



Office of Science and Technology Policy, National Science and Technology Council, Committee on STEM Education

Inventory of Federal STEM Education

Introduction

The America COMPETES Reauthorization Act of 2010 calls for OSTP to establish, maintain, and periodically update an inventory of federal investments in science, technology, engineering, and mathematics (STEM) education as part of a five-year federal STEM education strategic plan. To complete the inventory, OSTP is seeking information from federal departments and agencies. This inventory will capture information on STEM education investments to illustrate distinct program characteristics, create learning communities within and across federal agencies (for improving implementation and evaluation of education investments), identify areas of potential synergy across and within agencies, and support the development of a federal five-year strategic STEM education plan. The inventory process will occur on a cyclical basis to ensure that the information is up-to-date. The inventory will be accessible electronically by all agencies and will include a mechanism for staff to search for investments with specific characteristics. The search function is one mechanism that will promote learning communities and greater awareness of education investments within and across federal agencies.

The inventory should include federal agency-funded pre-kindergarten (Pre-K) through graduate STEM education and out-of-school STEM education for people of all ages. A detailed set of criteria for what to include in the inventory and related definitions are listed below.

The inventory effort is led by the Task Force on Federal Investments in STEM Education. This group includes representatives from the:

- Office of Science and Technology Policy (co-chair)
- Department of Commerce (co-chair)
- National Science Foundation (co-chair)
- Department of Agriculture
- Department of Defense
- Department of Education
- Department of Energy
- Department of Interior
- Department of Transportation
- Department of Health and Human Services
- National Aeronautics and Space Administration
- Environmental Protection Agency

STEM education inventories have been conducted in the past by OMB, GAO, and individual agencies. This effort builds on previous inventories in many ways, but OSTP hopes that this inventory will be more useful to agencies and outside stakeholders (a public interface for the inventory is under consideration) and will be less time consuming to complete. For example, this form has been pre-populated with information about existing STEM education from the previous inventories to minimize the level of effort required of federal agencies to complete the inventory survey.

Please complete this questionnaire **June 10th**. Be aware that OSTP may request support documentation to selected questions after your responses are reviewed. Thank you for your time and assistance.

Contact

If you have questions or difficulties completing the questionnaire, please contact: Michael Feder: Michael_A_Feder@ostp.eop.gov, or at 202-456-6059 on Mondays and Wednesdays from 4-6 pm EST and on Fridays from 12-1pm EST.

Definitions

Before you begin, please read the following definitions of STEM and STEM Education, and Education Investment carefully to determine whether you need to complete the survey. Contact Michael Feder if you have any questions regarding these definitions.

STEM: For the purposes of this inventory STEM includes physical and natural sciences, technology, engineering, and mathematics disciplines, topics, or issues (including environmental science education or environmental stewardship). OSTP recognizes that various different and usually broader definitions are used for “STEM.” This relatively narrow definition has been chosen to constrain the focus of the inventory to specific areas that have similar educational contexts, issues, and challenges in order to maximize the inventory’s usefulness in characterizing what the federal government is doing to address these educational contexts, issues, and challenges.

STEM Education: Formal or informal education that is primarily focused on physical and natural sciences, technology, engineering, and mathematics disciplines, topics, or issues (including environmental science education or stewardship). For the purposes of this inventory, STEM education has one of the following as the **primary** objective:

- Learning: Develop STEM skills, practices, or knowledge of students or the public;
- Engagement: Increase learners’ engagement, interest in STEM and their perception of its value to their lives, or their ability or participate in STEM.
- Pre and In Service Educator/Education Leader Performance: Train or retain STEM educators (K-12 pre-service or in-service, post-secondary, and informal) and education leaders to improve their content knowledge and pedagogical skills;
- Post-Secondary STEM Degrees: Increase the number of students who enroll in STEM majors, complete STEM credentials or degree programs, or are prepared to enter STEM careers or advanced education;
- STEM Careers: Prepare people to enter STEM workforce with training or certification (where STEM discipline specific knowledge and skill are the primary focus of the education investment)
- STEM System Reform: Improve STEM education through a focus on education system reform;
- Institutional Capacity: Support advancement and development of STEM personnel, programs, and infrastructure in educational institutions such as universities, informal education institutions, state education agencies, and local education agencies; or
- Education Research and Development: Develop evidence-based STEM education models and practices.

For the purposes of this inventory **do not enter** information about STEM education that **primarily:**

- Provides post-doctoral research fellowships/scholarships;
- Focuses on subjects other than STEM or includes STEM as one of many possible focal subjects (more than two other non-STEM areas);
- Supports one-time or ad hoc STEM education investments;
- Involves engagement in volunteer activities (e.g. judging STEM competitions, and visiting classrooms);

- Provides outreach for education (raising awareness of education programs) or communication (providing information through various media);
- Relates to STEM education products that are no longer part of a funded education investment;
- Focuses on broad education system reform and does not have a primary focus on improving STEM education
- Does not support specific knowledge, interest, or skills specific to STEM disciplines.

Education Investment: Within and across federal agencies there are different definitions of a program, project, and/or activity. To avoid confusion, please report information on all *education investments*. An education investment has a dedicated budget for education of more than \$300K (potentially part of a budget for a larger program, but excluding a one-time or irregular expenditure of overhead funds), staff to manage the budget, and was funded in FY 2010.

INVENTORY QUESTIONNAIRE
Section 1: Education Investment Background Information

Please provide the requested background information on the education investment.

Investment Name: []
 Agency: []
 Sub Agency: []
 Investment ID:¹ (ID assigned by agency for tracking or other purposes) []
 Catalogue of Federal Domestic Assistance: []

1.1. **Please give a brief description of the education investment and its objectives.**

1.2. **Provide the Web address for the education investment, if one exists.**

1.3. **Provide contact information for up to two managers/directors of the education investment.**

Name: _____	Name: _____
E-mail: _____	E-mail: _____
Office phone: _____	Office phone: _____

1.4. **What core expertise could the education investment’s staff share with other federal agency education staff? (check all that apply)**

	Yes		Yes
Instructional material development	<input type="checkbox"/>	Alignment of materials to education standards	<input type="checkbox"/>
Instructional material implementation	<input type="checkbox"/>		
Professional development design and implementation	<input type="checkbox"/>	Development of logic models or theories of action	<input type="checkbox"/>
Promotional campaigns for education products	<input type="checkbox"/>		<input type="checkbox"/>
STEM teaching and learning research	<input type="checkbox"/>	Establish connection between the formal and informal education systems	<input type="checkbox"/>
Evidence based instructional practices K-12	<input type="checkbox"/>	Leverage funding from federal and non-federal entities	<input type="checkbox"/>
Higher education	<input type="checkbox"/>		
Informal education	<input type="checkbox"/>	Scale up effective efforts	<input type="checkbox"/>
Teacher professional development	<input type="checkbox"/>	Identify and connect to subject matter expertise	<input type="checkbox"/>
Evaluation			
Formative evaluation	<input type="checkbox"/>	Establish and maintain partnerships with:	
Summative evaluation	<input type="checkbox"/>	Other federal agencies	

¹ May not be applicable to all agencies.

Portfolio evaluation	<input type="checkbox"/>	Schools or school systems	<input type="checkbox"/>
Evaluation of informal education	<input type="checkbox"/>	Non-federal companies or organizations	<input type="checkbox"/>
Process or implementation evaluation	<input type="checkbox"/>	Minority institutions	<input type="checkbox"/>
Tutoring or mentoring	<input type="checkbox"/>	Request for proposals development	<input type="checkbox"/>
Engage agency staff in outreach efforts	<input type="checkbox"/>	Peer-review best practices	<input type="checkbox"/>
Use of social media/social network tools	<input type="checkbox"/>	Conduct proposal merit review section process	<input type="checkbox"/>
Run STEM competitions	<input type="checkbox"/>	Other : _____	<input type="checkbox"/>
Design efforts for minority, high needs, or underserved populations	<input type="checkbox"/>		

1.5. What issues or topics would you like to learn more about through conversation with experts or groups of experts from your or other agencies? (check all that apply)

	Yes		Yes
Instructional material development	<input type="checkbox"/>	Alignment of materials to education standards	<input type="checkbox"/>
Instructional material implementation	<input type="checkbox"/>		
Professional development design and implementation	<input type="checkbox"/>	Development of logic models or theories of action	<input type="checkbox"/>
Promotional campaigns for education products	<input type="checkbox"/>		<input type="checkbox"/>
STEM teaching and learning research	<input type="checkbox"/>	Establish connection between the formal and informal education systems	<input type="checkbox"/>
Evidence based instructional practices K-12	<input type="checkbox"/>	Leverage funding from federal and non-federal entities	<input type="checkbox"/>
Higher education	<input type="checkbox"/>		
Informal education	<input type="checkbox"/>	Scale up effective efforts	<input type="checkbox"/>
Teacher professional development	<input type="checkbox"/>	Identify and connect to subject matter expertise	<input type="checkbox"/>
Evaluation			
Formative evaluation	<input type="checkbox"/>	Establish and maintain partnerships with:	
Summative evaluation	<input type="checkbox"/>	Other federal agencies	
Portfolio evaluation	<input type="checkbox"/>	Schools or school systems	<input type="checkbox"/>
Evaluation of informal education	<input type="checkbox"/>	Non-federal companies or organizations	<input type="checkbox"/>
Process or implementation evaluation	<input type="checkbox"/>	Minority institutions	<input type="checkbox"/>
Tutoring or mentoring	<input type="checkbox"/>	Request for proposals development	<input type="checkbox"/>
Engage agency staff in outreach efforts	<input type="checkbox"/>	Peer review best practices	<input type="checkbox"/>
Use of social media/social network tools	<input type="checkbox"/>	Conduct proposal merit review section process	<input type="checkbox"/>
Run STEM competitions	<input type="checkbox"/>	Other _____	<input type="checkbox"/>
Design efforts for minority, high needs, or underserved populations	<input type="checkbox"/>		

Section 2: Descriptive Education Investment Information

Please provide the requested background information on the education investment

- 2.1. **Is this education investment designed to develop or train the STEM workforce of your agency or the STEM workforce in fields directly related to your agency's mission (e.g., aerospace engineering, national security science, nuclear regulatory science)?** Workforce development programs include investments such as graduate scholarships, undergraduate internships, or institutional capacity building only when the investments are in fields or degrees tightly aligned to your agency's mission. We assume that nearly all postsecondary STEM education investments by mission agencies will be categorized as workforce investments (If yes skip to Section 5: STEM workforce training)

Yes: (skip to Section 5)

No: (Continue to 2.2)

- 2.2. **What are the primary and secondary objectives of the education investment?** (Please select only one primary objective. You may select multiple secondary objectives if appropriate. The primary objective of the education investment characterizes the primary desired outcome, or is the basis for evaluating the education investment under ideal circumstances. A secondary objective is an objective that contributes to accomplishing the outcomes of the education investment and it may or may not be desirable to evaluate whether the secondary objective is being achieved.)

	Primary Objective	Secondary Objective
<u>Learning</u> : Develop STEM skills, practices, or knowledge of students or the public	<input type="checkbox"/>	<input type="checkbox"/>
<u>Engagement</u> : Increase learners' engagement, interest in STEM and their perception of its value to their lives, or their ability or participate in STEM.	<input type="checkbox"/>	<input type="checkbox"/>
<u>Pre and In Service Educator/Education Leader Performance</u> : Train or retain STEM educators (K-12 pre-service or in-service, post-secondary, and informal) and education leaders to improve the content knowledge and pedagogical skills of STEM educators.	<input type="checkbox"/>	<input type="checkbox"/>
<u>Post-Secondary STEM Degrees</u> : Increase the number of students who enroll in STEM majors, complete STEM credentials or degree programs, or are prepared to enter STEM careers or advanced education.	<input type="checkbox"/>	<input type="checkbox"/>
<u>STEM Careers</u> : Prepare people to enter STEM workforce with training or certification (where STEM discipline specific knowledge and skill are the primary focus of the education investment; STEM educator training and development investments should select the <i>Pre and In Service Educator/Education Leader Performance</i> objective listed above)	<input type="checkbox"/>	<input type="checkbox"/>
<u>Institutional Capacity</u> : Support advancement and development of STEM personnel, programs, and infrastructure in educational institutions such as universities, informal education institutions, state education agencies, and local education agencies.	<input type="checkbox"/>	<input type="checkbox"/>
<u>STEM System Reform</u> : Improve STEM education through a focus on education system reform	<input type="checkbox"/>	<input type="checkbox"/>
<u>Education Research and Development</u> : Develop evidence-based STEM education models and practices.	<input type="checkbox"/>	<input type="checkbox"/>
<u>Other</u> : _____	<input type="checkbox"/>	<input type="checkbox"/>

- 2.3. We are interested in where this STEM education investment falls on the R & D

continuum. The STEM education R & D continuum can be conceived as being composed of five categories: Basic/foundational education research; Disciplinary education research; Small scale program implementation, Building capacity of people or organizations; and Large scale development. Some education investments may fall squarely in one of these categories or cut across various categories. **Please identify where your education investment primarily falls on the R & D continuum, and what other categories it also covers.** (Check one per row)

	Primary Approach	Secondary Approach	Not a Primary or Secondary Approach
<u>Basic Education Research</u> : on STEM learning, teaching, or education practices/materials/technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Disciplinary Learning and Teaching</u> : research and development interwoven to improve STEM learning and teaching, within a single STEM discipline or across specific disciplines (e.g. learning trajectories research)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Small-Scale Implementing</u> : techniques, models, resources, and/or technologies used with a relatively small group of learners or educators in one or several (<10) classrooms, museums, schools, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Building Capacity of People or Organizations</u> : development of human and institutional capacity to develop, test, adapt and implement effective STEM education work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Large Scale Deploying</u> : techniques, models, resources, and/or technologies implemented at the state, regional, or national scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.4. **What services or products are part of the education investment?** (check all that apply)

	Yes
Direct classroom instruction to students	<input type="checkbox"/>
Instructional material development	<input type="checkbox"/>
Online education resource sites (e.g., online digital libraries)	<input type="checkbox"/>
Fellowship or scholarships (for educators or students)	<input type="checkbox"/>
Internship (short-term STEM employment)	<input type="checkbox"/>
Recognition awards	<input type="checkbox"/>
STEM competition	<input type="checkbox"/>
Engagement in authentic STEM experience (including research)	<input type="checkbox"/>
STEM learning program (i.e., after-school, weekend, or summer program)	<input type="checkbox"/>
Tutoring, mentoring, or other learner support	<input type="checkbox"/>
Training or professional development	<input type="checkbox"/>

- Loan forgiveness
- Education research to improve STEM teaching and learning
- Assessment implementation
- Assessment development
- Institutional support for infrastructure (to strengthen STEM education capabilities through expansion of facilities, classrooms, technology, and other physical infrastructure)
- Institutional support for leadership, management, and administrative activities
- Other: _____

2.5. **Who is the PRIMARY target audience or beneficiary of this investment?** (check all that apply)

<u>Audience or Beneficiary Type</u>	Yes	<u>Audience or Beneficiary Type</u>	Yes
Pre-K-20 learners	<input type="checkbox"/>	K-12 staff/ leaders/ administrators	<input type="checkbox"/>
Pre-K	<input type="checkbox"/>	Pre-K	<input type="checkbox"/>
Elementary (K-5)	<input type="checkbox"/>	Elementary (K-5)	<input type="checkbox"/>
Middle (6-8)	<input type="checkbox"/>	Middle School (6-8)	<input type="checkbox"/>
High school (9-12)	<input type="checkbox"/>	High School (9-12)	<input type="checkbox"/>
Undergraduate (13-16)	<input type="checkbox"/>		
Graduate (17-20)	<input type="checkbox"/>		
K-12 Classroom Teachers	<input type="checkbox"/>	Post-secondary instructors	<input type="checkbox"/>
Pre-service pre-K	<input type="checkbox"/>	Undergraduate (13-16)	<input type="checkbox"/>
Pre-service elementary school (K-5)	<input type="checkbox"/>	Graduate (17-20)	<input type="checkbox"/>
Pre-service middle school (6-8)	<input type="checkbox"/>	Post Graduate	<input type="checkbox"/>
Pre-service high school (9-12)	<input type="checkbox"/>	Post-secondary	<input type="checkbox"/>
In-service pre-K	<input type="checkbox"/>	deans/leaders/administrators	
In-service elementary (K-5)	<input type="checkbox"/>	Undergraduate	<input type="checkbox"/>
In-service middle school (6-8)	<input type="checkbox"/>	Graduate	<input type="checkbox"/>
In-service high school (9-12)	<input type="checkbox"/>	Post Graduate	<input type="checkbox"/>
Adult learners (other than educators, education, leaders, education researchers or policy makers)	<input type="checkbox"/>	Informal STEM Educators	<input type="checkbox"/>
Education researchers	<input type="checkbox"/>	Informal STEM education leaders/program developers	<input type="checkbox"/>
		Other _____	<input type="checkbox"/>

2.6. **Does the education investment primarily focus on underrepresented, underserved, or high needs groups in STEM fields (as opposed to targeting the**

entire population with importance attached to serving underrepresented groups)?
(check all that apply)

- | | |
|---|--------------------------|
| | Yes |
| Traditionally underrepresented or underserved groups (and not focused on a specific group; should not select any items below) | <input type="checkbox"/> |
| Hispanic or Latino | <input type="checkbox"/> |
| Black or African American | <input type="checkbox"/> |
| Native Hawaiian / Other Pacific Islander | <input type="checkbox"/> |
| American Indian / Alaska Native | <input type="checkbox"/> |
| Economically disadvantaged | <input type="checkbox"/> |
| Female | <input type="checkbox"/> |
| Male | <input type="checkbox"/> |
| Persons with disabilities | <input type="checkbox"/> |
| Rural | <input type="checkbox"/> |
| Urban | <input type="checkbox"/> |
| Other [Audience] | <input type="checkbox"/> |
| Not applicable | <input type="checkbox"/> |

2.7. Is this investment limited to any of the following (check all that apply)?

- U.S. citizens
- Permanent residents
- Nationals (persons born in or having ties with an outlying possession of the United States, such as American Samoa)
- No

2.8. How many students, educators, researchers, or other individuals are served by the education investment each year? (Provide information for all years where data are available and only in the categories in which numbers served are tracked; insert *Don't know* if the numbers served in a particular category are tracked but you do not have access to that information; insert n/a if this information was not collected in 2008, 2009, or 2010)

	FY 2008	FY 2009	FY 2010
PreK-12 students	_____	_____	_____
PreK-12 teachers and staff	_____	_____	_____
Undergraduate students	_____	_____	_____
Graduate students	_____	_____	_____
Postsecondary faculty and staff	_____	_____	_____

Informal educators and staff	_____	_____	_____
Non-faculty STEM professionals	_____	_____	_____
Parents or families	_____	_____	_____
Adult learners	_____	_____	_____

'How many institutions are served by the education investment each year? (Provide information for all years where data are available and only in the categories in which numbers served are tracked; select *Don't know* if the numbers served in a particular category are tracked but you do not have access to that information)'

	FY 2008	FY 2009	FY 2010
PreK-12 schools	_____	_____	_____
Postsecondary institutions	_____	_____	_____
Informal education institutions and organizations	_____	_____	_____

2.9. Does the education investment primarily or entirely fund Minority Institutions?

	Yes
All types of Minority Institutions	<input type="checkbox"/>
Historically Black Colleges or Universities	<input type="checkbox"/>
Hispanic-Serving Institutions	<input type="checkbox"/>
Alaska Native-Serving Institutions	<input type="checkbox"/>
Native Hawaiian-Serving Institutions	<input type="checkbox"/>
Tribal Colleges and Universities	<input type="checkbox"/>
No	<input type="checkbox"/>

2.10. **What is the duration of the education experience that was produced by the education investment?** (provide information on all that apply)

	Duration of ²	Don't know	n/a
Scholarship or fellowship	_____	<input type="checkbox"/>	<input type="checkbox"/>
Professional development	_____	<input type="checkbox"/>	<input type="checkbox"/>
Instructional materials (the duration of time that the materials are implemented for)	_____	<input type="checkbox"/>	<input type="checkbox"/>
STEM learning program (i.e., summer, weekend, after-school program)	_____	<input type="checkbox"/>	<input type="checkbox"/>
Student or teacher research experience	_____	<input type="checkbox"/>	<input type="checkbox"/>
Tutoring, mentoring, or other learner support	_____	<input type="checkbox"/>	<input type="checkbox"/>
Research grant	_____	<input type="checkbox"/>	<input type="checkbox"/>
Other <u>[insert activity type]</u>	_____	<input type="checkbox"/>	<input type="checkbox"/>

2.11. **Is the education investment targeted to a geographic region?** (all that apply)

Yes

National scope/not targeted to a geographic region

State List states: _____

Regional List regions: _____

Geographic areas Describe geographic areas: _____

Community surrounding federally funded research and development centers, military bases, etc. Describe community surrounding: _____

² There will be a drop down box to enter the range of duration of the experience (e.g. 1-3, 5-7) and a drop down box to indicate the unit of time (e.g. weeks, months, semesters, or years)

2.12. **What STEM fields does the education investment focus on?** (check all that apply)

- | | Yes |
|--|--------------------------|
| STEM (no specific subject or field required) | <input type="checkbox"/> |
| Science (no specific subject or field required) | <input type="checkbox"/> |
| Physical sciences (including physics, chemistry, astronomy, materials science) | <input type="checkbox"/> |
| Biological science | <input type="checkbox"/> |
| Earth, atmospheric, ocean, or planetary science | <input type="checkbox"/> |
| Agricultural science | <input type="checkbox"/> |
| Environmental science | <input type="checkbox"/> |
| Computer science | <input type="checkbox"/> |
| Technology (no specific subject or field required) | <input type="checkbox"/> |
| Engineering (no specific subject or field required) | <input type="checkbox"/> |
| Mathematics or statistics | <input type="checkbox"/> |
| Other [Insert Specific Focus (e.g., Defense Science)] | <input type="checkbox"/> |

Section 3: Education Funding Information

Please respond to these questions with information pertaining to the education investment's STEM activities *only*.

3.1. **What type of organization or individual is funded to implement the projects or activities under this education investment (e.g., conducts research, develops curricular resources, provides mentoring, or implements professional development)?** (check all that apply)

- | | Yes |
|---|--------------------------|
| Federally funded research and development centers, experimental stations, other federal STEM research facilities (e.g., marine sanctuaries) | <input type="checkbox"/> |
| Individuals (e.g., directly funded scholarships, grants, loans) | <input type="checkbox"/> |
| Four-year institutions of higher education (bachelor- and/or graduate-degree-granting institutions) | <input type="checkbox"/> |
| Two-year institutions of higher education or community colleges | <input type="checkbox"/> |
| State systems of higher education | <input type="checkbox"/> |
| State education agency or state government | <input type="checkbox"/> |
| School districts or school | <input type="checkbox"/> |
| Informal education institutions or organizations | <input type="checkbox"/> |
| Professional societies | <input type="checkbox"/> |
| Grants to STEM professionals or companies (e.g., education researchers, evaluation companies, non-federal STEM research labs) | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |

3.2. **How is external funding allocated?** (check all that apply)

- | | Yes |
|---------------------------------------|--------------------------|
| Formula (to government entities) | <input type="checkbox"/> |
| Competitive (grants or contracts) | <input type="checkbox"/> |
| Non-competitive (grants or contracts) | <input type="checkbox"/> |
| Other <u>[insert type]</u> | <input type="checkbox"/> |
| Not applicable | <input type="checkbox"/> |

3.3. **Would it require legislative action to change the direction of the education investment (OSTP is interested in knowing whether the education unit is tightly constrained by congressional legislation)?**

Yes No Don't know

3.4. **In what fiscal year was the investment initially funded?**

3.5. **How much federal funding was allocated to the education investment? (If the investment includes non-STEM education funding, report only the part of the budget dedicated to STEM education)**

FY 2008 (actual)	FY 2009 (actual)	FY 2010 (actual)	FY 2011 (planned)
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_____	_____	_____	_____
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3.6. **In FY 2010, did other federal agencies (or subagencies) or non-federal groups contribute funding to this investment?** (If you are aware of the amount that other agencies or groups contributed, please include that information. If this information is not readily available enter *Don't Know*; *Don't know* will probably be the response for the vast majority of the education investments.)

	Name	Amount (insert \$ or Don't know)
Federal agency 1	_____	_____
Federal agency 2	_____	_____
Federal agency 3	_____	_____
Federal agency 4	_____	_____
Non-federal group 1	_____	_____
Non-federal group 2	_____	_____
Non-federal group 3	_____	_____
Non-federal group 4	_____	_____
Not applicable	<input type="checkbox"/>	

3.7. **Are partnerships required or encouraged (e.g., investments where the proposal-review process is set up to rate applicants that include partnerships higher than applicants that do not include partnerships)?**

Required: Encouraged: Mixed No:

3.8. **If partnerships are required or encouraged, what type of groups do the funded organizations partner with?** (check all that apply)

Yes

- Four-year institutions of higher education (bachelor- and/or graduate-degree-granting institutions)
- Two-year institution of higher education or community college
- Minority institution (MI)
 - All types of Minority Institutions
 - Historically Black Colleges or Universities
 - Hispanic-Serving Institutions
 - Alaska Native-Serving Institutions
 - Native Hawaiian-Serving Institutions
 - Tribal Colleges and Universities
- State systems of higher education
- Local education agency
- State education agency
- School district or school
- Informal education institution or organization
- Professional society
- Education research, policy, or evaluation organizations
- Federal agency
- Federally funded research and development center, experimental station, or other federal STEM research facility (e.g. marine sanctuaries)
- Other [Insert Organization Type]
- Not applicable

Section 4: Evaluation Information

Please respond to these questions with information pertaining to the education investment's STEM activities *only*.

4.1. What outputs are measured? (check all that apply)

	Yes
Number of learners (any age) served	<input type="checkbox"/>
Number of educators served	<input type="checkbox"/>
Number of adults served	<input type="checkbox"/>
Number of K-12 schools served	<input type="checkbox"/>
Number of school districts served	<input type="checkbox"/>
Number institutions of higher education served	<input type="checkbox"/>
Number of materials distributed or downloaded from websites	<input type="checkbox"/>
Number of contact hours by audience	<input type="checkbox"/>
Hours of tutoring, mentoring, or other service provided	<input type="checkbox"/>
Number of degrees awarded	<input type="checkbox"/>
Other [Insert Organization Type]	<input type="checkbox"/>

4.2. What outcome measures have been tracked or monitored? (check all that apply)

	Yes
None	<input type="checkbox"/>
Learner performance (e.g., attendance, test scores, pass rates, achieving selected performance levels, or grade point average)	<input type="checkbox"/>
Number or percent of learners who pursue coursework in STEM fields	<input type="checkbox"/>
Learner educational attainment (includes obtaining a GED, high school diploma, or post-secondary degree)	<input type="checkbox"/>
Number or percent of learners who took a job in a STEM field	<input type="checkbox"/>
Educator improvement and performance in STEM education instruction	<input type="checkbox"/>
Number or percent of qualified educators teaching STEM education	<input type="checkbox"/>
Number or percent of institutions with expanded institutional capacity for STEM education (increase in classes, educators, research opportunities for learners, infrastructure, etc.)	<input type="checkbox"/>
Number or percent of research projects funded to enhance the quality of STEM education programs	<input type="checkbox"/>
Number or percent of recommendations implemented to enhance the quality of STEM programs	<input type="checkbox"/>
Other outcome(s): _____	<input type="checkbox"/>

4.3. What measurement instruments (e.g., SAT scores, dropout rates, standardized

educator observation instruments, self- or evaluator-developed instruments) are used to measure outcomes?

Measurement instrument 1: _____

Measurement instrument 2: _____

Measurement instrument 3: _____

4.4. What type of evaluation has this investment undergone since FY 2005? (check all that apply)

	Independent	Internal	No
Formative evaluation (including field testing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Summative evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Process or implementation evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portfolio evaluation/review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expert review (e.g., expert panel, NRC study)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.5. What evaluation designs have been used in the evaluations of this investment since FY 2005? (check all that apply)

	Independent	Internal	No
Randomized (experimental)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Matched comparison groups (quasi-experimental)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-post (no comparison group)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comparison group without matching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.6. In what fiscal year was the most recent evaluation completed? _____

4.7. Are evaluation reports available on line?

Yes: _____ No:

Section 5: STEM Workforce Investment (complete only if you answered “Yes” to Question 2.1)

Please respond to these questions with information pertaining to the investment’s STEM activities *only*.

5.1. What workforce needs does the investment PRIMARILY address?

Agency workforce needs (STEM workforce employed by your agency)

Agency mission related workforce needs (STEM workforce employed in fields directly related to your agency’s mission)

5.2. What are the primary and secondary objectives of the education investment?

(Please select only one primary objective. You may select multiple secondary objectives if appropriate. The primary objective of the education investment characterizes the primary desired outcome, or is the basis for evaluating the education investment under ideal circumstances. A secondary objective is an objective that contributes to accomplishing the outcomes of the education investment and it may or may not be desirable to evaluate whether the secondary objective is being achieved.)

	Primary Objective	Secondary Objective
<u>Learning</u> : Develop STEM skills, practices, or knowledge of students or the public	<input type="checkbox"/>	<input type="checkbox"/>
<u>Engagement</u> : Increase learners’ engagement, interest in STEM and their perception of its value to their lives, or their ability or participate in STEM.	<input type="checkbox"/>	<input type="checkbox"/>
<u>Pre and In Service Educator/Education Leader Performance</u> : Train or retain STEM educators (K-12 pre-service or in-service, post-secondary, and informal) and education leaders to improve the content knowledge and pedagogical skills of STEM educators.	<input type="checkbox"/>	<input type="checkbox"/>
<u>Post-Secondary STEM Degrees</u> : Increase the number of students who enroll in STEM majors, complete STEM credentials or degree programs, or are prepared to enter STEM careers or advanced education.	<input type="checkbox"/>	<input type="checkbox"/>
<u>STEM Careers</u> : Prepare people to enter STEM workforce with training or certification (where STEM discipline specific knowledge and skill are the primary focus of the education investment; STEM educator training and development investments should select the <i>Pre and In Service Educator/Education Leader Performance</i> objective listed above)	<input type="checkbox"/>	<input type="checkbox"/>
<u>Institutional Capacity</u> : Support advancement and development of STEM personnel, programs, and infrastructure in educational institutions such as universities, informal education institutions, state education agencies, and local education agencies.	<input type="checkbox"/>	<input type="checkbox"/>
<u>STEM System Reform</u> : Improve STEM education through a focus on education system reform	<input type="checkbox"/>	<input type="checkbox"/>
<u>Education Research and Development</u> : Develop evidence-based STEM education models and practices.	<input type="checkbox"/>	<input type="checkbox"/>
<u>Other</u> : _____	<input type="checkbox"/>	<input type="checkbox"/>

5.3. **What services or products are part of the education investment?** (check all that apply)

	Yes
Direct classroom instruction to students	<input type="checkbox"/>
Instructional material development	<input type="checkbox"/>
Online education resource sites (e.g., online digital libraries)	<input type="checkbox"/>
Fellowship or scholarships (for educators or students)	<input type="checkbox"/>
Internship (short-term STEM employment)	<input type="checkbox"/>
Recognition awards	<input type="checkbox"/>
STEM competition	<input type="checkbox"/>
Engagement in authentic STEM experience (including research)	<input type="checkbox"/>
STEM learning program (i.e., after-school, weekend, or summer program)	<input type="checkbox"/>
Tutoring, mentoring, or other learner support	<input type="checkbox"/>
Training or professional development	<input type="checkbox"/>
Loan forgiveness	<input type="checkbox"/>
Education research to improve STEM teaching and learning	<input type="checkbox"/>
Assessment implementation	<input type="checkbox"/>
Assessment development	<input type="checkbox"/>
Institutional support for infrastructure (to strengthen STEM education capabilities through expansion of facilities, classrooms, technology, and other physical infrastructure)	<input type="checkbox"/>
Institutional support for leadership, management, and administrative activities	<input type="checkbox"/>
Other: [Describe Activity, Service, Product]	<input type="checkbox"/>

5.4. **What STEM jobs or fields does the investment focus on?**

5.5. **Does the training investment develop STEM skills or knowledge?**

Yes No

5.6. **Which of the following target populations or groups primarily benefit from this investment?** (check all that apply)

<u>Audience or Beneficiary Type</u>	Yes	<u>Audience or Beneficiary Type</u>	Yes
Pre-6-20 learners	<input type="checkbox"/>	K-12 staff/ leaders/ administrators	<input type="checkbox"/>
Middle (6-8)	<input type="checkbox"/>	Middle School (6-8)	<input type="checkbox"/>
High school (9-12)	<input type="checkbox"/>	High School (9-12)	<input type="checkbox"/>
Undergraduate (13-16)	<input type="checkbox"/>	Post-secondary instructors	<input type="checkbox"/>
Graduate (17-20)	<input type="checkbox"/>	Undergraduate (13-16)	<input type="checkbox"/>
K-12 Classroom Teachers	<input type="checkbox"/>	Graduate (17-20)	<input type="checkbox"/>
Pre-service middle school (6-8)	<input type="checkbox"/>	Post Graduate	<input type="checkbox"/>
Pre-service high school (9-12)	<input type="checkbox"/>	Post-secondary deans/leaders/administrators	<input type="checkbox"/>
In-service middle school (6-8)	<input type="checkbox"/>	Undergraduate	<input type="checkbox"/>
In-service high school (9-12)	<input type="checkbox"/>	Graduate	<input type="checkbox"/>
Adult learners (other than educators, education, leaders, education researchers or policy makers)	<input type="checkbox"/>	Post Graduate	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	Informal STEM Educators	<input type="checkbox"/>
		Informal STEM education leaders/program developers	<input type="checkbox"/>

5.7. **Does the education investment primarily focus on underrepresented, underserved, or high needs groups in STEM fields (as opposed to targeting the entire population with importance attached to serving underrepresented groups)?** (check all that apply)

	Yes
Traditionally underrepresented or underserved groups (and not focused on a specific group; should not select any items below)	<input type="checkbox"/>
Hispanic or Latino	<input type="checkbox"/>
Black or African American	<input type="checkbox"/>
Native Hawaiian / Other Pacific Islander	<input type="checkbox"/>
American Indian / Alaska Native	<input type="checkbox"/>
Economically disadvantaged	<input type="checkbox"/>
Female	<input type="checkbox"/>
Male	<input type="checkbox"/>
Persons with disabilities	<input type="checkbox"/>

- Rural
- Urban
- Other [Audience]
- No

5.8. **Is this investment limited to any of the following?** (check all that apply)

- U.S. citizens
- Permanent residents
- Nationals (people born in or having ties to an outlying possession of the United States, such as American Samoa)
- No

5.9. **Would it require legislative action to change the direction of the investment (OSTP is interested in knowing whether the education investment is tightly constrained by congressional legislation)?**

- Yes No Don't know

5.10. **What is the duration of the workforce training experience that was produced by the education investment?** (provide information on all that apply)

[insert duration of workforce training experience]

5.11. **In what fiscal year was the education investment initially funded?**

[insert year]

5.12. **How much federal funding was allocated to the education investment?**

FY 2008 (actual)	FY 2009 (actual)	FY 2010 (actual)	FY 2011 (planned)
_____	_____	_____	_____

5.13. **What impacts are measured?** (check all that apply)

- None
- Number of learners (any age) served
- Number of educators served
- Number of degrees or certificates earned
- Number of participants employed by your agency
- Number of participants employed in STEM fields
- Other _____

5.14. **How many students and/or institutions were supported by this investment?**

	FY 2008	FY 2009	FY 2010
Undergraduate Students	_____	_____	_____
Graduate Students	_____	_____	_____
Postsecondary institutions	_____	_____	_____
Other _____	_____	_____	_____