachers participated with fellows in to		etroccod t						
Teachers received training in effective			caniwork.					
Teachers participated in coursework/tra			elped					
increase their science content knowled	ge.		-					
Teachers participated as team members	s engaged i	n joint res	earch and					X
educational efforts. Teachers made presentations at acaden	nic/scientif	ic professi	onal	_	_			
conferences or meetings.	ne, scienti	ic professi	onui					
Teachers participated in the developme			terials, Web					
sites, or other cyber-enabled tools for t				_	_			
Teachers participated in training in aut professional papers.								
Teachers had other preparation in profe (please specify):	essional sk	ills develo	pment					

Common	<u>+</u>	_	(
Collection Categories	Staff and Project Participant	Project Implementation	Project Outputs
Questions			
14. International Experience			
☐ Mark the box if your project did not participate in an international		37	
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)		X	
• Afghanistan		71	
• Albania			
How many of your fellows engaged in an international experience through the GK-12 project during this reporting period:		X	
How many of your teachers engaged in an international experience through the			
GK-12 project during this reporting period:		X	
Identify the following international activities involving GK-12 fellows (mark			
all that apply)			
Fellow(s) worked in a university and conducted research overseas.		37	
• Fellow(s) worked as a team with teachers and students overseas.		X	
Fellow(s) worked with their teachers overseas.Fellow(s) attended conferences/workshops.			
Other international activities (please specify):			
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.		X	
• 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):			
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			X
Developed new access to facilities/skills			/ 1
Developed new opportunities for research/education/training Others (education associated)			
Other (please specify): Do you plan to maintain the collaborations developed from the international			
experience			
• No			X
Yes, please specify:			
Please specify why your project does or does not plan to maintain		v	
collaborations developed from the international experiences:		X	<u></u>
Briefly identify up to three research or educational achievements resulting			X
from the international component of your GK-12 project. Each achievement			
may involve a single fellow or a group of fellows.			
Achievement 1:			

	non Collection Categori	ies			Staff and Project Participant	Project Implementation	Project Outputs		
Questions									
Achievement 2:									
Achievement 3:									
15. Program Impact									
Do you have an overall plan in place and timelines for recruitment and retention of for broadening participation of groups un engineering? • Yes • No	GK-12 fell	ows, includ	ing specific			X			
Regardless of your response to the previous three of the best practices you employed GK-12 project during this reporting period Best Practice 1:	to recruit quod.	ualified fello	ows to your			Х			
Please describe the extent to which each opposition productive for recruiting fellows overall treporting period		0 1							
Practice	Productive	Somewhat Productive	Not Productive	N/A					
*Relationships with NSF programs that can provide an undergraduate pool of potential GK-12 fellows (e.g., REU's NSF Centers)	0								
*Relationships with faculty and programs at other academic institutions							X		
*Use of recruiting resources on the GK-12 campus (e.g., career service office, graduate studies office)									
*Collaboration with other NSF-funded programs to improve recruitment									
*Use of professional meetings, conferences, associations to communicate, research, and market to potential GK-12 fellows									
Other (please specify):	y):								
Please describe the extent to which each productive for recruiting underrepresente to your GK-12 project during this reporti	d minority a					X			

									Staff and Project Participant	Project Implementation	Project Outputs
Questions											
Practice	Un	derre _l Mino	oresen orities	ited		Wo	men				
*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):											
16. Verify Fellows Interactions with K-1	2 Stu	dent	s								

Question	S		Common Collection Categories										Participant Characteristics	Project Implementation	Project Outputs	
Approve/e	dit/ad	ld fellov	w-te	acher	pair	s submi	itted	by	fello	ws and	d te	eachers				
Teacher Names		Fellow	Nam	es												
															X	
Last, First					I I											
Approve/e	dit/ad	ld in- cl	assı	room l	ocati	ons sub	mit	ted t	oy fe	ellows						
School	Class Name	Other Identify Informa	ing	Subje	ct(s)	GK-1 Teache		Fello	ow(s)	Grade	?(s)	# Studen	Delet Class			X
																Λ
Approve/e	dit/ad	ld out-o	f-cl	assroc	m ac	tivities	sub	mitt	ed b	y fello	WS					
Location	Activ	rity Type	Fel	llow(s)	# Te	eachers	# 5	Stude	ents	Delete Activit						
																X

GK-12: Crosswalk – Fellows Survey

Common Collection Categories	Project ipant	ect ntation	utputs7
Questions	Staff and Project Participant	Project Implementation	Project Outputs ⁷
1. Contact Information			
Some data will be pre-filled with data entered by the PI			
Name:			
Title			
First name	X		
Middle name	/ A		
Last name			
Suffix			
Social Security Number: (select one)			
I choose to report my full SSN:	X		
I choose to report the last 4 digits of my SSN:	Λ		
Other (if blank system assigns 999-99-9999):			
Current Address:			
Street address 1			
Street address 2	X		
City	71		
State			
Zip or postal code			
Phone:			
Number	X		
Extension			
Alternate Phone:			
Number			
Extension	X		
Type: (mark one)			
U.S. numberNon-U.S. number			
E-mail Address	X		
L-man Addicss	Λ		
2. Permanent Contact Information			
2. F CI IIIAIICIIL CUIIIACI IIIIUI IIIAUUII			

⁵ Elements of these characteristics include: Name, address, date of birth, gender, ethnicity, race, disability status, class, major, grade point average, yearly fellowship or stipend amount, and project role.

⁶ Elements of these characteristics include: Sources and amount of funds, fellowships, scholarships, traineeships, partnerships, training, and research methods.

⁷ Elements of these characteristics include: research findings, publications, presentations, degrees granted, and educational materials.

Common Collection Categories Questions	Staff and Project Participant	Implementation Characteristics	Project Outputs
Permanent Address: Street address 1 Street address 2 City State or country Zip or postal code	X		
Permanent Phone: Number Extension	X		
Alternate Phone: Number Extension Type: (mark one) • U.S. number • Non-U.S. number Permanent E-mail Address	X		
remailent E-man Address			
3. Demographic Information			
Ethnicity: (select one) Hispanic or Latino Not Hispanic or Latino Not reported	X		
Race: (mark one or more)	X		
Gender: Female Male Not reported	X		
Citizenship: (select one) • U.S. citizen • Permanent resident • U.S. national • Non-U.S. citizen	X		
Permanent Resident since: [reported only by permanent residents] Month Year	X		

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
Disability: (Select one) • Yes (Mark "yes" if any of the following apply: • Deaf or serious difficulty hearing • Blind or serious difficulty seeing even when wearing glasses • Serious difficulty walking or climbing stairs • Other serious disability related to a physical, mental, or emotional condition) • No • Do not wish to provide	X		
Place of Birth (U.S. State or Country)	X		
4. Academic History			
Name of high school/secondary school/institution from which you	X		
graduated/received a diploma	X		
Location of High School (City, State or Country, and Zip or Postal code) School type (select one)	A		
• Public			
Private			
Other (please specify):			
Undergraduate Degree			
Institution:			
U.S. Institution (Name and State) OR			
International Institution:	X		
Name			
Country			
Degree: (select one)			
• B.A.	X		
• B.S.			
Other (please specify) Discipline: (select one)			
Chemistry – Analytical			
see footnote 4 for complete list	X		
STEM Education and Learning Research – Other (please specify):			
Other (please specify): Academic Department	X		
Date of Completion:			
Month	X		
Year			
Graduate Degree			
Institution:	X		
U.S. Institution (Name and State)			
OR			
International Institution:			
Name			

Common Collection Categories		Project Implementation	Project Outputs
Questions	Staff and Project Participant	Pro Implem	Project
Country			
Degree: (select one)			
• M.A.			
• M.S.	X		
Ph.D.Other Postbaccalaureate Degree(please specify)			
Discipline: (select one)			
Chemistry – Analytical			
see footnote 4 for complete list	X		
STEM Education and Learning Research – Other (please specify):			
Other (please specify):			
Academic Department	X		
Date of Completion:			
Month	X		
Year			
5. Previous Employment and Teaching Experience			
Do you have a K-12 teaching certification?			
• Yes, please specify	X		
• No			
Do you have any prior K-12 teaching experience?	37		
Yes, please specifyNo	X		
Have you taken/are you taking any education certification courses?	X		
Yes, please specifyNo	Λ		
Were you employed in the public or private sector for 1 or more years after			
receiving your first undergraduate degree and prior to becoming a GK-12 fellow? • Yes • No	X		
Total number of years (equal to or greater than 1 year, to the nearest year) you were employed in the public or private sector after receiving your first undergraduate degree and prior to becoming a GK-12 fellow	X		
6. Current Graduate Work			
Current Graduate Institution:	X		
Date when you started your program:			
Month	X		
Year			
Expected Graduation Date			
Month	X		
Year			
If you expect to graduate within one year, what type of employment are you			v
Dags 22 of 74			X

Common Collection Categories	Staff and Project Participant	Project Implementation	Project Outputs
Questions	Staff and Parti	Pro Implem	Project
pursuing? (check all that apply) Government - Postdoc Government - Full-time position Government - Part-time position Industry/Business - Postdoc Industry/Business - Full-time position Industry/Business - Part-time position Industry/Business - Part-time position Educational Institution (college, University, or K-12) - Postdoc Educational Institution (college, University, or K-12) - Tenure-track faculty Educational Institution (college, University, or K-12) - Non-tenure-track faculty Educational Institution (college, University, or K-12) - Staff Nonprofit - Postdoc Nonprofit - Postdoc Nonprofit - Full-time position Self-employed/Entrepreneur			
If you expect to graduate within one year, what type of employment would you prefer most? (check one) Government - Postdoc Government - Full-time position Government - Part-time position Industry/Business - Postdoc Industry/Business - Full-time position Industry/Business - Part-time position Industry/Business - Part-time position Educational Institution (college, University, or K-12) - Postdoc Educational Institution (college, University, or K-12) - Tenure-track faculty Educational Institution (college, University, or K-12) - Non-tenure-track faculty Educational Institution (college, University, or K-12) - Staff Nonprofit - Postdoc Nonprofit - Full-time position Nonprofit - Part-time position Self-employed/Entrepreneur			X
Academic level during fellowship year: (select one) Master's 1st year Master's 2nd year Master's 3rd year Doctorate 1st year Doctorate 2nd year Doctorate 3rd year Doctorate 4th year Doctorate 5th year Other (please specify level and year)	X		
Discipline: (select one) Chemistry – Analytical see footnote 4 for complete list STEM Education and Learning Research – Other (please specify): Other (please specify): Academic Department	X		
Amount of NSF funds in your GK-12 stipend for the current academic year:	Λ	X	

Common Collection	oject nt	t ion	uts
Questions	Staff and Project Participant	Project Implementation	Project Outputs
(select one) • \$30,000 stipend • \$10,500 cost of education			
• Less than \$10,500; specify the amount:\$ Did you have to pay tuition and fees in excess of the \$10,500 allowance for the			
cost of education?			
• Yes	X		
• No			
If yes, how much did you have to pay?			
How does your fellowship stipend compare to stipends received by regular			
teaching or research fellowships at your institution?			
 Greater than others Equal to others		X	
• Less than others			
Do not know			
What is your research topic? (research topic does not have to be related to GK-	X		
Does your research involve the following: (check all that apply)			
Bioinformatics			
 Biotechnology 			
Civil Infrastructure			
Climate change Consecutional Science and Engineering			
Computational Science and EngineeringCyber infrastructure Enabled Discovery and Learning			
Device Development			
Energy and Alternative Energy			
Entrepreneurialism	X		
Evolution and Development			
Materials Science and Engineering			
Nanoscience and Nanotechnology Nanoscience Biology and Bourbology			
Neuroscience: Biology and PsychologySensing, Signals, Imaging and Signal Processing			
Social and Behavioral Sciences			
Sustainability, Ecology and the Environment			
Water and water quality			
Other leading-edge science (please specify):			-
7. Research Advisor Information			-
Advisor's Name:			
Title			
First name	1		
Middle name	X		-
Last name			
Suffix			
Advisor's Academic Discipline: (select one)	X		

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
 Chemistry – Analytical see footnote 4 for complete list STEM Education and Learning Research – Other (please specify): Other (please specify): 			
Advisor's Academic Department	X		
Advisor's phone:			
Number	X		
Extension			
Advisor's E-mail Address	X		
8. Interactions with K-12 Students			
Teachers you worked with as part of your GK-12 participation: (select all that apply) • Teacher 1 • Teacher 2		X	
Schools, organizations and other locations you worked with as part of your GK- 12 participation: (select all that apply) • School/organization 1 • School/organization 2		X	
Class You Worked With as Part of Your GK-12 Participation			
School		X	
Teacher(s) of This Class (select all that apply) • Teacher 1 • Teacher 2 •		X	
Class Name		X	
Additional Identifying Information (e.g. period, time, marking period)		X	
Grade of students (mark all that apply) • K—Kindergarten • 11st grade • 22nd grade • 33rd grade • 44th grade • 55th grade • 66th grade • 77th grade • 88th grade • 9 9th grade • 1010th grade • 1111th grade • 1212th grade		X	
Subjects (select one) • Mathematics—Elementary • Mathematics—General		X	

	n ection Categories	Staff and Project Participant	Project Implementation	Project Outputs
 Mathematics—Middle school Mathematics—High school (secondary) Science—Elementary school Science—General Science—Integrated science Science—Biology Science—Chemistry Science—Earth science Science—Physical science Science—Physics 				
 Science—Social Computer science Other (please specify) How is this course considered? Honors/AP/IP Academic Non Academic 			X	
Non-Academic Number of students Out-of-Classroom GK-12 Activity				X
Schools and organizations you worked with a in this out-of-classroom activity with K-12 st preloaded list and add nonpartners) School/organization 1 School/organization 2 Organizations not partnered with project			X	
Activity Type(s): (check all that apply) • After school science club • Community outreach on STEM • Field trips • Informal science education activities • Science fair • Schoolyard activities • University/laboratory visits • Other (please specify):			X	
Number of K-12 teachers you worked with a 12 activity	s part of your out-of-classroom	n GK-	X	
Number of K-12 students you worked with a 12 activity	s part of your out-of-classroon	n GK-		X
Overall Classroom Experience To what extent did you integrate your researce experience for each of the items listed below		ing)		X
Item Integr	ation of Research			

Questions		Commo Co	on Illection Categ			Staff and Project Participant	Project Implementation	Project Outputs
	Not at All	One Time	Several	Ongoing	Incorporated Into			
Developed module/lesson plan								
Special presentation								
Involved teacher in research								
Involved students in research								
Other (please specify)								
Please check the activities the all that apply)	r student ise to the vith teacl ring class lum e classro	es appropr ners s	iate grad	e level				X
9. Honors and Awards Dur	ing GK	-12 Pr	niect P	articina	ıtion			
☐ Select if no honors or awa				t.c.pt				X
Honor or Recognition								X
Name of honor or recognition								X
Organization granting the aw	ard							X
Year earned								X
Other Award: Fellowship, Sch	olarshi	p, or G	rant Ot	her Tha	n GK-12			
Title of the proposal								X
Awarding agency Year awarded								X
1 car awaraca								/X
10. Development Activities								
Average hours per week spen	t on GI	K-12 ac	tivities				X	

	Comm	on Ollection Catego	ories			Project Sant	ct ıtation	utputs
Questions						Staff and Project Participant	Project Implementation	Project Outputs
Did you participate in regular train 12 project				cific to yo	our GK-			X
Format of training (check all that a	apply)							X
Training received:			Frequency					
		(mark on	e frequency p					
Activity	Summer	Weekly	Bimonthly	Monthly	Other (please specify)			
I took coursework/training (e.g., new courses, seminars) that included regular critique of and feedback on communication skills								
I received training in collaboration and team building								X
I received training in developing leadership skills								
I received training in pedagogy (i.e., science of teaching, education, and instructional methods)								
I received training dealing with effective time and task management								
I received other training (please specify):								
Did you participate in a GK-12 su	mmer ins	titute?						
Yes,No, Elaborate why not (estion)				X	
How long did the summer institute Less than 1 week 1 week 2 weeks 3 weeks 4 weeks More than 4 weeks Other (please specify):	e last? (se	lect one))					
Professional development activities	s associa	ted with	your GK-1	2 project	during		X	
the reporting period. (check all tha	t apply)							
I participated with teachers in content a	nd pedagog	y training	related to	Summer	Yearlong □			

Common Collection Categories Questions			Staff and Project Participant	Project Implementation	Project Outputs
developing GK-12 activities.					
I developed multimedia materials or other cyber-enabled tools to communicate to external audiences.					
I developed and presented course and/or curriculum materials.					
I served as a mentor to others (e.g., graduate students, undergraduates,					
laboratory technicians).					
I authored/coauthored and submitted grant proposals. I had professional interactions other than internships with non-academic					
employers (e.g., industry, government) in order to learn about carrier opportunities and requirements.					
I communicated, worked, or collaborated with scientists of other					
nationalities. I made presentations to non-academic public.					
I received other preparation in professional skills development (please specify):					
 No, skip the following questions in this section Experience per Country Country Main purpose of visit Length of international experience in weeks (1-52) Activities that you participated in as part of your international all that apply) Attended a conference/workshop outside of the U.S. Undertook coursework/training outside of the U.S. Worked as a team with teachers and students overseas Worked, conducted research/field work, or interned outside of the Worked with my classroom teacher overseas 	•	ce (check		X X X	
 Participated in other international activities (please specify): Is this international experience related to your current graduate one) Yes No 			X		
Most beneficial professional or career related aspect of this int	ernationa	l activity			X
Were you prepared for your international experience? • Yes • No				X	
How were you prepared prior to the international visit? (check	all that a	ipply)		X	
What experiences were included in the preparation for your int	ternation	al		X	

Common	l		
Collection	ect	on o	ıts
Categories		t ati	I
Sure gorres	P. jp	jec	n _C
Questions	Staff and Project Participant	Project Implementation	Project Outputs
	ff (Pan	P ople	oje
	Sta	<u>H</u>	Pr
experience? (check all that apply)			
How to work in a foreign laboratory/field work			
Graduate education/Education/ laboratory differences in country to be visited			
LanguageCultural differences			
Learning about the area			
Other (please specify):			
What did you accomplish?			X
What types of accomplishments apply to your international experience? (check			1
all that apply)			
Awards/Honors/Recognitions			
Invention/Patent			X
• Presentations			
Publications			
Other (please specify):			
Do you plan to continue with this international collaboration?			
• Yes		X	
• No			
Specify why you do or do not plan to continue with this international		X	
collaboration			
12. Research and Professional Experience			
How involved was your faculty advisor in your GK-12 activities? (select one)			
Not involved			
Somewhat involved		X	
• Involved			
Regularly involved How did participation in CV 12 activities affect your graduate research.			-
How did participation in GK-12 activities affect your graduate research			
productivity? (check all that apply) • I am better organized.			
I find my work time is too fragmented.			
I am better able to write about my research results.			X
I am better able to focus on my research.			Λ
 I have less time to focus on my research. 			
I am better prepared to present research findings to broad (scientific and nonscientific)			
audiences.Other (please specify):			
How did your GK-12 participation affect your professional pursuits and career			
goals as a scientist? (check all that apply) • I have been better able to figure out what I want to pursue as a career.			
I am better prepared for a career in academia.			
I am better prepared to pursue a career that involves research and teaching.			X
 I will now consider a wider array of career paths than I did before GK-12. 			/A
• I am committed to contributing to K–12 STEM education at some point in my career.			
• I better understand the importance of the role of a scientist in K–12 education.			
I am a more globally engaged scientist.Other (please specify):			
Dago 31 of 74			

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
Check the areas in which your knowledge/skills have improved as a result of your GK-12 participation. (check all that apply) Professional and academic writing skills Pedagogy/teaching skills Professional speaking or presentation skills Team building/collaboration skills Communicating science or math concepts to diverse audiences Communicating my research and/or area of expertise Other (please specify):			X
Involvement with the GK-12 program			
Most important thing you gained from participating in the GK-12 program			X
Most important contribution you made to the GK-12 program			X
List up to two concerns about or areas of improvement for the GK-12 program or your experience with the program. Concern 1 Concern 2			X

GK-12: Crosswalk – Teachers Survey

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs ¹⁰
1. Contact Information			
Some data will be pre-filled with data entered by PI			
Name:			
Title			
First name	X		
Middle name			
Last name			
Suffix			
Address:			
Street address 1			
Street address 2	X		
City			
State			
Zip or postal code			
Phone:			
Number	X		
Extension			
Alternate Phone:			
Number			
Extension	X		
Type: (mark one)			
U.S. numberNon-U.S. number			
School E-mail Address	X		
Other E-mail Address	X		
School Name(s)	X		
School Pullic(3)			
2 Demographic Information			
2. Demographic Information Ethnicity: (select one)			
Hispanic or Latino			
Not Hispanic or Latino	X		
Not reported			

⁸ Elements of these characteristics include: Name, address, date of birth, gender, ethnicity, race, disability status, class, major, grade point average, yearly fellowship or stipend amount, or project role.

⁹ Elements of these characteristics include: Sources and amount of funds, fellowships, scholarships, traineeships, partnerships, training, research methods.

¹⁰ Elements of these characteristics include: research findings, publications, presentations, degrees granted, educational materials.

Common			
Collection	しょ	u s	2
		tio	<u>E</u>
Categories	Prd	ıta ris	
		ien Ete	Ō
	Staff and Project Participant	Implementation Characteristics	Project Outputs
Questions	ff Pa	ld Let) oje
Questions	5 ta	E C	P.
			, ,
Race: (Mark one or more)			
American Indian or Alaska Native			
Asian Asian			
Black or African American	X		
Native Hawaiian or Other Pacific Islander	1		
• White			
Not reported			
Gender:			
• Female	T 7		
Male	X		
Not reported			
Disability: (Select one)	X		
Yes (Mark "yes" if any of the following apply:	24		
Deaf or serious difficulty hearing			
Blind or serious difficulty seeing even when wearing glasses			
Serious difficulty walking or climbing stairs			
 Other serious disability related to a physical, mental, or emotional condition) 			
• No			
Do not wish to provide			
3. Degrees			
Undergraduate Degree			
Institution:			
U.S. Institution (Name and State)			
OR	X		
International Institution:	/ A		
Name			
Country			
Degree: (select one)			
• B.A.	T 7		
• B.S.	X		
Other (please specify)			
Discipline: (select one)			
Education – Early childhood			
Education – Elementary			
Education – Middle			
Education – High	X		
• Education – Other	A		
Chemistry – Analytical			
•see footnote 4 for complete list (other than Education –)			
STEM Education and Learning Research – Other (please specify):			
Other (please specify):			
Date of Completion:	X		
Month	A		
Year			
Graduate Degree			
Cammunt 2 to to			

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
Institution: U.S. Institution (Name and State) OR International Institution: Name Country	Х		
Degree: (select one) • M.A. • M.S. • Ed.D. • Ph.D. • Other Postbaccalaureate Degree (please specify)	X		
Discipline: (select one) • Education – Early childhood • Education – Elementary • Education – Middle • Education – High • Education – Other • Chemistry – Analytical •see footnote 4 for complete list (other than Education –) • STEM Education and Learning Research – Other (please specify):	X		
Date of Completion: Month Year	X		
4. Teaching Experience and Credentials			
Total number of years teaching (at any K–12 school)	X		
Do you have any K-12 teaching certification? • Yes, complete the following questions in this section • No, skip the following questions in this section	X		
Grades certified to teach: (select all that apply) Early childhood Elementary Middle/junior high High school	X		
Subjects certified to teach: (select all that apply) Mathematics Computer/technology General studies Science-Biology Science-Chemistry Science-Earth science Science-Elementary science Science-General science Science-General science Science-Integrated science	X		

Common Collection Categories Questions	Staff and Project Participant	Project Implementation	Project Outputs
 Science-Physical science Science-Physics Other (please specify) 			
Did you receive your certification through an alternative certification program? (e.g., Teach for America) • Yes • No	X		
5. Experience Working With GK-12 Fellows			
Graduate fellows you worked with as part of your GK-12 participation		X	
Fellow			
Fellow Name (Select names from fellow list pre-populated with data entered by the PI)		X	
Subjects (check all that apply) Mathematics—Elementary Mathematics—General Mathematics—Middle school Mathematics—High school (secondary) Science—Elementary school Science—General Science—Integrated science Science—Biology Science—Chemistry Science—Earth science Science—Physical science Science—Physics Science—Social Computer science Other (please specify)		X	
# Male students			X
# Female students			X
# Underrepresented minority students Activity/Lesson Written/Developed in Classroom Using Fellows as Scientific Experts			X
Grade level(s) for activity/lesson developed (mark all that apply) • Elementary • Middle school • High school • Other (please specify)			X
Academic Disciplines (mark all that apply) • Mathematics—Algebra I • Mathematics—Algebra II • Mathematics—Elementary school • Mathematics—Geometry • Science—General			X

Common					t			
Collection					jec t	ion	uts	
Categories					Pro pan	ect ntat	utp	
Questions						Staff and Project Participant	Project Implementation	Project Outputs
 Science—Integrated Science—Biology Science—Chemistry Science—Computer Science—Earth/space Science—Engineering Science—Physical science—Physics Other (please specify) 	g ience							
Brief Description								X
Overall Experience Wor								
Average hours a week wo							X	
How many of these hours	-	_	_	tly with y	our GK-12		X	
fellows, were spent on pla				-l	r rowlead (aboals			
Please check the activities of the GK-12 fellows with whom you worked (check all that apply) • Serving as a role model for students • Teaching/co-teaching lessons • Adapting scientific materials to the appropriate grade level • Working collaboratively with teachers • Working with students • Developing activities					X			
Serving as a scientist								
Using the following table, ir into your classroom.	ndicate h	ow your G	K-12 fellows i	incorporate	ed their research			
,			Integration of (select one)					
Item	Not at All	One Time	Several Times	Ongoing	Incorporated Into Curriculum			
*Developed module/ lesson plan								X
*Special presentation								
*Involved teacher in								
research *Involved students in								
research								
Other (please specify)								
6. Honors and Awards During GK-12 Project Participation								
☐ Declare nothing to rep	ort							X
Honor or Recognition								
Name of honor or recogni								X
Organization granting the	award							X

Common					
Collection			ject L	lon	uts
Categories			roj ant	tati Eati	[
			Staff and Project Participant	Project Implementation	Project Outputs
Questions			Staf		, ,
Year earned					X
Other Award: Fellowship, Scholarship, or Grant Other Than O	GK-12				
Title of proposal					X
Awarding agency					X
Year awarded					X
7. Development Activities				37	
Average hours per week spent on GK-12 activities	• • • •	CIZ		X	
Did you participate in regular training throughout the year sp 12 project?	ecific to y	our GK-			
Yes Format of training (check all that apply)					
Format of training (check all that apply) • Courses					
• Seminars				X	
• Workshops					
Other (please specify)					
• No					
Elaborate why not					
Did you participate in a GK-12 summer institute?					
• Yes	`				
How long did the summer institute last? (select on Less than 1 week	ie)				
• 1 week					
• 2 weeks				X	
• 3 weeks				Λ	
4 weeksMore than 4 weeks					
Other (please specify)					
No Other (prease specify)					
Elaborate why not					
Professional development activities associated with your GK	-12 proje	ct during		X	
the reporting period. Because some of these activities were of		_			
the entire reporting period and others were limited to summer					
when these professional development activities occurred. Check "Summer,"					
"Yearlong," or both, if applicable. (check all that apply)					
Item Summer Yearlong					
I participated in coursework/training sessions that helped increase my science content knowledge.					
I participated in coursework/training leading to					
certification/recertification					
I participated in coursework/training leading to an advanced degree. I made presentations at academic/ professional conferences or		_			
meetings					
I developed multimedia materials, Web sites, or other cyber-enabled					

Common Collection Categories Questions				Project Implementation	Project Outputs
tools for teaching/learning.					
I participated as a team member engaged in joint research.					
I received training in effective mentoring skills. I participated with fellows in a workshop that stressed teamwork and		_			
collaboration.					
I participated with fellows in content and pedagogy sessions.					
I participated in training in authoring, submitting, or publishing					
professional papers.					
I received other preparation in professional skills development (please specify):					
8. International Experience Did you visit a foreign country as part of your GK-12 experie	mco2				
YesNo (If no, please skip the rest of this section)	ince:			X	
Experience per Country				***	
Country				X	
Main purpose of visit				X	
Length of international experience in weeks (1-52) As part of your international experience, did you (check all that apply) • Work in a university and share research with graduate students and professors overseas • Work on activities similar to GK-12 with international teachers and students • Develop ongoing international collaborations/projects • Participate in a Research for Teachers program • Take credit/certification/recertification coursework/training • Conduct research/field work • Participate in other international activities (please specify):				X	X
Most beneficial professional or career related aspect of this in Do you plan to continue with this international collaboration? Yes No		iai activity		X	71
Specify why you do or do not plan to continue with this interrcollaboration	national			X	
9. Professional Experience	1	1 0			
Has your professional practice in the following areas improve your participation in GK-12: (check all that apply) Content knowledge of science or math Access to innovative lesson plans Ability to incorporate inquiry-based lessons in the future Desire to continue your own education Involvement in professional networks/partnerships with universite Enthusiasm for science/math teaching					X

GK-12: Number of Respondents, Frequency of Response, and Annual Hour Burden

The estimated average number of annual respondents is 1,267, with an estimated average annual response burden of 3,529 hours. The Web-based collection is an annual activity of the GK-12 program. We estimate an annual average of 86 awards, 588 NSF-funded fellows, and 593 lead/NSF-supported cooperating teachers responding each year. The number of respondents was estimated using data from the current portfolio of GK-12 awards, and the estimated annual hour burden per respondent was determined using the burden information reported by respondents during the last collection cycle, when only NSF-funded fellows and lead/NSF-supported cooperating teachers reported data.

The burden estimated is outlined below.

Respondent Type	Estimated Average Annual No. of Respondents	Estimated Average Annual Burden Hours Per Respondent	Estimated Annual Burden Hour Total
Awardees	86	17	1,462
NSF-funded graduate fellows	588	1.7	1,000
Lead/NSF- supported cooperating teachers	593	1.8	1,067
Total	1,267		3,529

GK-12: Hour Burden Estimates by Each Form and Aggregate Hour Burdens

As mentioned above respondents will be awardees (as reported by the project's lead PI with help from the project coordinator), NSF-funded graduate fellows, and lead/NSF-supported cooperating teachers. The estimated total annual response burden is 3,529 hours. There is a different Web-based form for each respondent type. The annual burden by form was calculated as follows:

Form Type	Respondent Type	No. of Respondents	Burden Hours Per Respondent	Total Burden Hours
Award form	Awardees	86	17	1,462
Fellow form	NSF-funded graduate fellows	588	1.7	1,000
Teacher form	Lead/NSF-supported cooperating teachers	593	1.8	1,067
Total		1,267		3,529

GK-12: Estimates of Annualized Cost to Respondents for the Hour Burdens

The overall annualized cost to the respondents is estimated to be \$108,515. The following table shows the annualized estimates of costs to respondents. The estimated hourly rate for PIs, who are generally university professors, is based on a report from the American Association of University Professors, "Annual Report on the Economic Status of the Profession, 2014-15," *Academe*, March–April 2015, Survey Report Table 4. According to this report, the average salary across all academic ranks and across all types of doctoral-granting institutions (public, private-independent, religiously affiliated) was \$87,838. The hourly rate for fellows is based on their annual stipend of \$30,000. The rate for cooperating teachers was established by using the Bureau of Labor Statistics' May 2015 National Occupational Employment and Wage Estimates, which estimates the mean annual wage for those in Education, Training, and Library Occupations to be \$52,210. Each of these figures was then divided by the number of standard annual work hours (2,080) to determine an average hourly rate for each respondent type. Those rates and the corresponding total annual costs are indicated in the table below:

Respondent Type	No. of Respondents	Burden Hours Per Respondent	Average Hourly Rate	Estimated Annual Cost
Awardees	86	17	\$42	\$61,404
NSF-funded graduate fellows	588	1.7	\$14	\$13,994
Lead/NSF-supported cooperating teachers	593	1.8	\$25	\$26,685
Total	1,267			\$102,083

GK-12: Estimates of Costs to the Federal Government

Computing the annualized cost to NSF for the GK-12 data collection was done by taking the budget for the most recent year and calculating the costs for each of the following operational activities involved in producing, maintaining, and conducting the data collection:

Operational Activities	Cost Over Three Years
System Development (includes initial development of the database and Web-based application, and later changes requested by the program, e.g., increased reporting tools, additional validations)	\$172,232
System Maintenance, Updates, and Technical Support (system requires updates each year before opening the collection; maintenance is required to keep the system current with technology, e.g., database servers, operating systems)	\$75,700
Data Collection Opening and Support (e.g., online and telephone support to respondents and contacting respondents to encourage completion of the questions), Reporting (as defined by DGE), and Followup Activities (e.g., providing data to other consultants)	\$129,111
Three-Year Total for All Operational Activities	\$377,044

The annualized cost was computed as one-third of the total three-year costs; thus, the annualized cost to NSF for the GK-12 collection is \$125,681.

GK-12: Questions – Awards Survey

1. Award Information
Award Status
NSF Award ID
Grantee Institution
Award Title
Award Start Date (Month, Day, Year)
Award End Date (Month, Day, Year)
Award Dollar Amount
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
List the top three subdisciplines associated with your GK-12 project:
Subdiscipline 1:
Subdiscipline 2:
Subdiscipline 3:
Award URL
2. Partnerships and Collaborations
U.S. Academic Institution
Institution Name
City
State
Zip Code
Non-U.S. Academic Institution
Institution Name
Country
Non Academic Institution
Institution Name
Institution Type (mark all that apply)
• Museum
Science Center
Industrial Partner
Business Partner
Government Agency
National Laboratory
Nonprofit Organization
• Other
3. Participating Schools In Your GK-12 Project
K-12 School
School Name

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) State District Name School Setting/Location (select one) Rural Urban Suburban School Type (mark all that apply) Charter Private Public 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% 4. Lead Principal Investigators and Co-Principal Investigator Information PI/Co-PI Name: Title First name Middle name Last name Suffix □ Lead PI Institutional affiliation (Name and State) Phone: Number Extension Alternate Phone: Number Extension Type (mark one) U.S. number Non-U.S. number E-mail Address Should the system e-mail a user ID and password to this participant? Yes

No

Will this participant have authority to enter data?

- YesNo
- No

Should this participant receive announcements and reminders that are sent to the project's lead PI from this system and from the Technical Support staff??

- No

Title (e.g. Professor)

Affiliation/Academic Department

In what roles, functions, and activities does this PI/co-PI serve the project?

Academic Disciplines (mark all that apply) • Chemistry – Analytical • ...see footnote 11 for complete list¹¹... • STEM Education and Learning Research – Other (please specify):

• Other (please specify): ______

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 education research and/or teaching in the department.
 - Education faculty in the school or college of education

- Chemistry Analytical
- Chemistry Bio-inorganic
- Chemistry Bio-organic
- Chemistry Biophysical
- Chemistry Environmental
- Chemistry Inorganic
- Chemistry Materials
- Chemistry Physical
- Chemistry Polymer
- Chemistry Theoretical
- Chemistry Other (please specify):
- Comp/IS/Eng Artificial Intelligence (including Robotics, Computer Vision, and Human Language Processing)
- Comp/IS/Eng Computer Architecture and Grids
- Comp/IS/Eng Computer Science Languages and Systems
- Comp/IS/Eng Computer Science Theoretical Foundations
- Comp/IS/Eng Database Information Retrieval and Web Search
- Comp/IS/Eng Graphics and Visualization
- Comp/IS/Eng Human Computer Interaction
- Comp/IS/Eng Information Security and Assurance
- Comp/IS/Eng Information Technology and Organizations
- Comp/IS/Eng Networks and Communications
- Comp/IS/Eng Operating Systems and Middleware
- Comp/IS/Eng Scientific Computing and Informatics
- Comp/IS/Eng Software Engineering
- Comp/IS/Eng Other (please specify):
- Engineering Aeronautical and Aerospace
- Engineering Agricultural
- Engineering Bioengineering
- Engineering Biomedical
- Engineering Chemical
- Engineering Civil
- Engineering Computer Engineering
- Engineering Electrical and Electronic
- Engineering Energy
- Engineering Engineering Mechanics
- Engineering Engineering Science
- Engineering Environmental
- Engineering Industrial
- Engineering Materials
- Engineering Mechanical
- Engineering Metallurgical
- Engineering NuclearEngineering Ocean
- Engineering Petroleum
- Engineering Polymer

¹¹ Academic disciplines used throughout the GK-12 surveys:

- Education and outreach director in a STEM department, college, university and/or research centers
 Other educational faculty (please specify): ______
- No

Ethnicity (select one)

- Not Hispanic or Latino
- Hispanic or Latino
- Not reported

Race (Mark one or more)

- American Indian or Alaska Native
- Asian
- Engineering Systems Engineering
- Engineering Other (please specify):
- Geosciences Aeronomy
- Geosciences Atmospheric Chemistry
- Geosciences Chemical Oceanography
- Geosciences Climate Dynamics
- Geosciences Geochemistry
- Geosciences Geology
- Geosciences Geophysics
- Geosciences Hydrologic Sciences
- Geosciences Large Scale Dynamics Meteorology
- Geosciences Magnetospheric Physics
- Geosciences Marine Geology and Geophysics
- Geosciences Mesoscale Dynamic Meteorology
- Geosciences Paleoclimate
- Geosciences Paleontology
- Geosciences Physical Meteorology
- Geosciences Physical Oceanography
- Geosciences Solar-Terrestrial
- Geosciences Other (please specify):
- Life Sciences Agriculture
- Life Sciences Agronomy
- Life Sciences Anatomy
- Life Sciences Animal Behavior
- Life Sciences Animal Science
- Life Sciences Biochemistry
- Life Sciences Biological Oceanography
- Life Sciences Biophysics
- Life Sciences Botany (including Plant Physiology)
- Life Sciences Cell Biology
- Life Sciences Computational Biology
- Life Sciences Developmental Biology
- Life Sciences Ecology
- Life Sciences Ecosystem Ecology
- Life Sciences Entomology
- Life Sciences Environmental Sciences
- Life Sciences Evolutionary Biology
- Life Sciences Fish and Wildlife
- Life Sciences Forestry
- Life Sciences Genetics
- Life Sciences Horticulture
- Life Sciences Immunology
- Life Sciences Marine Biology
- Life Sciences Microbiology
- Life Sciences Molecular Biology
- Life Sciences Neurosciences
- Life Sciences Nutrition

- Black or African American
- Native Hawaiian or Pacific Islander
- White
- Not reported

Gender (select one)

- Female
- Male
- Not reported

Disability: (Select one)

- Yes (Mark "yes" if any of the following apply:
 - Deaf or serious difficulty hearing
 - Blind or serious difficulty seeing even when wearing glasses
- Life Sciences Pharmacology
- Life Sciences Physiology
- Life Sciences Plant Pathology
- Life Sciences Population and Community Ecology
- Life Sciences Soil Science
- Life Sciences Structural Biology
- Life Sciences Virology
- Life Sciences Zoology
- Life Sciences Other (please specify):
- Mathematical Sciences Algebra or Number Theory
- Mathematical Sciences Analysis
- Mathematical Sciences Applications of Mathematics (including Biometrics and Biostatistics)
- Mathematical Sciences Geometry
- Mathematical Sciences Logic or Foundations of Mathematics
- Mathematical Sciences Operations Research
- Mathematical Sciences Probability and Statistics
- Mathematical Sciences Topology
- Mathematical Sciences Other (please specify):
- Physics and Astronomy Astronomy
- Physics and Astronomy Astrophysics
- Physics and Astronomy Atomic and Molecular
- Physics and Astronomy Condensed Matter Physics
- Physics and Astronomy Nuclear
- Physics and Astronomy Optics
- Physics and Astronomy Particle Physics
- Physics and Astronomy Physics of Fluids
- Physics and Astronomy Plasma
- Physics and Astronomy Solid State
- Physics and Astronomy Theoretical Physics
- Physics and Astronomy Other (please specify):
- Psychology Cognitive
- Psychology Cognitive Neuroscience
- Psychology Computational Psychology
- Psychology Developmental
- Psychology Experimental or Comparative
- Psychology Industrial/Organizational
- Psychology Neuropsychology
- Psychology Perception and Psychophysics
- Psychology Personality and Individual Differences
- Psychology Physiological
- Psychology Psycholinguistics
- Psychology Quantitative
- Psychology Social
- Psychology Other (please specify):
- Social Sciences Archaeology
- Social Sciences Cliometric History
- Social Sciences Communications

- Serious difficulty walking or climbing stairs
- Other serious disability related to a physical, mental, or emotional condition)
- No
- Do not wish to provide

5. Project Coordinator Information

 $\ \square$ Mark the box if your project does not have a coordinator and skip the other questions in this section

Project Coordinator

Name:

Title

First name

Middle name

Last name

Suffix

Should the system e-mail a user ID and password to this Project Coordinator?

- Yes
- No

Will this participant have the authority to enter data?

- Yes
- No

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

Phone:

- Social Sciences Cultural Anthropology
- Social Sciences Decision Making
- Social Sciences Demography
- Social Sciences Econometrics
- Social Sciences Economics (except Business Administration)
- Social Sciences Geography
- Social Sciences History of Science
- Social Sciences International Relations
- Social Sciences Law and Social Science
- Social Sciences Linguistics Anthropology
- Social Sciences Linguistics
- Social Sciences Medical Anthropology
- Social Sciences Philosophy of Science
- Social Sciences Physical Anthropology
- Social Sciences Political Science
- Social Sciences Public Policy
- Social Sciences Risk Analysis
- Social Sciences Science Policy
- Social Sciences Sociology (except Social Work)
- Social Sciences Urban and Regional Planning
- Social Sciences Other (please specify):
- STEM Education and Learning Research Engineering Education
- STEM Education and Learning Research Mathematics Education
- STEM Education and Learning Research Science Education
- STEM Education and Learning Research Technology Education
- STEM Education and Learning Research Other (please specify):
- Other (please specify):

Number
Extension
Alternate Phone:
Number
Extension
Type (mark one)
• U.S. number
Non-U.S. number E-Mail Address
E-Wall Address
6. Graduate Fellow Information
Graduate Fellow
Name:
Title
First name
Middle name
Last name
Suffix
Citizenship (select one)
• U.S. citizen
Permanent resident H. C. and and all and a second a second and a second and a second and a second and a second a second and a
U.S. nationalNon-U.S. citizen
Phone:
Number
Extension
Alternate Phone:
Number
Extension
Type (mark one)
• U.S. number
Non-U.S. number
E-mail Address
Fellowship Start Date
Month
Year
Fellowship End Date
Month
Year
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
7. Cooperating Teacher Information
Cooperating Teacher
Name:
Title

First name
Middle name
Last name
Suffix
Phone:
Number
Extension
Alternate Phone:
Number
Extension
Type (mark one)
• U.S. number
Non-U.S. Number
School E-mail Address
Other E-mail Address
☐ Lead teacher and/or NSF supported Teacher
What NSF GK-12 funds did this teacher receive during the current reporting period?
Stipend \$
Travel Budget \$
Materials Budget \$
Other \$ Please Explain:
8. Award Evaluator Information
Award Evaluator
Name:
Title
First name
Middle name
Last name
Suffix
Phone:
Number
Extension
Alternate Phone:
Number
Extension
Type (mark one)
• U.S. number
Non-U.S. number E-mail Address
Organization/Unit
0. Other Participant Information
9. Other Participant Information
Other Participant
Name:
Title First page
First name
Middle name
Last name
Suffix

Should the system e-mail a user ID and password for this participant?
• Yes
• No
Will this participant have the authority to enter data?
YesNo
110
Participant Role (select one)
 Programmer
 Technician Other (Please specify):
• Other (Please specify) :
Phone:
Number
Extension
Alternate Phone:
Number
Extension
Type (mark one)
• U.S. number
Non-U.S. number
E-mail Address
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 – 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 – Book chapter Scientific Product – Conference proceeding
Scientific Product – Conference proceeding Scientific Product – Conference presentation/poster
Scientific Product – Invited talk
Scientific Product – Seminar
Patent application
Patent awarded
• Other (please specify):
Citation (with NSF-funded GK-12 fellows noted by "*" and cooperating teachers noted by
" + ")
11. Additional Funding Sources
Source
Source Name
Additional funding source type (select one)

Business

• Foundation					
State government					
 Federal Government 					
 Local government 					
Home institution					
Other (please specify):					
Amount of additional funding \$					
Additional funding type (mark all that apply)					
Monetary contribution					
Materials and supplies					
• Equipment					
Other (please specify):					
1 7/					
12. Program Outreach Information					
Outreach Activity					
Activity Title					
Activity description					
13. Development Activities					
Fellows' Developmental Activities:					
		Frequer	cy (mark one	per activit	v)
				[Other
Activity					(please
Activity	Summer	Weekly	Bimonthly	Monthly	specify)
Fellows took coursework/training (e.g., new courses,					1 107
seminars) that included regular critique of and					
feedback on communication skills.					
Fellows received training in collaboration and team					
building.		"			
Fellows received training to develop their leadership					
skills.					
Fellows received training in pedagogy (definition:					
science of teaching, education, and instructional					
methods).					
Fellows participated with teachers in content and					
pedagogy sessions related to developing GK-12					
activities.					
Fellows received training on effective time and task					
management.	_			_	
Fellows developed multimedia materials, Web sites,	_	_	_		
or other cyber-enabled tools to communicate their					
research activities to external audiences.					
Fellows had other preparation in professional skills	_	_	_		
development					
(please specify):					
Fellows' other development activities: (mark a	ll that ap	ply)			

- 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 speci 	es .	
Cooperating Teachers' Development Activities: (mark all that apply)		
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):		
(please specify)		
14. International Experience		
☐ Mark the box if your project did not participate in an international experie	nce and s	kip the
other questions in this section.		
What country or countries did any your project participants visit as part of th	e GK-12	
international experience (select all that apply)		
• Afghanistan		
• Albania		
How many of your fellows engaged in an international experience through the during this reporting period:	ie GK-12	project
How many of your teachers engaged in an international experience through t	he GK-17)
project during this reporting period:	ne Giv 12	-
Identify the following international activities involving GK-12 fellows (mark	all that a	nply)
• Fellow(s) worked in a university and conducted research overseas.		-FF-37
 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): Other international activities (please specify):		
Identify the following international activities involving GK-12 teachers (mar		apply)
 Teacher(s) worked as a team with their fellow in similar to GK-12 activities with inteachers and students. 	iternational	

- 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):_

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):

Do you plan to maintain the collaborations developed from the international experience

No Ves please specify:				
Yes, please specify: Please specify why your project does or does not plan to	o maintain c	ollaboratio	 ns develope	<u></u>
from the international experiences:	o mamani c	onaboration	is develope	u
Briefly identify up to three research or educational achie	evements re	sulting fron	n the	
international component of your GK-12 project. Each a				
fellow or a group of fellows.		- J	0 -	
Achievement 1:				
Achievement 2:				
Achievement 3:				
15. Program Impact				
Do you have an overall plan in place and active with a s	specific set o	of goals and	l timelines f	or
recruitment and retention of GK-12 fellows, including s	specifics for	broadening	g participation	on
of groups underrepresented in science and engineering?	1			
• Yes				
• No	1 1 1	1	C.1 1	
Regardless of your response to the previous question, p				st
practices you employed to recruit qualified fellows to y	our GK-12	project duri	ng this	
reporting period.				
Best Practice 1:				
Best Practice 2:				
Best Practice 3:		l l		
Please describe the extent to which each of the following	~ ·	-	oductive for	[
recruiting fellows overall to your GK-12 project during	tnis reportii	ng perioa		
		Somewhat	Not	
Practice	Productive	Productive	Productive	N/A
*Relationships with NSF programs that can provide an				
undergraduate pool of potential GK-12 fellows (e.g., REU's				
NSF Centers)				
*Relationships with faculty and programs at other academic				
institutions	_	_	_	
*Use of recruiting resources on the GK-12 campus (e.g., career				
service office, graduate studies office) *Collaboration with other NSF-funded programs to improve				
recruitment				
*Use of professional meetings, conferences, associations to				
communicate, research, and market to potential GK-12 fellows			_	
Other (please specify):				
Please describe the extent to which each of the followin	- -	-		1
recruiting underrepresented minority and women fellow	s overall to	your GK-1	2 project	
during this reporting period.				

									Underrepresented Wor Minorities						
	Productive	Somewhat	Not	N/A	Productive	Somewhat	Not	N/A							
*Relationships v															
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 progran	ns for ente	ering gra	duate stud	lents											
*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 v	with other	GK-12 _I	projects fo	or recruit	ment										
Other (please specify):															
16. Verify Fel Approve/edit/a							1747C 2	nd to	acher	·c					
Teacher Names		Names	ner pan	3 SUDIII	itted by	Teno	ws a		actici	.3					
Last, First]]				
Approve/edit/a	add in- c	lassroo	m locati	ions sul	mitted	by fe	ellow	S				l			

	School	Class Name	Othe Identify Informa	ing	Subj	iect(s)		Z-12 her(s)	Fellow	(s)	Grade(s)	# Students	Delete Class	
Ā	Approve	edit/ad	d out-o	f-class	sroo	m acti	vities	subm	itted b	y fe	ellows			
	Location	Activ	ity Type	Fellov	v(s)	# Teac	chers	# Stu	dents		elete tivity			

GK-12: Questions – Fellows Survey

	1. Contact Information
	Some data will be pre-filled with data entered by the PI
	Name:
	Title
	First name
	Middle name
	Last name
	Suffix
	Social Security Number: (select one)
	I choose to report my full SSN:
	I choose to report the last 4 digits of my SSN:
	Other (if blank system assigns 999-99-9999):
	Current Address:
	Street address 1
	Street address 2
	City
	State
	Zip or postal code
	Phone:
	Number
	Extension
	Alternate Phone:
	Number
	Extension
	Type: (mark one)
	• U.S. number
	Non-U.S. number
	E-mail Address
	2. Permanent Contact Information
	Permanent Address:
	Street address 1
	Street address 2
	City
	State or country
	Zip or postal code
	Permanent Phone:
	Number
	Extension
	Alternate Phone:
	Number
	Extension
	Type: (mark one)
	• U.S. number
	Non-U.S. number Demonstrate Constitution Demonstrate Constitution Output Description Output Description Descri
	Permanent E-mail Address
1	

3. Demographic Information Ethnicity: (select one) Hispanic or Latino Not Hispanic or Latino Not reported Race: (mark one or more) American Indian or Alaska Native Asian Black or African American Native Hawaiian or Other Pacific Islander White Not reported Gender: Female Male Not reported Citizenship: (select one) U.S. citizen Permanent resident U.S. national Non-U.S. citizen Permanent Resident since: [reported only by permanent residents] Month Year Disability: (Select one) Yes (Mark "yes" if any of the following apply: Deaf or serious difficulty hearing Blind or serious difficulty seeing even when wearing glasses Serious difficulty walking or climbing stairs Other serious disability related to a physical, mental, or emotional condition) Do not wish to provide Place of Birth (U.S. State or Country) 4. Academic History Name of high school/secondary school/institution from which you graduated/received a diploma Location of High School (City, State or Country, and Zip or Postal code) School type (select one) Public Private Other (please specify): _ **Undergraduate Degree** Institution: U.S. Institution (Name and State) **International Institution:** Name Country Degree: (select one)

B.A. B.S.

Other (please specify)
Discipline: (select one)
Chemistry – Analytical
•see footnote 11 for complete list
STEM Education and Learning Research – Other (please specify): Other (please specify):
Other (please specify): Academic Department
Academic Department
Date of Completion:
Month
Year
Graduate Degree
Institution:
U.S. Institution (Name and State)
OR
International Institution:
Name
Country
Degree: (select one)
• M.A.
• M.S.
• Ph.D.
Other Postbaccalaureate Degree(please specify) Disciplinate (selections)
Discipline: (select one) • Chemistry – Analytical
•see footnote 11 for complete list
STEM Education and Learning Research – Other (please specify):
Other (please specify):
Academic Department
Date of Completion:
Month
Year
5. Previous Employment and Teaching Experience
Do you have a K-12 teaching certification?
Yes, please specify
• No
Do you have any prior K-12 teaching experience?
Yes, please specify
• No
Have you taken/are you taking any education certification courses?
Yes, please specify
• No
Were you employed in the public or private sector for 1 or more years after receiving your first
undergraduate degree and prior to becoming a GK-12 fellow?
• Yes
• No
Total number of years (equal to or greater than 1 year, to the nearest year) you were employed
in the public or private sector after receiving your first undergraduate degree and prior to
becoming a GK-12 fellow
becoming a off 12 fellow
6. Current Graduate Work
Current Graduate Institution:

Date when you started your program: Month
Year
Expected Graduation Date
Month
Year
If you expect to graduate within one year, what type of employment are you pursuing? (check
all that apply)
Government - Postdoc
Government - Full-time position
Government - Part-time position
Industry/Business - Postdoc
Industry/Business - Full-time position
Industry/Business - Part-time position Februarianal Institution (callege University on V. 13) - Part dec
 Educational Institution (college, University, or K-12) - Postdoc Educational Institution (college, University, or K-12) - Tenure-track faculty
 Educational Institution (conlege, University, or K-12) - Pentire-track faculty Educational Institution (college, University, or K-12) - Non-tenure-track faculty
• Educational Institution (college, University, or K-12) - Staff
Nonprofit - Postdoc
Nonprofit - Full-time position
Nonprofit - Part-time position
Self-employed/Entrepreneur
If you expect to graduate within one year, what type of employment would you prefer most?
(check one)
• Government - Postdoc
Government - Full-time position
Government - Part-time position
Industry/Business - Postdoc
Industry/Business - Full-time position
 Industry/Business - Part-time position
Educational Institution (college, University, or K-12) - Postdoc
Educational Institution (college, University, or K-12) - Tenure-track faculty Educational Institution (college, University, or K-12) - Tenure-track faculty
• Educational Institution (college, University, or K-12) - Non-tenure-track faculty
 Educational Institution (college, University, or K-12) - Staff Nonprofit - Postdoc
Nonprofit - Fostdoc Nonprofit - Full-time position
Nonprofit - Part-time position
Self-employed/Entrepreneur
Academic level during fellowship year: (select one)
Master's 1st year
Master's 2nd year
Master's 3rd year
Doctorate 1st year
Doctorate 2nd year
• Doctorate 3rd year
Doctorate 4th year
Doctorate 5th year
Other (please specify level and year)
Discipline: (select one)
Chemistry – Analytical
•see footnote 11 for complete list
• STEM Education and Learning Research – Other (please specify):
Other (please specify): A cademic Department
Academic Department
Amount of NSF funds in your GK-12 stipend for the current academic year: (select one)
• \$30,000 stipend

\$10,500 cost of education • Less than \$10,500; specify the amount:\$ Did you have to pay tuition and fees in excess of the \$10,500 allowance for the cost of education? Yes No If yes, how much did you have to pay? How does your fellowship stipend compare to stipends received by regular teaching or research fellowships at your institution? Greater than others Equal to others Less than others Do not know What is your research topic? (research topic does not have to be related to GK-12) Does your research involve the following: (check all that apply) Bioinformatics Biotechnology Civil Infrastructure Climate change Computational Science and Engineering Cyber infrastructure Enabled Discovery and Learning Device Development **Energy and Alternative Energy** Entrepreneurialism **Evolution and Development** Materials Science and Engineering Nanoscience and Nanotechnology Neuroscience: Biology and Psychology Sensing, Signals, Imaging and Signal Processing Social and Behavioral Sciences Sustainability, Ecology and the Environment Water and water quality Other leading-edge science (please specify): ___ 7. Research Advisor Information Advisor's Name: Title First name Middle name Last name Suffix Advisor's Academic Discipline: (select one) Chemistry – Analytical ...see footnote 11 for complete list... STEM Education and Learning Research – Other (please specify): • Other (please specify): _ Advisor's Academic Department Advisor's phone: Number Extension Advisor's E-mail Address

8. Interactions with K-12 Students

Teachers you worked with as part of your GK-12 participation: (select all that apply)

- Teacher 1
- Teacher 2 ...

Schools, organizations and other locations you worked with as part of your GK-12 participation: (select all that apply)

- School/organization 1
- School/organization 2 ...

Class You Worked With as Part of Your GK-12 Participation

School

Teacher(s) of This Class (select all that apply)

- Teacher 1
- Teacher 2
- ...

Class Name

Additional Identifying Information (e.g. period, time, marking period)

Grade of students (mark all that apply)

- K—Kindergarten
- 1--1st grade
- 2 --2nd grade
- 3---3rd grade
- 4 --4th grade
- 5 --5th grade
- 6 --6th grade
- 7--7th grade
- 8 --8th grade
- 9-- 9th grade10 --10th grade
- 11 --11th grade
- 12 --12th grade

Subjects (select one)

- Mathematics—Elementary
- Mathematics—General
- Mathematics—Middle school
- Mathematics—High school (secondary)
- Science—Elementary school
- Science—General
- Science—Integrated science
- Science—Biology
- Science—Chemistry
- Science—Earth science
- Science—Physical science
- Science—Physics
- Science—Social
- Computer science
- Other (please specify)

How is this course considered?

- Honors/AP/IP
- Academic
- Non-Academic

Number of students

Out-of-Classroom GK-12 Activity

Schools and organizations you worked with as part of your GK-12 participation in this out-of-classroom activity with K-12 students: (select all that apply from preloaded list and add

nonparmers)							
• School/organization 1							
 School/organization 2 Organizations not partnered with 	h project						
		127)					
Activity Type(s): (check all that apply) • After school science club							
Community outreach on S	TEM						
• Field trips	1121/1						
Informal science education	n activitie	es					
Science fair							
 Schoolyard activities 							
 University/laboratory visit 	S						
 Other (please specify): 							
Number of K-12 teachers you	ı worke	d with	as part	of your	out-of-clas	sroom GK-12 activity	
Number of K-12 students you							
Overall Classroom Experie			and Panel	<u> </u>			
To what extent did you integr		r rocoa	rch into	the CI	Z_12 classro	nom experience for each	
of the items listed below (for	_					om experience for each	
of the items listed below (for	each ne	em Cno	ose one	raung)	1		
		Intoc	mation of	f Dagagne	-h]	
		integ	ration of	Researc	:H		
	411						
	at 1						
Item	Not at All						
	· ·						
Developed module/lesson plan							
Cascial auscentation							
Special presentation							
Involved teacher in research							
involved teacher in research		_					
Investment at a day to in weaponsh							
Involved students in research							
Other (please specify)							
Other (prease specify)							
Please check the activities tha			ited in	while ir	n the classro	om: (check all that apply)	
 Serving as a role model for 							
Adapting scientific expert			iate grad	e level			
Working collaboratively v							
Working with students due		3					
• Enhancing lessons/curricu							
Serving as a scientist in the Showing teachers and stud				tochno	logri instrums	entation, and measurement	
Other (please specify):	ients now	io use i	iew toois	s, tecilio	iogy, msuume	mation, and measurement	
other (please specify).							
0 II	CIV	12 D-	4 D		- 4.2		
9. Honors and Awards Duri			oject P	articipa	ation		
☐ Select if no honors or awa	irds to r	eport					
Honor or Recognition							
Name of honor or recognition	1						
Organization granting the aw							
Year earned							
ו כמו במוווכע							

Other Award: Fellowship, Scholarship, or Grant	Other Th	nan GK-	12			
Title of the proposal						
Awarding agency						
Year awarded						
10. Development Activities						
Average hours per week spent on GK-12 activit	ies					
Did you participate in regular training throughout	ut the yea	ar specifi	ic to your C	GK-12 pro	ject	
• Yes						
 No, Elaborate why not (and skip the next two 	o questions)				
						_
Format of training (check all that apply)						
CoursesSeminars						
Workshops						
Other (please specify):						
Training received:						
			Frequency			
		(mark or	ne frequency j	per activity)	Other	
Activity	Summer	Weekly	Bimonthly	Monthly	(please	
rearry	Sammer	Weenly	Binioning	nionany	specify)	
I took coursework/training (e.g., new courses,						
seminars) that included regular critique of and						
feedback on communication skills						
I received training in collaboration and team building						
I received training in developing leadership skills						
received training in developing leadership skins	_	_	_	_		
I received training in pedagogy (i.e., science of						
teaching, education, and instructional methods)						
I received training dealing with effective time and task						
management						
I received other training (please						
specify):						
Did you participate in a GK-12 summer institute	e?					
Yes,No, Elaborate why not (and skip the nex	rt auestion)					
How long did the summer institute last? (select	* '					_
Less than 1 week	onej					
• 1 week						
• 2 weeks						
• 3 weeks						
• 4 weeks						
 More than 4 weeks Other (please specify): 						
Professional development activities associated v	with vour	GK-12	proiect dur	ing the rei	orting	_
period. (check all that apply)						
Item Summer 1						
I participated with teachers in content and pedagogy trai	ning relate	d to devel	oping GK-			
12 activities. I developed multimedia materials or other cyber-enabled	d tools to co	ommunica	ite to			l
external audiences.				"		

I developed and presented course and/or curriculum materials.		
I served as a mentor to others (e.g., graduate students, undergraduates, laboratory		
technicians).		
I authored/coauthored and submitted grant proposals.		
I had professional interactions other than internships with non-academic employers (e.g.,		
industry, government) in order to learn about carrier opportunities and requirements.		
I communicated, worked, or collaborated with scientists of other nationalities. I made presentations to non-academic public.		
I received other preparation in professional skills development (please		
specify):		
Specify).		
11. International Experience		
•		
Did you visit a foreign country as part of your GK-12 fellowship? • Yes		
 No, skip the following questions in this section 		
Experience per Country		
Country		
Main purpose of visit		
Length of international experience in weeks (1-52)		
Activities that you participated in as part of your international experience (ch	eck all th	at apply)
 Attended a conference/workshop outside of the U.S. 		
 Undertook coursework/training outside of the U.S. 		
Worked as a team with teachers and students overseas		
 Worked, conducted research/field work, or interned outside of the U.S. 		
Worked with my classroom teacher overseas		
Participated in other international activities (please specify):		
Is this international experience related to your current graduate research? (sel	ect one)	
• Yes		
• No		
Most beneficial professional or career related aspect of this international activation	vity	
Were you prepared for your international experience?		
• Yes		
• No		
How were you prepared prior to the international visit? (check all that apply)		
• Course		
• Seminar		
• Workshop		
Other (please specify):		
What experiences were included in the preparation for your international exp	erience?	(check all
that apply)		
How to work in a foreign laboratory/field work		
Graduate education/Education/ laboratory differences in country to be visited		
• Language		
Cultural differences		
Learning about the area		
Other (please specify):		
What did you accomplish?		
What types of accomplishments apply to your international experience? (che	ck all tha	t apply)
Awards/Honors/Recognitions		
Invention/Patent		
• Presentations		
• Publications		
Other (please specify):		
Do you plan to continue with this international collaboration?		

- Yes
- No

Specify why you do or do not plan to continue with this international collaboration

12. Research and Professional Experience

How involved was your faculty advisor in your GK-12 activities? (select one)

- Not involved
- Somewhat involved
- Involved
- Regularly involved

How did participation in GK-12 activities affect your graduate research productivity? (check all that apply)

- I am better organized.
- I find my work time is too fragmented.
- I am better able to write about my research results.
- I am better able to focus on my research.
- I have less time to focus on my research.
- I am better prepared to present research findings to broad (scientific and nonscientific) audiences.
- Other (please specify):

How did your GK-12 participation affect your professional pursuits and career goals as a scientist? (check all that apply)

- I have been better able to figure out what I want to pursue as a career.
- I am better prepared for a career in academia.
- I am better prepared to pursue a career that involves research and teaching.
- I will now consider a wider array of career paths than I did before GK-12.
- I am committed to contributing to K-12 STEM education at some point in my career.
- I better understand the importance of the role of a scientist in K–12 education.
- I am a more globally engaged scientist.
- Other (please specify):

Check the areas in which your knowledge/skills have improved as a result of your GK-12 participation. (check all that apply)

- Professional and academic writing skills
- Pedagogy/teaching skills
- Professional speaking or presentation skills
- Team building/collaboration skills
- Communicating science or math concepts to diverse audiences
- Communicating my research and/or area of expertise
- Other (please specify):

Involvement with the GK-12 program

Most important thing you gained from participating in the GK-12 program

Most important contribution you made to the GK-12 program

List up to two concerns about or areas of improvement for the GK-12 program or your experience with the program.

Concern 1

Concern 2

GK-12: Questions – Teachers Survey

1. Contact Information
Some data will be pre-filled with data entered by PI
Name:
Title
First name
Middle name
Last name
Suffix
Address:
Street address 1
Street address 2
City
State
Zip or postal code
Phone:
Number
Extension
Alternate Phone:
Number
Extension
Type: (mark one)
• U.S. number
Non-U.S. number
School E-mail Address
Other E-mail Address
School Name(s)
2. Demographic Information
Ethnicity: (select one)
Hispanic or Latino
Not Hispanic or Latino
• Not reported
Race: (Mark one or more)
 American Indian or Alaska Native Asian
Black or African American
Native Hawaiian or Other Pacific Islander
• White
Not reported
Gender:
• Female
Male Not reported
Not reported

 Ves (Mark "yes" if any of the following apply: Deaf or serious difficulty hearing Blind or serious difficulty seeing even when wearing glasses Serious difficulty walking or climbing stairs Other serious disability related to a physical, mental, or emotional condition) No Do not wish to provide
3. Degrees
Undergraduate Degree
Institution:
U.S. Institution (Name and State)
OR
International Institution:
Name
Country
Degree: (select one)
• B.A.
• B.S.
Other (please specify)
Discipline: (select one)
Education – Early childhood
 Education – Elementary Education – Middle
Education – Middle Education – High
Education – Other
Chemistry – Analytical
•see footnote 4 for complete list (other than Education –)
STEM Education and Learning Research – Other (please specify):
Other (please specify): Deta of Completion:
Date of Completion:
Month
Year
Graduate Degree
Institution:
U.S. Institution (Name and State)
OR
International Institution:
Name
Country
Degree: (select one)
• M.A.
M.S.Ed.D.
• Ph.D.
Other Postbaccalaureate Degree (please specify)
Discipline: (select one)
Education – Early childhood
• Education – Elementary
Education – Middle The distribution of t
 Education – High Education – Other
Chemistry – Analytical

...see footnote 4 for complete list (other than Education –...)... STEM Education and Learning Research – Other (please specify): ___ Other (please specify): Date of Completion: Month Year 4. Teaching Experience and Credentials Total number of years teaching (at any K–12 school) Do you have any K-12 teaching certification? Yes, complete the following questions in this section No, skip the following questions in this section Grades certified to teach: (select all that apply) Early childhood Elementary Middle/junior high High school Subjects certified to teach: (select all that apply) Mathematics Computer/technology General studies Science-Biology Science-Chemistry Science-Earth science Science-Elementary science Science-General science Science-Integrated science Science-Physical science Science-Physics Other (please specify) Did you receive your certification through an alternative certification program? (e.g., Teach for America) Yes No 5. Experience Working With GK-12 Fellows Graduate fellows you worked with as part of your GK-12 participation **Fellow** Fellow Name (Select names from fellow list pre-populated with data entered by the PI) Subjects (check all that apply) Mathematics—Elementary Mathematics—General Mathematics—Middle school Mathematics—High school (secondary) Science—Elementary school Science—General Science—Integrated science Science—Biology Science—Chemistry Science—Earth science

Science—Physical science

Science—Physics Science—Social

Computer scienceOther (please specify								
# Male students)							
# Female students								
	rity stud	lonts						
# Underrepresented minority students Activity/Lesson Written/Developed in Classroom Using Fellows as Scientific Experts								
Activity/Lesson written	Develo	peu iii Cia	assroom Usm	g renows	as Scientific E.	xperts		
Grade level(s) for activity/lesson developed (mark all that apply) • Elementary • Middle school • High school								
 Other (please specify))							
Academic Disciplines (m	ra I ra II entary sch etry							
• Science—Physics	.							
Other (please specify Priof Description):							
Brief Description								
Overall Experience Working with Fellows								
Average hours a week worked directly with GK-12 fellows								
How many of these hours, that you spent working directly with your GK-12 fellows, were spent on planning/preparation?								
		CV 12 fall	lovica virith virha	m	awkad (abaak all	that apply)		
 Please check the activities of the GK-12 fellows with whom you worked (check all that apply) Serving as a role model for students Teaching/co-teaching lessons Adapting scientific materials to the appropriate grade level Working collaboratively with teachers Working with students Developing activities Serving as a scientist in the classroom 								
Using the following table, in			(-12 fellows inc	orporated	their research int	o your		
classroom.						1		
	Integration of Research (select one rating)							
Item	Not at All	One Time	Several Times	Ongoing	Incorporated Into Curriculum			
*Developed module/								
lesson plan *Special presentation								
*Involved teacher in								
research *Involved students in					П			
research								
Other (-less						İ		

6. Honors and Awards During GK-12 Project Participation							
☐ Declare nothing to report							
Honor or Recognition							
Name of honor or recognition							
Organization granting the award							
Year earned							
Other Award: Fellowship, Scholarship, or Grant Other Than GK-12							
Title of proposal							
Awarding agency							
Year awarded							
7. Development Activities							
Average hours per week spent on GK-12 activities							
Did you participate in regular training throughout the year specific to your GK-12 project? • Yes							
Format of training (check all that apply)							
• Courses							
• Seminars							
 Workshops 							
Other (please specify)							
o N.							
• No							
Elaborate why not							
Did you participate in a GK-12 summer institute?							
• Yes							
How long did the summer institute last? (select one)							
• Less than 1 week							
1 week2 weeks							
• 3 weeks							
• 4 weeks							
More than 4 weeks							
Other (please specify)							
• No							
Elaborate why not							
Professional development activities associated with your GK-12 project during the reporting							
period. Because some of these activities were ongoing throughout the entire reporting period							
and others were limited to summer institutes, indicate when these professional development							
activities occurred. Check "Summer," "Yearlong," or both, if applicable. (check all that apply)							
Item	Summer	Yearlong					
I participated in coursework/training sessions that helped increase my science content							
knowledge.							
I participated in coursework/training leading to certification/recertification							
I participated in coursework/training leading to an advanced degree.							
I made presentations at academic/ professional conferences or meetings							
I developed multimedia materials, Web sites, or other cyber-enabled tools for							
teaching/learning.							
I participated as a team member engaged in joint research.							
I received training in effective mentoring skills.							
I participated with fellows in a workshop that stressed teamwork and collaboration.							
I participated with fellows in content and pedagogy sessions. I participated in training in authoring, submitting, or publishing professional papers.							
I received other preparation in professional skills development (please specify):							

8. International Experience

Did you visit a foreign country as part of your GK-12 experience?

- Yes
- No (If no, please skip the rest of this section)

Experience per Country

Country

Main purpose of visit

Length of international experience in weeks (1-52)

As part of your international experience, did you (check all that apply)

- Work in a university and share research with graduate students and professors overseas
- Work on activities similar to GK-12 with international teachers and students
- Develop ongoing international collaborations/projects
- Participate in a Research for Teachers program
- Take credit/certification/recertification coursework/training
- Conduct research/field work
- Participate in other international activities (please specify): __

Most beneficial professional or career related aspect of this international activity

Do you plan to continue with this international collaboration?

- Yes
- No

Specify why you do or do not plan to continue with this international collaboration

9. Professional Experience

Has your professional practice in the following areas improved as a result of your participation in GK-12: (check all that apply)

- Content knowledge of science or math
- Access to innovative lesson plans
- Ability to incorporate inquiry-based lessons in the future
- Desire to continue your own education
- Involvement in professional networks/partnerships with university scientists
- Enthusiasm for science/math teaching