2023 PROGRESS REPORT ON THE IMPLEMENTATION OF THE FEDERAL SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM) EDUCATION STRATEGIC PLAN

A Report by the

WHITE HOUSE OFFICE OF SCIENCE AND TECHNOLOGY POLICY

April 2024

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The White House Office of Science and Technology Policy (OSTP) was established by the *National Science and Technology Policy, Organization, and Priorities Act of 1976* to provide the President and others within the Executive Office of the President with advice on the scientific, engineering, and technological aspects of the economy, national security, homeland security, health, foreign relations, the environment, and the technological recovery and use of resources, among other topics. OSTP leads interagency science and technology policy coordination efforts, assists the Office of Management and Budget with an annual review and analysis of federal research and development in budgets, and serves as a source of scientific and technological analysis and judgment for the President with respect to major policies, plans, and programs of the federal government. More information is available at http://www.whitehouse.gov/ostp.

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About the Committee on STEM Education

The Committee on STEM Education (CoSTEM) was established pursuant to the requirements of Section 101 of the *America COMPETES Reauthorization Act of 2010* (42 U.S.C. §6621). In accordance with the *Act*, the Committee reviews science, technology, engineering, and mathematics (STEM) education programs, investments, and activities, and the respective assessments of each, in federal agencies to ensure that they are effective; coordinates, with the Office of Management and Budget, STEM education programs, investments, and activities throughout the federal agencies; and develops and implements through the participating agencies a STEM education strategic plan, to be updated every five years. The Federal Coordination in STEM Education Subcommittee (FC-STEM) is a subcommittee of the NSTC Committee on STEM Education (CoSTEM). FC-STEM advises and assists CoSTEM and serves as a forum to facilitate the formulation and implementation of the strategic plan.

About this Document

The intent of this progress report is to provide Congress and the wider STEM education stakeholder community with an update on the federal activities that occurred from Spring 2022 to Spring 2023. This progress report includes: a summary of CoSTEM progress on the implementation of the current 5-year STEM education strategic plan, a description of the ways federal agencies work together to address common challenges, and an inventory of federal STEM education programs. This annual report includes actual investments for FY2022, estimated investments for FY2023, and requested funding levels for FY2024.

Copyright Information

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[1] 17 U.S.C. §105 (a)

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Table of Contents

<div style="border:2px solid #1a2a5c; background:#12275c; color:#fff; text-align:center;">

SPECIAL CALL OUTS:

Computational Literacy (Pg. 5)

Veterans and Military Spouses (Pg. 10)

Federal Program Performance/Data (Pg. 17)

Space-Related STEM Education and Workforce (Pg. 33)

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Abbreviations and Acronyms

AEOP	DOD Army Educational Outreach Program
AFRL	DOD Air Force Research Laboratory
APHIS	USDA Animal and Plant Health Inspection Service
BIO	NSF Directorate for Biological Sciences
CCLC	21st Century Community Learning Centers Program
CDC	HHS Centers for Disease Control and Prevention
CESER	DOE Office of Cybersecurity, Energy Security, & Emergency Response
CISE	NSF Directorate for Computing and Information Science and Engineering
CNCS	Corporation for National and Community Service
COE	Center of Excellence
CoSTEM	Committee on STEM Education
CWMD	DHS Countering Weapons of Mass Destruction
DAF	DOD Department of Air Force
DASA (R&T)	DOD Deputy Assistant Secretary of the Army for Research and Technology
DHS	Department of Homeland Security
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOL	Department of Labor
DON ONR	DOD Department of the Navy Office of Naval Research
DOS	Department of State
DOT	Department of Transportation
DSEC	Defense Science, Technology, Engineering, and Mathematics Education Consortium
DTRA	DOD Defense Threat Reduction Agency

EASE	NSF Excellence Awards in Science and Engineering
ECR	NSF EDU Core Research
ED	Department of Education
ED	DOE Office of Economic Impact & Diversity
EDA	DOC Economic Development Administration
EDMAP	USGS Educational Mapping Program
EE	EPA Office of Environmental Education
EERE	DOE Office of Energy Efficiency and Renewable Energy
EDU	NSF Directorate for STEM Education
EM	DOE Office of Environmental Management
ENG	NSF Directorate for Engineering
EPA	U.S. Environmental Protection Agency
ETA	DOL Employment and Training Administration
FAA	DOT Federal Aviation Administration
FC-STEM	Federal Coordination in STEM Education Subcommittee
FDA	HHS Food and Drug Administration
FE	DOE Office of Fossil Energy
FECM	DOE Fossil Energy and Carbon Management
FEMP	DOE Federal Energy Management Program
FHWA	DOT Federal Highway Administration
FRA	DOT Federal Railroad Administration
HBCU	Historically Black College and University
HBCU-UP	NSF Historically Black Colleges and Universities – Undergraduate Program
HHS	Department of Health and Human Services
HRSA	HHS Health Resources & Services Administration
HUD	Department of Housing and Urban Development
HSI	Hispanic-Serving Institution

IE	DOE Office of Indian Energy Policy and Programs
IES	ED Institute of Education Sciences
IMLS	Institute of Museum and Library Services
IT	Information Technology
IWG	Interagency Working Group
MDA	DOD Missile Defense Agency
MPS	NSF Directorate for Mathematical andPhysical Sciences
MSI	Minority-Serving Institution
MUREP	NASA Minority University Researchand Education Project
NASA	National Aeronautics and Space Administration
NCEAI	National Council for Expanding American Innovation
NE	DOE Office of Nuclear Energy
NIFA	USDA National Institute of Food and Agriculture
NIH	HHS National Institutes of Health
NIST	DOC National Institute of Standards andTechnology
NNSA	DOE National Nuclear Security Administration
NOAA	DOC National Oceanic and AtmosphericAdministration
NPS	DOI National Park Service
NSA	DOD National Security Agency
NRC	U.S. Nuclear Regulatory Commission
NSF	U.S. National Science Foundation
NSF INCLUDES	NSF's Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering andScience Initiative (Renamed Eddie Bernice Johnson INCLUDES Initiative, Fall 2022)
NSTC	National Science and Technology Council
OA	EPA Office of Administration

ODASART	DOD Office of the Deputy Assistant Secretary of the Army for Research &Technology
OE	DOE Office of Electricity
OESE	ED Office of Elementary and Secondary Education
OIA	NSF Office of Integrative Activities
OISE	NSF Office of International Science and Engineering
OMB	Office of Management and Budget
ONCD	Office of the National Cyber Director
ONR	DOD Office of Naval Research
OPE	ED Office of Postsecondary Education
OPM	U.S. Office of Personnel Management
ORD	EPA Office of Research and Development
OSTEM	NASA Office of STEM Engagement
OSTP	Office of Science and TechnologyPolicy
OUSD (R&E)	DOD Office of the Under Secretary ofDefense for Research and Engineering
USD P&R/M&RA	DOD Under Secretary of Defense for Personnel & Readiness/ Manpower & Reserve Affairs
PPP	Public-private partnerships
R&D	Research and development
REL	ED Regional Education Laboratory
RES	NRC Office of Nuclear Regulatory Research
RFI	Request for Information
S&T	DHS Science and Technology
SBA	Small Business Administration
SBCR	NRC Small Business and Civil Rights Office
SBIR	SBA Small Business Innovation ResearchProgram
SC	DOE Office of Science
SI	Smithsonian Institution

SMD	NASA Science Mission Directorate	**USDA**	Department of Agriculture
STEM	Science, technology, engineering, and mathematics	**USGS**	DOI United States Geological Survey
STTR	SBA Small Business Technology Transfer Program	**USPTO**	DOC United States Patent and Trademark Office
TCU	Tribal College and University	**VA**	Department of Veterans Affairs
TCUP	NSF Tribal Colleges and Universities Program	**VBA**	Veterans Benefits Administration

Introduction

The Biden-Harris Administration believes that the fields of science, technology, engineering, and mathematics are critical to the prosperity, security, and health of our nation. Science, technology, engineering, and mathematics (STEM) are the foundation for discovery and innovation. STEM skills are increasingly important to succeed in the workplace and in everyday life. To foster development of these skills, the nation must engage in a collaborative effort to ensure that everyone has access to high-quality STEM education throughout their lifetimes. A focus on diversity, equity, inclusion, and accessibility in STEM requires opening opportunities across education and career pathways. This effort is especially important for those who are underrepresented and underserved in STEM. A well-prepared and diverse STEM workforce is essential to maintain U.S. global leadership, accelerate tomorrow's breakthroughs, and strengthen America's economic and national security.

In December 2018, the National Science and Technology Council (NSTC) Committee on STEM Education (CoSTEM) released *Charting a Course for Success: America's Strategy for STEM Education*,[2] a five-year STEM education strategic plan, hereafter referred to as the Strategic Plan.

Federal agencies engaged in STEM education implemented the Strategic Plan, under the guidance of CoSTEM and its Federal Coordination in STEM Education (FC-STEM) Subcommittee. This progress report describes ongoing efforts and implementation practices across the federal government as it works to accomplish the goals and objectives of the Strategic Plan. This report also compiles budget information from all federal agencies that have STEM education investments during Fiscal Year (FY) 2022. Additionally, this document fulfills the requirement of the *America COMPETES Reauthorization Act of 2010 (*42 U.S.C. §6621)[3] that the Office of Science and Technology Policy (OSTP) transmit a report to Congress providing an update on the performance of the federal STEM education portfolio and an inventory of federal STEM education investments.

The Five-Year Federal STEM Education Strategic Plan

The 2018 Strategic Plan presented a vision for a future in which all Americans will have lifelong access to high-quality STEM education and the United States will remain the global leader in STEM literacy, innovation, and employment.

The Strategic Plan focused on three overarching goals:[4]

Build Strong Foundations for STEM Literacy by ensuring that every American has the opportunity to master basic STEM concepts and to become digitally literate.

Increase Diversity, Equity, and Inclusion in STEM by providing all Americans with lifelong access to high-quality STEM education, especially those historically underrepresented and underserved in STEM fields and employment.

Prepare the STEM Workforce for the Future by creating authentic learning experiences—for both college-educated STEM practitioners and those working in skilled trades that do not require a four-year degree—that encourage and prepare learners to pursue STEM careers.

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[2] https://trumpwhitehouse.archives.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf
[3] https://uscode.house.gov/view.xhtml?req=(title:42%20section:6621%20edition:prelim
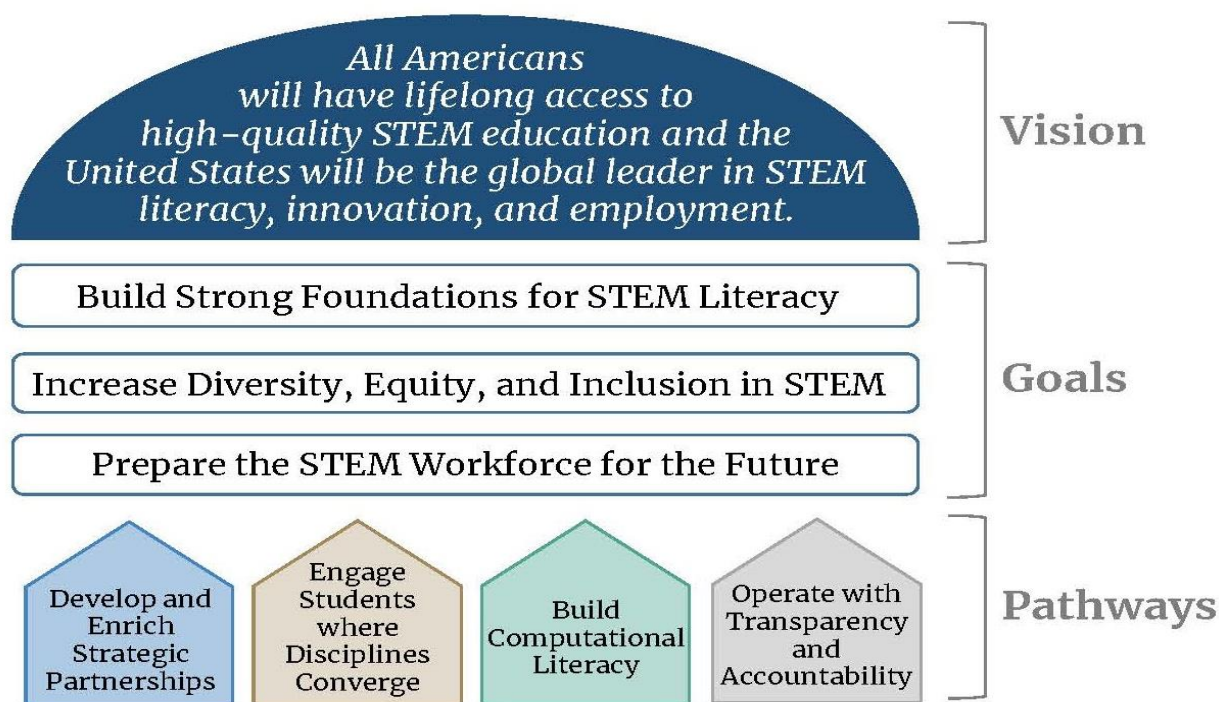[4] Reflects overarching goals updated in 2021.

Image 1. Schematic illustrating the organizational structure of the Federal STEM Education Strategic Plan released in December 2018. The Strategic Plan's vision was supported by three aspirational goals. Four pathways guided efforts by the federal government and the wider STEM education community to realize the Strategic Plan's vision and goals.

The Strategic Plan was further organized around four pathways, representing a cross-cutting set of approaches to improve STEM education that helped fulfill its vision and achieve its goals:

Develop and Enrich Strategic Partnerships – Strengthen relationships among educational institutions, industry, and community organizations to leverage resources for the purpose of providing students with meaningful learning opportunities.

Engage Students where Disciplines Converge – Draw on knowledge and methods across disciplines to solve complex, real-world problems in STEM using innovation, creativity, and initiative.

Build Computational Literacy – Design integrated approaches to teaching and learning computational thinking and promote the expansion of digital platform use.

Operate with Transparency and Accountability – Develop and apply metrics that assess implementation progress in meaningful ways.

Interagency Efforts in Support of the Strategic Plan

CoSTEM is the highest-level interagency body in the federal government devoted to STEM education. It oversees coordination of STEM education programs across the government and, every five years, creates a Strategic Plan. The Federal Coordination in STEM Education Subcommittee (FC-STEM)

oversees and leads the implementation of the Federal STEM Education Strategic Plan, facilitates the development of other interagency STEM education efforts, and advises CoSTEM on the development and progress of collaborative work in STEM education across the federal science agencies.

In FY2019, CoSTEM developed an implementation structure (four interconnected interagency working groups) to support work toward the goals and objectives of the Strategic Plan. FC-STEM oversees six interagency working groups (IWGs) and two interagency communities of practice (CoPs) that: facilitate the implementation of the Federal STEM Education Strategic Plan; support the execution of CoSTEM's Congressional mandates; and enable information-sharing across the federal STEM education community. The IWGs are organized by the Strategic Plan's four pathways. A fifth IWG, the Interagency Working Group on Inclusion in STEM (IWGIS), was chartered by NSTC in fulfillment of Section 308 of the *American Innovation and Competitiveness Act (*42 U.S.C. 6626).[5] A sixth IWG was formed in 2020 in response to Section 3 of the *Supporting Veterans in STEM Careers Act (*42 USC 1862*t*).[6]

FC-STEM supports the development and finalization of documents and reports that are produced across the CoSTEM community, including the annual CoSTEM Progress Report and reports developed by the IWGs. Additionally, FC-STEM facilitates the execution of an annual data call, used to develop the CoSTEM Progress Report and better understand and coordinate the federal STEM education portfolio. FC-STEM's collaborative community strengthens connections between agencies, enabling cooperative problem solving and the sharing of promising practices across agencies with federal STEM programs.

Interagency Working Groups (IWGs)

This report captures activities carried out by the IWGs from Spring 2022 to Spring 2023. Four of the IWGs — Computational Literacy, Convergence, Strategic Partnerships, and Transparency & Accountability — concentrated their efforts on one of each of the four pathways outlined in the Strategic Plan. A fifth IWG, the Interagency Working Group on Inclusion in STEM (IWGIS) supported the goal of increasing diversity, equity, and inclusion in STEM. The sixth IWG on Veterans and Military Spouses in STEM supported the representation and equity of veterans and military spouses in STEM fields and careers.

The six IWGs coordinated to ensure they produced complementary efforts to further the goals, pathways, and objectives of the Strategic Plan. The sections that follow provide an overview of the foci for each IWG and an overview of the work that the agencies, through the IWGs, prioritized and pursued collaboratively.

Interagency Working Group to Engage Students where Disciplines Converge (Convergence IWG (IWGC))

Participating Agencies: *DOC, DOD, DOE, ED, NASA, NSF, OSTP, and SI*

Focus of the IWG: When incorporated into STEM teaching, learning, and assessment, real world STEM challenges engage students by drawing on knowledge and methods from across disciplines by

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[5]https://uscode.house.gov/view.xhtml?path=&req=Interagency+Working+Group+Inclusion+STEM&f=treesort&fq=true&num=7&hl=true&edition=prelim

[6]https://uscode.house.gov/view.xhtml?req=Supporting+Veterans+in+STEM+Careers+Act&f=treesort&fq=true&num=5&hl=true&edition=prelim&granuleId=USC-prelim-title42-section1862t

promoting initiative and creativity. To encourage transdisciplinary learning, the IWGC established a plan to review existing efforts to: support STEM educators and students through upskilling, resourcing, and providing a forum to share best practices; support the dissemination of effective transdisciplinary STEM education practices and programs to attract a more diverse and inclusive community of participants; and expand support for STEM learners to study transdisciplinary problems through internships, fellowships, scholarships, and other experiential learning opportunities.

Actions Taken Toward Implementation: A report,[7] developed by the IWGC and released in November 2022, served as the basis for an outreach campaign to promote the awareness and implementation of convergence education. Engagements during the time frame of this progress report included:

- An interactive presentation by a panel of federal representatives on federal STEM convergence education efforts during the May 2022 *Excellence Awards for Science and Engineering (EASE) Program* hosted in Washington, DC. This event celebrated the *Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM)* and the *Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST)* awardees. Two hundred and nine K–12 STEM teachers and 30 STEM mentors from all 50 states and four U.S. jurisdictions were honored at the event and participated in this professional development session.
- An interactive session, presented by a panel of federal educators and practitioners, titled "Convergence Education: A Framework to Help K–12 Science, Technology, Engineering, Arts, and Mathematics (STEAM) Educators Teach about Real-World Transdisciplinary Problems and Phenomena" was hosted as part of the 2022 *Smithsonian National Education Summit*.[8] The session had 1,447 registrants and 353 participants and is available online.[9] In conjunction with this engagement, a blog article in the Smithsonian Magazine,[10] titled "Teaching About Real-World, Transdisciplinary Problems and Phenomena through Convergence Education," was released to further amplify awareness of convergence education and corresponding federal efforts and resources.
- A hybrid webinar titled "Reimagining STEM Education: The Pathway to Convergence Education," presented by federal STEM educators and practitioners in September 2022, as part of the Department of Education's STEM Briefings. The webinar had over 2,000 registrants, 600 live viewers, and 30 live attendees.
- A panel session, featuring federal representatives and educators, titled "Convergence Education and its Intersection with Invention Education,"[11] presented at the 2022 Invention Education Convening, hosted by the U.S. Patent and Trademark Office (USPTO).

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[7] https://www.whitehouse.gov/wp-content/uploads/2022/11/Convergence_Public-Report_Final.pdf
[8] https://www.si.edu/educators/national-education-summit-2022
[9] https://www.youtube.com/watch?v=noxrpTN2mqA
[10] https://www.smithsonianmag.com/blogs/smithsonian-education/2022/07/25/teaching-about-real-world-transdisciplinary-problems-and-phenomena-through-convergence-education/
[11] https://convening.inventioneducation.org/panels

On January 25, 2023, the IWGC convened leaders across government and academia to discuss the engagement of students where disciplines converge. The webinar,[12] entitled "Why Convergence Education? Preparing for the Future of STEM," aimed to: highlight resources from the recently released report developed by the IWGC; explore the transition of convergence education from theory to practice, with presentations from experts in research and practice; and feature examples of best (promising, emerging, and evidence-based) practices in convergence education and transdisciplinary learning.

Federal representatives provided remarks to showcase how convergence education is essential to the work and missions of various federal agencies. Panels also highlighted current research on convergence education and implementation and transdisciplinary learning. Over 100 individuals, including representatives from universities, land-grant institutions, and HBCUs as well as K–12 focused community-based organizations participated in the webinar. A summary of the research, examples of implementation, resources, and best practices is available online.[13]

These efforts fulfilled *2018 – 2023 Federal STEM Education Strategic Plan* objectives and key federal actions to advance innovation and entrepreneurship education and to encourage transdisciplinary learning.

Interagency Working Group to Build Computational Literacy (Computational Literacy IWG (IWGCL))

Participating Agencies: DOC, DOD, ED, NITRD, NSF, OSTP, SI, and USDA

Focus of the IWG: Federal agencies are well-positioned to help individuals of different ages and backgrounds harness digital technology and serve as critical and ethical participants in the digital economy. By developing integrated approaches to teaching and learning computational skills and supporting new digital technology-based learning environments, agencies support mission-critical goals, including promoting cyber safety and encouraging responsible data management. Federal agencies are in a unique position to foster computational literacy by creating internships and job opportunities.

Actions Taken Toward Implementation: The IWGCL published *Building Computational Literacy Through STEM Education: A Guide for Federal Agencies*,[14] a compendium

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COMPUTATIONAL LITERACY

Computational literacy is the ability to use information, information processing agents, digital assets, networking components, and applications and systems that, combined, allow people and organizations to interact in a digital world to solve problems, either individually or with a team; to draw meaning and reasonable conclusions from digital information in both personal and professional contexts; to safely, ethically, and securely use networks (wired and wireless) and data; and to understand how computing, data, and connectivity affects society.

For the full definition, please see the report, *Building Computational Literacy Through STEM Education: A Guide for Federal Agencies.*

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[12] https://www.whitehouse.gov/ostp/news-updates/2023/01/26/readout-federal-interagency-working-group-on-convergence-webinar/
[13] https://www.youtube.com/watch?v=60KA8HIKWvw
[14] https://www.whitehouse.gov/wp-content/uploads/2023/11/Building-Computational-Literacy-Through-STEM-Ed-Guide-for-Federal-Agencies-FINAL-PUBLIC.pdf

of research and best practices promoting computational literacy. The keystone of the report is the common definition of computation literacy (see sidebar; page 5). This report also highlights best practices regarding computational literacy for online learning; diversity, equity, inclusion, and accessibility; and integration of computational literacy in STEM education. The report also details how critical and emerging technologies, including artificial intelligence, cybersecurity, data science, advanced manufacturing, quantum information science, and the fields of computer science and engineering require computational literacy.

The IWGCL has met the goal of providing federal agencies with guidance on using the common definition to build computational literacy in STEM education. The DOC NICE[15] Program, led by NIST, included the objective to build computational literacy in its 2022 published National K12 Cybersecurity Education Roadmap[16] In 2023, the Office of the National Cyber Director released the National Cyber Workforce and Education Strategy that adopted the definition of computational literacy.[17] Possible future actions may include increasing educator professional development initiatives, providing broadband service to all Americans, supporting inclusive and equitable computational literacy-related tools and applications, and encouraging use of consistent language across all levels and types of educational opportunities. In addition, the IWGCL encourages the cultivation of an inclusive, computationally literate citizenry; the engagement of stakeholders, including civil society, education professionals, and students, on the role of computational literacy in a growing number of careers; and supporting development of transdisciplinary computational literacy content.

Interagency Working Group to Develop and Enrich Strategic Partnerships (Strategic Partnerships IWG (SP-IWG))

Participating Agencies: DOC, DOD, DOE, DHS, DOI, ED, EPA, NASA, NSF, OSTP, and SI

Focus of the IWG: Partnerships among federal agencies, educational institutions, employers, museums, and other community organizations to leverage resources and expertise across STEM education ecosystems to maximize the impact of educational efforts by providing authentic STEM experiences, seamless career and educational transitions, and opportunities for diverse mentorship.

Actions Taken Toward Implementation: In 2022, the Strategic Partnerships Interagency Working Group (SP-IWG) facilitated information sharing between member agencies and supporters of work-based learning (WBL) opportunities and models by hosting a webinar for federal agencies to share exemplary models of STEM education materials submitted by participants informed the development of a resource document for mentorship in STEM work-based learning opportunities for federal agencies.

These efforts build upon prior accomplishments by the SP-IWG. In FY2019 and FY2020, the SP-IWG surveyed members to identify partnerships, work-based learning opportunities, and models. In FY2020, the SP-IWG focused on information sharing to internal and external stakeholders. Partnering with the NSF Eddie Bernice Johnson INCLUDES National Network, formerly NSF INCLUDES, the SP-IWG presented three public webinars on federal internship opportunities. In addition, the IWG hosted or co-

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[15] https://www.nist.gov/itl/applied-cybersecurity/nice/about/frequently-asked-questions
[16] https://www.nist.gov/system/files/documents/2021/12/07/K12%20Roadmap_07122021.pdf
[17] https://www.whitehouse.gov/wp-content/uploads/2023/07/NCWES-2023.07.31.pdf

hosted three federal agency roundtables on topics related to models of work-based learning opportunities and STEM education ecosystems, and one interagency meeting on improving the way STEM is measured in the workforce and how STEM skills are defined.

Interagency Working Group to Operate with Transparency and Accountability (Transparency and Accountability IWG (IWGTA))

Participating Agencies: DOC, DOD, DOE, ED, EPA, HHS, NASA, NSF, OMB, OSTP, and USDA

Focus of the IWG: Across the federal STEM education enterprise, agencies are working to develop and apply metrics to assess progress in meaningful ways; identify and scale evidence-based practices; collect data on performance evaluations, program outcomes, and participation rates; and disseminate information to external stakeholders. The complexity of federal investments in STEM education requires nuanced approaches to address the requirements of the Strategic Plan. Effective implementation of a strategic plan requires the development of common terms and operational definitions, shared metrics, and performance evaluation approaches. The development of common and realistic metrics also requires consideration of available resources with the understanding that budgets vary widely across the inventory of federal STEM education investments.

Actions Taken Toward Implementation: In 2023, the Transparency and Accountability Interagency Working Group (IWGTA) focused on coding, analyzing, and synthesizing data on federal STEM investments from annual data calls. IWGTA analyzed investments and proposed modifications to questions for use in future data calls. Recommendations included reframing the purpose of the questions to better elicit information on the approaches that programs and activities employ to document, track, and assess as meaningful changes in rates of participation by members of subgroups and/or diversity, equity, inclusion, and accessibility outcomes associated with participation in federal STEM education investment activities.

From 2018 – 2023, IWGTA focused on exploring common metrics for assessing success with respect to the goal of increasing diversity, equity, and inclusion in STEM. Common metrics and shared measures across agencies and programs with similar aims can help assess what works in STEM education, for whom, and in what contexts. Such metrics and shared measures help to track progress and are essential to support cross-agency coordination and accountability in STEM education and is responsive to legislative requirements per Section 101 of the *America COMPETES Reauthorization Act of 2010*. In particular, the IWGTA developed: (1) a "toolkit" of resources for metrics commonly used in STEM education programs; (2) a document that compiles the various definitions of "underrepresented" used by federal agencies and programs, in general, and within the specific context of STEM to assist agencies with this reporting requirement, in conjunction with the Interagency Working Group on Inclusion in STEM (IWGIS); and (3) a common set of procedures that FC-STEM agencies can use to operationalize underrepresentation with respect to participation in programs and activities supported by STEM education investments, measure (under)representation (i.e., establish the extent to which specific subgroups are underrepresented at given points in time), and assess changes over time towards the goal of increasing diversity, equity, and inclusion in STEM education.

Interagency Working Group to Increase Diversity, Equity, and Inclusion in STEM (IWG on Inclusion in STEM (IWGIS))

Participating Agencies: DOC, DOD, DOE, DHS, DOI, DOS, DOT, ED, EPA, HHS, NSF, NASA, OSTP, SI, and USDA

Focus of the IWG: Increasing diversity, equity, and inclusion in STEM was one of the 2018 Strategic Plan's central goals. When an organization's workforce is diverse and provides an environment that values and leverages diversity and promotes equitable opportunities, the organization better retains talent and is more innovative and productive. Increasing equity, diversity, and inclusion are fundamental prerequisites for making high-quality STEM education accessible to all and will maximize the creative capacity of tomorrow's workforce.

Actions Taken Toward Implementation: Efforts toward diversity, equity, and inclusion in STEM across FC-STEM agencies are coordinated by the IWGIS.

In March 2022, the IWGIS, with support from the White House Office of Science and Technology Policy and in collaboration with OPM, organized a virtual roundtable workshop on *Inclusive Hiring Practices to Support the Recruitment and Selection of Federal STEM Talent*. The Roundtable included presenters and moderators from multiple agencies. In October 2022, a document summarizing takeaways was developed for agency use.

In November 2022, the IWGIS hosted the *Roundtable Preventing Harassment in Isolated Scientific Research Environments*. The roundtable convened leaders across government and academia to discuss efforts to prevent the harassment of those who work in remote research environments. A readout of the Roundtable[18] was later published online highlighting the topics covered by the Roundtable participants. The IWGIS developed and executed action plans related to federal research agency policies for caregivers to address cultural and institutional barriers to expanding the academic and federal STEM workforce.

Interagency Working Group to Support Veterans and Military Spouses in STEM (IWG on Veterans and Military Spouses in STEM)

Participating Agencies: DOD, ED, EPA, NSF, NASA, OSTP, OMB, OPM, SBA, and VA

Focus of the IWG: Develop and implement a plan to better support military spouses and veterans to be fully engaged in a mobile, highly technical, and malleable STEM workforce designed to advance our nation's global leadership and economic development by increasing the representation and equity of veterans and military spouses in STEM occupations and careers through targeted government programs that support access to STEM educational pathways and the development of skillsets portable across geographic regions.

Actions Taken Toward Implementation: The working group surveyed its agencies' programs to assess existing data collection efforts, the publication of that data, and plans to collect additional categories

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[18] https://www.whitehouse.gov/ostp/news-updates/2022/11/18/readout-of-the-national-science-and-technology-council-roundtable-on-preventing-harassment-in-isolated-scientific-research-environments/

of data. STEM-related programs focused on serving military members, veterans, and military spouses were assessed on multiple metrics across six categories of data: time in and since service; geographic location; education and career background; race, ethnicity, national origin, and sex; disability status; and program performance. This assessment will support interagency cooperation, coordination, and deconfliction of efforts to better enable veterans and military spouses to engage in STEM careers and occupations.

Engagement with the STEM Education Advisory Panel

The role of the STEM Education Advisory Panel is to provide advice and recommendations to CoSTEM, assess CoSTEM's progress in carrying out responsibilities related to the *America COMPETES Reauthorization Act of 2010*, and help identify opportunities to update the Federal STEM Education Strategic Plan. The final meeting of the STEM Education Advisory Panel took place September 29–30, 2022. Panel members heard remarks from agency leadership and were introduced to the Space STEM Task Force, the *CHIPS and Science Act*, and to the NSTC Subcommittee on Equitable Data. In addition, panel members heard about agency accomplishments towards the Strategic Plan and heard presentations from the IWGs; panel members had the opportunity to provide final reflections. Before the panel ended, members also suggested a new advisory committee or board be created to advise the new strategic plan.

Select Agency Highlights in Support of
<u>Veterans and Military Spouses in STEM</u>

The Environmental Protection Agency (EPA)'s most significant activity in the implementation of the *White House Strategic Plan to Improve Representation of Veterans and Military Spouses in STEM Careers* was the strategic partnership created with the **Department of Defense (DOD)** in becoming a preferred employer through a Memorandum of Understanding to participate in the DOD SkillBridge Internship Program. The DOD SkillBridge Internship Program affords veterans and military spouses an outstanding opportunity to experience an internship at the EPA and work alongside agency employees in STEM and non-STEM related career fields for up to 180 days. EPA strongly believes its adoption of the DOD SkillBridge Internship Program in 2022 will facilitate an increase in the number of veterans and military spouses in STEM who have shown an interest in a career at the EPA.

Since the release of the Strategic Plan, EPA has also participated in virtual and in-person veteran and military spouse focused career fairs, informational recruitment events, and utilized popular social media platforms to deliver information to veterans and military spouses about the STEM roles available at the agency. Additionally, EPA conducted outreach webinars throughout the year for transitioning service members, veterans, and military spouses.

The Department of Labor actively supported <u>Task Force Movement (TFM)</u> since its launch in 2022. TFM, an initiative chaired by former Congressman and veteran Hon. Patrick J. Murphy, serves to facilitate public-private partnerships to alleviate acute labor shortages by moving highly qualified transitioning service members, veterans, and spouses into in-demand jobs. This movement initially focused on the trucking industry and is now developing <u>pathways in cybersecurity</u>.

The Department of Veterans Affairs (VA) aimed to improve the GI Bill experience for GI Bill students, veterans, and service members and dependents by organizing conferences, visits, and events with a GI Bill Roadshow. The purpose of the GI Bill Roadshow was to share how VA is improving the GI Bill experience for GI Bill students, veterans, and service members. VA aims to expand opportunities for veterans and eligible family members to pursue their academic goals, enhance the nation's economic strength with innovative programs that support employment in high demand fields, and enrich lives by giving GI Bill beneficiaries the tools they need to further their education.

The U.S. National Science Foundation (NSF) offers several programs and initiatives to help veterans transition into a science and engineering career. Some of the NSF resources that support veterans wishing to enter a STEM career can be found here on this <u>Veterans Day Program Highlights</u> flyer and featured in this post, <u>NSF 101: Expanding pathways to STEM careers for veterans</u>.

Agency Actions in Support of Specific Strategic Plan Pathways

Agency Actions that Support the Pathway: Develop and Enrich Strategic Partnerships

STEM education ecosystems consist of multi-sector partners united by a collective vision of supporting participation in STEM through the creation of accessible, inclusive STEM learning opportunities spanning all education stages and career pathways. A STEM education ecosystem continuously evaluates its activities and adapts as needed, plans for the long term, and communicates its work to build broad support and advance best practices.[19]

The federal government advances the development of STEM education ecosystems through programs, investments, and activities that leverage partnerships. Partnerships between public and private entities provide opportunities to invest in and support STEM education programs and initiatives. Leveraging the best that each partner contributes allows for STEM education and workforce projects to be effective in supporting the nation's current and future workforce. Below are some of the ways agencies have supported this specific objective:

- **AmeriCorps:** In July 2022, the Biden-Harris Administration, led by AmeriCorps and the Department of Education, launched the National Partnership for Student Success (NPSS),[20] a public-private partnership with the Everyone Graduates Center at Johns Hopkins University. NPSS will help expand high-impact tutoring, mentoring, and other evidence-based support programs that help students succeed. The NPSS will bring together school districts, nonprofits, and higher education institutions to recruit, train, and place screened adults in high impact roles as tutors, mentors, student success coaches, integrated student support coordinators, and post-secondary education transition coaches, with the goal of ensuring an additional 250,000 adults serve in these roles over the next three years. Though not STEM-only, these adults will serve a critical role in ensuring all students have access to a strong foundation for STEM literacy, particularly in mitigating the impacts of COVID-19 on student performance on mathematics.

- **DOC/EDA:** EDA's Good Jobs Challenge program partnered with the Census Bureau to develop an innovative data tracking system which provides individual-level data on program outcomes. Results from this partnership will illustrate the feasibility for other federal investments to determine program evaluation results at the individual level while concurrently protecting participants' personally identifiable information.

- **DOC/NOAA:** NOAA is collaborating with the aquaculture industry, aquariums, and nonprofit groups to promote aquaculture literacy. In 2022, NOAA partnered with the North American Association for Environmental Education to award $148,618 to 10 projects across the country, reaching 825 students, over 700 educators, and over 500,000 visitors to aquariums and informal education institutions hosting aquaculture literacy exhibits.

- **DOC/USPTO:** The USPTO created in partnership with Urban Alliance the Intellectual Property Skills Work-Based Learning program to provide high school students with opportunities for integrated STEM learning, intellectual property awareness, invention education, entrepreneurship, and federal service. This paid work-based learning experience seeks to increase employability and development of intellectual property skills among historically excluded communities near the USPTO headquarters and its regional offices with a special focus on building a diverse next-generation workforce by providing job skills training, mentoring, and paid internships to high school youth. The USPTO's Council for Inclusive Innovation (CI2) created a paid Innovation

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[19] https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/Progress-Report-Federal-Implementation-STEM-Education-Strategic-Plan-Dec-2020.pdf

[20] https://www.partnershipstudentsuccess.org/

Internship Program to increase participation in the innovation ecosystem, which includes intellectual property (IP), by communities that are typically underrepresented. This Program aims to teach the next generation of innovators and entrepreneurs the value of protecting IP and encourage a more inclusive talent pipeline. The Program provides hands-on training to community college and university students.

- **DOD:** DOD engaged in a partnership with the Smithsonian Science Education Center focused on Computational Thinking (CT). The objectives include developing resources and upskilling teachers to help them integrate CT into their classrooms. 98 third and fifth grade teachers participated in the training. The study will look at the impact in rural schools on military bases in the Midwest.

- **DOI/USGS:** The U.S. Geological Survey Secondary Transition to Employment Program – USGS Partnership (STEP-UP) is a partnership among USGS and school districts in fourteen cities. The program works with 12 to 22-year-olds with cognitive and other disabilities to provide jobs skills in a variety of tasks.

- **DOL:** DOL partnered with the White House and other federal agencies to promote Registered Apprenticeship as a solution to develop and train a skilled and diverse cybersecurity workforce through the 120-Day Cybersecurity Apprenticeship Sprint, which resulted in 194 new or in-development programs and almost 8,000 new apprentices in less than 120 days. DOL also partnered with the White House and other federal agencies on the White House Advanced Manufacturing Workforce Sprint which resulted in over 160 new commitments to workforce development and job quality in advanced manufacturing, over 150 new advanced manufacturing-related Registered Apprenticeship programs and occupations, and over 4,700 new apprentices hired in advanced manufacturing occupations. More specifics on the commitments and accomplishments of the sprint can be found in its White House fact sheet.[21]

- **ED:** ED entered a public-private partnership with Women in Aerospace (WIA) and the American Institute of Aeronautics and Astronautics (AIAA) to bring industry, influencers, federal agencies, and other space ecosystem stakeholders together to develop a Space STEM Communications campaign to share the benefits of space with the general public. The campaign will focus on what space is, why space is important for Earth, and the breadth of how people can, and do, participate in, and benefit from, the space enterprise. Recognizing the barriers that underrepresented students face in receiving federal internships, the Minority Science and Engineering Improvement Program (MSEIP) program actively engaged agencies to pioneer internship opportunities and established partnerships with AFRL, NASA, EPA, and FDA. These internship opportunities have helped to inspire the students to continue their education and work on a master's or Ph.D. As a result of these internships, students have received job offers, scholarships for graduate school, and the inspiration they need to complete their undergraduate degrees. ED's MSEIP and NASA's Marshall Space Flight Center (MSFC) in Huntsville, AL, are actively working together to help expand the workforce readiness in the fields of STEM and space exploration, by leveraging a successful partnership via the MSEIP NASA Summer 2023 Internship. As a pilot, five undergraduate mechanical engineering students and one computer science student from Alabama A&M University (an HBCU) received internships exposing them to robust student research project experiences in NASA, MSFC's Engineering Directorate. All six students performed extremely well and were asked to continue their internship for fall 2023. ED is working to expand this model and will increase the number of internships for summer 2024. (For summer 2024, NASA anticipates increasing the internships from six to 32. These are exclusively for MSEIP interns.) Five students were selected from the University of Puerto Rico - Aguadilla for their outstanding academic achievements and dedication to environmental causes, making them perfect candidates for the summer internship program. These students are studying Environmental Technology and Biology programs within the Department of Natural Sciences. During the summer of 2023, they had the opportunity to contribute to EPA environmental projects in Cincinnati, OH, and Chattanooga, TN. The internship offered students a valuable practical experience in

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[21] https://www.whitehouse.gov/briefing-room/statements-releases/2024/01/23/fact-sheet-biden-harris-administration-highlights-new-commitments-toward-equitable-workforce-development-in-advanced-manufacturing/

research to help them prepare for future careers in science. Plans are underway to expand and continue the internship partnership for summer 2024.

- **EPA:** EPA has been working through an Interagency Agreement with Smithsonian Exhibits to establish the National Environmental Museum and Education Center with an anticipated opening of 2024. The new center will provide the public and student groups with access to compelling and inspiring information about the agency's actions (including use of STEM) to protect the environment and public health. With this on-site learning resource, we anticipate a significant increase in engagement with local, visiting, and remote school groups supporting increased STEM literacy and raising awareness of STEM-connected careers at the agency.

- **HHS/NIH:** The DEBUT Challenge is a public-private partnership led by NIBIB and VentureWell, with additional support from multiple NIH institutes, centers, and offices. The DEBUT Challenge is a design competition that challenges undergraduate teams to identify unmet needs in any area of health care and develop technology solutions for them.

- **NASA:** NASA and partner LEGO released a series of Artemis-based STEM learning activities to bring the excitement of launch to students. This multi-week series used by over 4,000 educators across the country introduced students to NASA careers and STEM concepts through creativity and design.

- **NSF:** NSF announced a $10 million partnership with the Micron Foundation by releasing a new Dear Colleague Letter entitled "Equitable and Transformative Approaches to Educating the Semiconductor Workforce"[22] (ETA-ESW) (NSF23-118) that focuses on educator equity. NSF released a Dear Colleague Letter entitled "Building Investigators' Capacity to Leverage Emerging Technologies to Improve STEM Education Research" (NSF 22-126), partnering with the Bill & Melinda Gates Foundation, Schmidt Futures, and the Walton Family Foundation, to support and develop investigators' capacity to leverage emerging technologies such as data science to generate foundational knowledge for equitable STEM education, with particular interest at the K–12 level. NSF also released a Dear Colleague Letter entitled "Mid-scale Research Infrastructure Incubators and Conferences for STEM Education Research with a Focus on Education Equity" (NSF 22-085, republished as NSF 24-027), partnering with the Bill & Melinda Gates Foundation, Schmidt Futures, and the Walton Family Foundation, to support mid-scale research infrastructure workshops and incubators. NSF and the Department of Education's Institute of Education Sciences also support the University at Buffalo's Artificial Intelligence Institute for Exceptional Education that focuses on the speech-language pathology needs of children. The new Institute aims to develop advanced AI technologies to scale the availability and accessibility of speech-language pathology services to children, their families, and schools.[23]

- **SI:** The Smithsonian Institution and the Department of Defense STEM Office worked together to develop Smithsonian Science for Computational Thinking, a set of freely available instructional units developed by the Smithsonian Science Education Center, which integrate science, technology, engineering, and mathematics (STEM) and computational thinking (CT). Using a phenomenon- and problem-driven pedagogy, elementary school students work to define and solve real-world problems and/or explain phenomena in a high-touch to high-tech environment. Smithsonian Science for Computational Thinking promotes transdisciplinary learning and convergence education and is aligned to the Next Generation Science Standards, the Computer Science Teachers Association K–12 Computer Science Standards, the ISTE Standards, the Common Core Mathematics Standards, and includes a literacy component. By taking a high-touch to high-tech approach to teaching computational thinking in a science classroom, all students can improve their digital literacy—with and without access to computers and other high-tech devices. The program is being implemented in 88 rural areas in the US with 60% affiliated with military communities.

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[22] https://www.nsf.gov/pubs/2023/nsf23118/nsf23118.jsp

[23] https://new.nsf.gov/funding/opportunities/national-artificial-intelligence-research

Research is being conducted by the University of Michigan to assess impact on student knowledge and teacher practice.

- **VA:** <u>VA partnered with Warrior-Scholar Project</u> to provide veterans with college preparation-style academic programs in STEM, Humanities, and Business & Entrepreneurship. VA and Warrior-Scholar Project have a shared goal to connect veterans with tools and programming, to include free access to Warrior-Scholar Project preparation courses, to enhance veterans' STEM higher education experience. This partnership provides transitioning and continuing education opportunities to veterans, which will enhance future economic opportunities.

Agency Actions that Support the Pathway: Operate with Transparency and Accountability and its Objective: Leverage and Scale Evidence–Based Practices Across STEM Communities

Federal agencies should build on the existing evidence base and leverage agency resources and funding mechanisms, as available, to scale and implement it more broadly. It is important for evidence to be shared broadly and made accessible to all stakeholders invested in improving and advancing STEM education. Below are some of the ways agencies have supported this specific objective through the release of resources:

- **AmeriCorps:** The AmeriCorps Office of Research and Evaluation regularly hosts evidence webinars to explore approaches and evidence-based practices to help partners boost the impact of their work. Several of these webinars are applicable to those who may be working in STEM fields, but in FY2022, this series also included Civic Engagement and Climate Change Mitigation: Exploring Opportunities at the Intersection of Research, Community Participation, and National Service. AmeriCorps also offers the Leveraging National Service in Your Schools: A Superintendent's/Principal's Toolkit to Utilizing National Service Resources. Updated in November 2021, this online toolkit provides guidance for schools; local education agencies; state education agencies; nonprofits; state and local government agencies; universities and colleges; Tribal nations; and others to request participants to address local challenges they have identified, including STEM. The resource provides specific examples of how AmeriCorps supports STEM and actionable steps for local entities to take.

- **DOC/EDA:** EDA developed and released the Good Jobs Challenge Notice of Funding Opportunities in FY2022. Additionally, application resources were developed and released. Some associated blogs have also been posted on EDA's website. EDA also continues to manage its STEM Talent Challenge portfolio of grantees.

- **DOC/NIST:** The NIST Educational STEM Resource (NEST-R) Registry provides access to a wide range of educational content, such as videos, metric system lessons, and information about real-world applications and internships. NEST-R helps educators and others quickly find relevant content that brings STEM curriculum to life, sparks interest, and keeps students engaged.

- **DOC/NOAA:** The NOAA Sea to Sky database[24] is a new feature on the NOAA education website launched in 2022 that helps educators quickly search over 1,300 high-quality educational resources on the ocean, coasts, Great Lakes, weather, climate, and atmosphere. In 2022, NOAA launched an Aquaculture Literacy website[25] to enhance public understanding of aquaculture, with resources for educators and practitioners. This website also highlights 10 NOAA-funded projects that use innovative ways to engage the public with information about aquaculture. In 2022, NOAA also published an Educator's Guide to the Meaningful Watershed Educational Experience.[26] This NOAA Bay Watershed Education and Training program guide provides tools,

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[24] https://www.noaa.gov/education/resources
[25] https://www.noaa.gov/office-education/celc/priorities/aquaculture-initiative
[26] https://www.noaa.gov/office-education/bwet/resources/mwee-guide

worksheets, and information for educators. Educators can use the guide to provide compelling hands-on opportunities for students to explore and take action on local environmental issues.

- **DOC/USPTO:** In February of 2023, the USPTO officially launched EquIPHQ.org, a new online invention education hub designed to increase knowledge about the impact and role of intellectual property in STEM education. The EquIPHQ hub is for K–12 teachers, students, and families and was designed to provide engaging activities to foster students' natural creativity, ingenuity, and innovative minds. The hub has engaging and interactive content, activities, unit lesson plans, and videos of real student inventors designed to help teachers bring inventing and intellectual property to life in the classroom. The resources are free, teacher-tested, grade-level-banded, and standards-informed.

- **DOD:** DOD STEM launched a Space Careers webpage which showcases career paths and opportunities in Space STEM across the DOD, increases awareness about military and civilian space career opportunities, and features space technology jobs in action at the DOD. DOD also published an updated DOD STEM Opportunities web page, with map functionality to locate programing.

- **DOE**: The Department of Energy launched DOE STEM in December 2022, which provides for the first time, a single DOE online presence where interested students, professionals, and institutions can find DOE-sponsored STEM training and workforce development opportunities, funding opportunities, and STEM education resources. The site also provides a calendar of upcoming events and application deadlines, participant stories, and recent opportunity and award announcements.

- **DOL:** Active DOL grants can be viewed on a map. DOL enhanced its apprenticeship.gov website to include an interactive Apprenticeship Data webpage[27] that allows the public to view apprenticeship data by state, industry, and occupation, including demographic data. DOL also launched an apprenticeship success story repository[28] and an apprenticeship events page,[29] which features several STEM related events and success stories. DOL also launched an apprenticeship investments search tool[30] to allow the users to quickly and easily find grants and contracts funding by the Department to help promote and expand Registered Apprenticeship, by industry, including STEM-related industries and occupations.

- **DOT/FRA:** The University of New Mexico's STEM program showcases their program[31] and shares teaching modules. The Michigan Technical University STEM program showcases their program.[32]

- **ED:** The 10 Regional Educational Laboratories (RELs) under the Institute of Education Sciences (IES) partner with educators and policymakers nationwide. For nearly 60 years, the RELs have collaborated with school districts, state departments of education, and other education stakeholders to help generate and apply evidence, with the goal of improving learner outcomes. The RELs conduct and disseminate original high-quality research, and provide training, coaching, and technical support to improve mathematics practice. Information about math-focused events, publications, and resources from FY2022 are available on the REL program page.[33] ED issued a Dear Colleague Letter[34] and a detailed resource document[35] describing how federal funds, including *American Rescue Plan Act* Elementary and Secondary School Emergency Relief funds,

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[27] https://www.apprenticeship.gov/data-and-statistics
[28] https://www.apprenticeship.gov/success-stories
[29] https://www.apprenticeship.gov/events
[30] https://www.apprenticeship.gov/investments-tax-credits-and-tuition-support/awardee-search
[31] https://www.smartrailroads.org
[32] http://www.rail.mtu.edu/articles/tracks-future-railroad-transportation-and-engineering-summer-youth-program-2023
[33] https://ies.ed.gov/ncee/rel/topics?topics=Mathematics&page=1
[34] https://www2.ed.gov/policy/gen/guid/secletter/221206.html
[35] https://www2.ed.gov/policy/gen/guid/secletter/221206enc.html

Elementary and Secondary Education Act funds*, Individuals with Disabilities Education Act* funds*,* and *Strengthening Career and Technical Education for the 21st Century (Perkins V) Act* funds can support STEM education.

- **HHS/FDA:** The FDA STEM Education website shares resources about training programs.

- **NASA:** In FY2022, NASA launched NASA CONNECTS, an online community of practice (CoP) for formal and informal educators that helps educators: navigate NASA resources through purposeful curation, access NASA events and professional development opportunities, and collaborate and communicate with peers and NASA team members. The NASA CONNECTS CoP was enabled by the development and rollout of the NASA STEM Gateway platform, a comprehensive tool designed to allow individuals to register for and apply to NASA STEM engagement opportunities, including internships, challenges, educator professional development, and other learning opportunities.

- **NSF:** The National Center for Science and Engineering Statistics (NCSES) within NSF published a Resource Library[36] page to promote educational materials. Users may explore NCSES's collection of visual resources, which were designed to allow the work of NCSES to be disseminated in an easily digestible format. The site allows users to navigate to the following specific resource categories: Survey Overviews[37] and Topical Fact Sheets.[38] NSF also released a data dashboard, NSF by the Numbers,[39] which provides statistical and funding information on NSF awards, NSF-funded institutions, funding rate, proposals evaluated, and obligations by fiscal year.

- **SI:** In FY2022, the Smithsonian launched its second annual Smithsonian National Education Summit, which brought together over 4,000 educators both virtually and in person to celebrate education, including science, technology, engineering, arts, and mathematics education.

- **VA:** VA launched a major modernization initiative called Digital GI Bill that will transform the GI Bill experience. The Digital GI Bill will modernize the information technology platform supporting the GI Bill, so VA can deliver direct, online, one-stop access to GI Bill benefits and information to all GI Bill students. It will revolutionize how veterans and beneficiaries can interface with us and their benefits, allowing them to receive benefits uninterrupted and on time and to engage with VA through electronic tools for on-the-spot service. The GI Bill Comparison Tool and STEMText are two great examples of VA Education Service embracing technology and modernizing to improve services for GI Bill students. The GI Bill Comparison tool helps GI Bill students compare benefits across schools and get an estimate of what their benefits payments might look like. STEMText allows Rogers STEM Scholars to verify their monthly attendance via text message to receive Monthly Housing Allowance payments.

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[36] https://ncses.nsf.gov/about/resource-library
[37] https://ncses.nsf.gov/about/resource-library#card790
[38] https://ncses.nsf.gov/about/resource-library#card794
[39] https://new.nsf.gov/about/about-nsf-by-the-numbers

Agency Actions that Support the Pathway: Operate with Transparency and Accountability and its Objective: Make Program Performance and Outcomes Publicly Available

At the federal level, sharing performance outcomes enhances public trust, supports coordinated policymaking, and promotes efficient use of resources. Outcome data for discrete activities, single-agency programs, or cross-agency initiatives and portfolios of investment can inform and stimulate new thinking about nationally synergistic and complementary activities. Data can also help identify gaps and emerging trends where, for example, greater efforts in diversity and inclusion are needed to achieve the goals of the Strategic Plan. Federal agencies are committed to documenting and sharing information both for internal strategic planning purposes and to inform public audiences.

Below are some of the ways agencies support this specific objective through the release of recently completed assessments and evaluations.

- **AmeriCorps:** Two new national service program models and/or interventions assessment reports were added to the AmeriCorps Evidence Exchange repository for public dissemination in FY2022 with STEM elements. These include: the Impact Evaluation Washington Conservation Corps Restorative Methods[40] and the Teach for America National Evaluation.[41] AmeriCorps commissioned a series of Return on Investment (ROI) research studies and analyses associated with award dollars. The series conducts feasibility and ROI on four program models per year for FY2020 – FY2024. Two of the FY2022 studies published

Select Federal Program Performance/Data Webpages

- **AmeriCorps:**
  AmeriCorps Evidence Exchange
  Impact Webinars
  National Service Reports
- **DOC/NOAA:**
  Bay Watershed Education and Training Program Impacts
  Environmental Literacy Program Impacts
  Hollings Scholarship Program Impacts
  EPP/MSI Impacts
  Teacher at Sea Impacts
- **DOL:**
  Performance data for DOL's Employment and Training Programs
- **HHS/NIH:**
  NIH grant support can be identified through RePORT Expenditures and Results (RePORTER)
  RePORTER is an electronic tool that allows users to search a repository of both intramural and extramural NIH-funded research projects and access publications and patents resulting from NIH funding.
- **NASA:**
  NASA STEM Impacts
- **NSF:**
  STEM Education Resource: Users may explore answers to important questions on STEM education and careers using the National Science Board's (NSB) Science and Engineering Indicators report.
  NSF Open Government: A direct link to NSF's Open Government webpage that promotes and achieves transparency, public participation, and collaboration.
- **SI:**
  Annual performance plan FY2022
  Public dashboard
  Annual Diversity, Equity, Inclusion, and Accessibility data related to STEM
- **USDA:**
  NIFA's extramural investment and reporting recent highlighted impacts

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[40] https://americorps.gov/evidence-exchange/impact-evaluation-report-2021-washington-conservation-corps-restoration-methods
[41] https://americorps.gov/evidence-exchange/teach-america-national-americorps-evaluation-2017-18-2018-19-school-years

ROI assessments included potential STEM elements as defined by this data request: Breakthrough Austin[42] and Nevada Conservation Corps.[43]

- **DOD:** DOD published *Our Impact* data story.[44] DOD evaluation results across all Components will continue to be updated and posted on the DOD STEM website. Three examples are: the NSA GenCyber[45] 5 Year Evaluation Report, the AEOP Annual Evaluation Report,[46] and the DSEC Evaluation Data Chapter.[47]

- **DOL:** DOL released multiple study reports related to the American Apprenticeship Initiative (October 2022),[48] and Implementation and Early Impacts from TechHire and Strengthening Working Families Initiative Randomized Controlled Trial Report (November 2021).[49]

- **NSF**: NSF released the following evaluation reports[50] to the public in FY2022. NSF's Evaluation Policy outlines key principles that guide evaluation activities conducted or supported by NSF. It is aligned with NSF values of scientific leadership; diversity and inclusion; integrity and excellence; public service; and innovation and collaboration (NSF Strategic Plan, 2022)[51] and informed by legislation and guidance regarding federal evaluation and performance management activities, including the *Foundations for Evidence-Based Policymaking Act of 2018*, the *Data Quality Act of 2001*, and Office of Management and Budget guidance (OMB M-20-12).[52]

- **SI:** A FY2022 released study shows that Smithsonian focused conservation initiatives benefit society and nature to support life on a sustainable planet (convergence education). This research published in the journal Conservation Science and Practice[53] shows conservation work led by Smithsonian researchers brings tangible benefits to local communities, government agencies, and the private sector as well as the environment in the United States and in countries across the globe, including Gabon, Honduras, and Panama.

Agency Efforts to Reduce Duplication

CoSTEM's collaborative and coordinating role can facilitate greater efficiency and cohesion across federal STEM education programs. Interagency working groups, FC-STEM's communities of practice, and use of the federal STEM education listserv help create learning communities within and across federal agencies for improving implementation and evaluation of education investments. Sharing investments can limit duplication and identify overlap. While investments often differ in meaningful ways, similarities—for example, in STEM fields or audiences served—can support areas of potential synergy and collaboration across and within agencies. Below are some of the ways agencies reduce fragmentation and duplication of their STEM education investments.[54]

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[42] https://americorps.gov/evidence-exchange/return-investment-study-breakthrough-austin
[43] https://americorps.gov/evidence-exchange/return-investment-study-nevada-conservation-corps
[44] https://dodstem.us/impact
[45] http://www.gen-cyber.com/
[46] http://www.usaeop.com/
[47] https://rise.articulate.com/share/dJQmY1Tpf6yPvxkLEQcq1ulnvKvB9jv_#/
[48] https://www.dol.gov/agencies/oasp/evaluation/completedstudies/Evaluation-of-the-American-Apprenticeship-Initiative
[49] https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/TechHire-SWFI-Early-Impact-Report.pdf
[50] Evaluation reports
[51] https://www.nsf.gov/news/special_reports/strategic_plan/
[52] https://www.whitehouse.gov/wp-content/uploads/2020/03/M-20-12.pdf
[53] https://www.si.edu/newsdesk/releases/new-study-shows-smithsonian-people-focused-conservation-initiatives-benefit
[54] Required component of annual CoSTEM report.

- **DOC/NOAA:** Programs carry out specific mandates that support NOAA's mission and that are authorized and directed by statute. Individual programs have specific focus areas and are able to leverage unique federal science, data, and expertise assets for educational activities. Within this framework, NOAA focuses on coordination and collaboration across the education portfolio. Major education programs are represented in the NOAA Education Council. The makeup of the Council is responsive to NOAA's education portfolio, with the addition of new members in 2021 and 2022. Through the Council, programs coordinate on a NOAA-wide Education Strategic Plan and monitor and evaluate progress annually, as required by the *America COMPETES Act* and subsequent legislation.

- **DOD:** Programs may have similar elements; however, they reach different populations (race/ethnicity, gender, geographic regions, etc.). The varied programs address the different missions of the DOD Components. In addition, some programs operate at the individual DOD laboratory level and may focus on distinct core technical science and technology competencies, supporting the need for the broad portfolio that is executed across the Department. Coordination within the DOD through the STEM Advisory Council Working Group (SACWG), the Evaluation and Assessment Working Group (EACWG), and DOD STEM strategic communication efforts help to reduce fragmentation and ensure coordination of efforts. SMART is an example of a program that is funded from one source and then collaborates with over 200 Labs / Facilities across the Department.

- **DOE**: DOE internally coordinates STEM training and workforce development investments, activities, and outreach and recruitment efforts through a cross-DOE working group that reports to the DOE Under Secretary for Science and Innovation. This working group includes representatives from all DOE offices that sponsor extramural STEM training, workforce development, and education programs and meets on a biweekly basis. Through these efforts, DOE offices share best practices for program development and execution, occasionally bringing in outside speakers, identify opportunities for coordination for external outreach events, and collaborate to update the content and resources provided through the DOE STEM site[55]. Collectively, DOE offices engaged students and faculty at over two dozen events of minority-serving scientific professional societies and conducted over 70 campus visits.

- **EPA:** EPA's science, technology, engineering, arts, and mathematics (STEAM) Outreach Community of Practice (CoP) continues to be a conduit for information sharing and collaboration with the intention of minimizing duplication and strengthening STEM education efforts that do not meet the threshold of formal Agency STEM investments. The internal-to-EPA CoP provides a forum for staff located across EPA's Regions and Offices to share their STEAM outreach resources, best practices, and explore solutions to challenges to better support all CoP members in their local or national outreach and engagement efforts.

- **NASA:** NASA internally coordinates its STEM education/engagement investments through the NASA STEM Engagement Council (SEC). The SEC is comprised of NASA leaders from across NASA's Mission Directorates, Field Centers, and functional offices who, among other responsibilities, ensure NASA's investments in STEM education/engagement are coordinated and not duplicative of one another through an annual portfolio planning process. NASA staff are also actively involved in the FC-STEM community and leverage the extensive contacts within the community to ensure NASA's efforts are synergistic with, and not duplicative of, STEM education activities offered by other federal agencies.

- **SI:** The Smithsonian Science Education Center (SSEC) plays a critical role in coordinating the Smithsonian's response to Congress to ensure the Institution's contributions to pre-K–16 STEM education and the development of the modern STEM workforce are communicated to the public. The SSEC serves as the primary point of contact in the cross-agency collaboration under the umbrella of CoSTEM and with other federal agencies through FC-STEM. In addition, the SSEC coordinates the Smithsonian's internal efforts to ensure

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[55] https://www.energy.gov/doe-stem/

Institution-wide outreach programs for STEM education are cohesive, impactful, inclusive, and meet the needs of families, caregivers, educators, and education organizations across the nation, reaching young people where they live and learn.

Agency Actions in Support of Strategic Plan Goals

The interagency collaboration of FC-STEM empowers agencies to improve STEM education by sharing best practices, leveraging the expertise and resources of federal partners, and coordinating activities in support of common educational goals. FC-STEM agencies are also working together to maximize the impact of their efforts within the broader STEM education community. Below are agency activities that support the 2018 Strategic Plan and the overarching goals of Build Strong Foundations for STEM Literacy; Increase Diversity, Equity, and Inclusion in STEM; and Prepare the STEM Workforce for the Future.

Towards building strong foundations for STEM literacy

- **AmeriCorps** grants awards to organizations that focus on providing strong foundations for STEM and digital literacy to students and community members through public computer centers, schools, and after-school programs. AmeriCorps members also generate resources and recruit volunteers for STEM programming and help expand coding and robotics programs in underserved schools. For example, the AmeriCorps Utah STEM Initiative places dozens of AmeriCorps members at Boys and Girls Clubs to provide hands-on STEM education activities in school and afterschool programs to increase STEM academic engagement.

- **DHS** continues to fund multiple programs that expand STEM research, learning, and workforce opportunities. The Homeland Security Professional Opportunities for Student Workforce to Experience Research (HS-POWER) program provides substantive work-based learning opportunities to graduate and undergraduate students majoring in a broad spectrum of homeland security related STEM disciplines as well as DHS mission-relevant research areas. Interns gain quality research and work experience with DHS Components, federal research facilities, and other STEM-focused entities nationwide. HS-POWER also provides interns with invaluable opportunities to cultivate relationships with DHS personnel, researchers, and fellow students.

- **DOC/NOAA's** Environmental Literacy Program continues to use education to build the foundation for resilience to extreme weather and climate change. In 2022, the program supported 2,000 educators, 6,000 students, and 7,000 youth and adults. It also increased the educational capacity of 52 institutions. Additionally, the program is funding nine projects with a total of $4.1 million to empower people to protect themselves and their communities from local climate impacts. Awards from this program continued to support work with partners such as the Science Museum of Virginia to organize community science campaigns to map "urban heat islands." Since 2017, more than 60 communities across the United States have followed this model, leading their own mapping campaigns with funding from the Climate Program Office and using the information to make their cities more resilient and equitable in extreme heat.

- **DOD**'s components seek to align to both the DOD STEM Plan and the Federal STEM Strategic Plan in all efforts, and DOD continues to engage in a variety of activities across the STEM education continuum. For example, under the National Defense Education Program (NDEP), DOD launched the Regional Community College Consortia (RC3) to foster regional ecosystems of community colleges, partnering with four-year institutions, including HBCUs/MSIs, nonprofit organizations, and/or industry to increase the matriculation of students majoring in STEM from two-year to four-year colleges, especially amongst underserved and underrepresented populations, including veterans and their spouses, and promote completion of certificate training programs and/or two-year degrees in STEM fields that support the DOD Critical Technology Areas.

- **ED's** Office of Special Education Programs supports the STEM Innovation for Inclusion in Early Education (STEMI²E²)[56] Center that aims to: 1) Develop and enhance the knowledge base on engagement in STEM learning opportunities for young children with disabilities (0–5); 2) Implement high-quality technical assistance and professional development to increase engagement for young children with disabilities in STEM opportunities; and 3) Engage partners and stakeholders from diverse disciplines and industry in work to increase the inclusion of young children with disabilities in early high-quality STEM learning experiences. ED's Ready to Learn Programming[57] supports the development of educational television and digital media targeted at preschool and early elementary school children and their families. The goals are to promote early learning and school readiness through play and exploration and to reach low-income children and families, with a particular focus on developmentally appropriate career options. ED's Office of Educational Technology (OET) released a new report, Artificial Intelligence (AI) and the Future of Teaching and Learning: Insights and Recommendations[58] that summarizes the opportunities and risks for AI in teaching, learning, research, and assessment based on public input. This report is part of the Biden-Harris Administration's ongoing effort to advance a cohesive and comprehensive approach to AI-related opportunities and risks. OET looks forward to leading further work to align AI models to a shared vision for education, inform and involve educators, and develop education-specific guidelines and guardrails. ED's Office of Postsecondary Education, HSI STEM and Articulation Program supports Miami Dade College, Padron Campus grantee that implemented the WeLearn 366 Institute and collaborated with STEM faculty, leveraging Vyond video animation software to develop micro-learning content. These videos focus on gaps in foundational concepts and help to facilitate the flipped classroom framework.

- **EPA** continues to build STEM literacy via the Community Engagement & STEM Education Program (CE-STEM) in Research Triangle Park (RTP) and via smaller scale efforts in Washington, DC; Cincinnati, OH; and EPA locations around the country. RTP CE-STEM leverages RTP's world-class research facilities to support student and educator engagement with EPA scientists and engineers. In FY2022, RTP CE-STEM supported the STEM education to careers pipeline by participating in 350+ STEM educational events, reaching 19,298 students and educators. EPA's P3 Program is a competitive collegiate grants program that promotes STEM literacy through hands-on experience and training. The Program encourages student teams to take their classroom learning and innovatively apply it to research projects in order to create tangible and sustainable changes in their communities. The end goal is for teams to have matured research projects to the point of implementation where they can be showcased at EPA's National Student Design Expo co-located with the TechConnect World Innovation Conference, which furthers the program's STEM literacy activities.

- **NSF** launched the Experiential Learning for Emerging and Novel Technologies (NSF 23-507)[59] program that supports inclusive experiential learning opportunities that provide cohorts of diverse learners with the skills needed to succeed in emerging technology fields.

- **SI** offers many opportunities for STEM learning in our nation's capital, online, in the classroom, and in communities across the United States and abroad. These programs serve teachers, parents, and students, as well as schools, districts, and state education agencies, and the general public. A wealth of digital tools support inquiry-based learning and active engagement to spark creativity and curiosity. The Smithsonian Science Education Center offers STEM curriculum, professional development, and leadership development for schools and districts. The Lemelson Center for the Study of Invention and Innovation, Q?rius, and the Steven F. Udvar-Hazy Center offer hands-on museum activities and hundreds of free, innovative resources.

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[56] https://stemie.fpg.unc.edu/about-center
[57] https://oese.ed.gov/offices/office-of-discretionary-grants-support-services/innovation-early-learning/ready-to-learn-television-rtl/
[58] https://www2.ed.gov/documents/ai-report/ai-report.pdf
[59] https://new.nsf.gov/funding/opportunities/experiential-learning-emerging-novel-technologies

The Smithsonian Learning Lab allows educators and students to create personal collections and individualized educational experiences. In FY2021, 14.9 million people were served through the Smithsonian's educational programming.

Towards increasing diversity, equity, and inclusion in STEM

- **AmeriCorps** grantees serve a diverse array of communities, and many target their work to underserved and underrepresented students. For example, AmeriCorps' grantee Citizen Schools' Makers Fellows Program partners with communities and organizations to uplift STEM mentoring and maker-centered learning as essential tools to build a stronger, more diverse workforce. Unlike talent, opportunity and access are not equally distributed. The program focuses on underserved and underrepresented students, including girls, students of color, and youth from low-income communities, and partners with community colleges and HBCUs. In addition, members provide opportunities for students in their service areas to have experiences that can spark interest in STEM. For example, VISTA members serving with Northern Arizona University partner with educational and nonprofit organizations to increase the interest of youth from low-income backgrounds in STEM fields and careers.

- **DHS** is committed to advancing STEM at MSIs. Through the Summer Research Team (SRT) program, a team of one early career faculty member and up to two students from a MSI are paired with a DHS COE to conduct full-time collaborative summer research. Over the course of 10 weeks during the summer, this opportunity increases and enhances scientific research capacity at MSIs in areas that support the mission and goals of DHS. Upon successful completion of the summer session, teams are eligible to receive up to $100,000 of follow-on funding to continue their research for an additional year. Additionally, through the Scientific Leadership Award (SLA) for MSIs program, DHS S&T grants up to $1 million are competitively awarded to MSIs to help build institutional capacity through research and collaboration. Grants enable awardees to establish homeland security-related curricula and/or courses of study while supporting the development of student mentorship and recruitment activities, science and engineering research, and teaching initiatives. These awards significantly contribute to the development and cultivation of relationships and networks across private industry, university, federal and local government, and DHS Centers of Excellence (COE).

- **DOC/NOAA**'s José E. Serrano Educational Partnership Program with Minority Serving Institutions (EPP/MSI) represents a long-term commitment to ensuring NOAA's future workforce is representative of the nation's population. The program is currently supporting 306 postsecondary students through its Cooperative Science Centers (CSC) and 31 undergraduate students by the Undergraduate Scholarship Program. In 2022, the agency awarded grants of up to $30 million each, over a five-year period, to two MSIs: Howard University and the City College of the City University of New York. These CSCs will support and graduate students in atmospheric sciences, meteorology, earth system sciences and remote sensing technology, which are core science fields for NOAA.

- **DOC/NOAA's** new Diversity, Equity, Inclusion, and Accessibility (DEIA) Ocean Exploration Education Grants, developed in cooperation with the National Marine Sanctuary Foundation, aim to expand the reach of ocean education by funding ocean workforce development initiatives that are equitable, inclusive and accessible to all. In 2022, nine educators and/or education programs were awarded up to $25,000 to support projects that minimize barriers to entry and increase retention of diverse learners from communities historically marginalized from ocean science and exploration industries. Collectively, these programs provided 1,380 K–12 students, 91 college students, and 84 educators across the United States with the opportunity to learn ocean science, advance STEM skills, and engage with industry professionals. The Marine Advanced Technology Education Center (MATE) and NOAA Ocean Exploration, with support from the National Marine Sanctuary Foundation, collaborated on designing and executing an Ocean Exploration Video Challenge for the 2022 MATE ROV World Championship Competition. Six student teams took on the challenge to create a program using AI/machine learning solutions to support efficient analysis of marine video data collected by

NOAA. As a result, students gained data literacy and analysis skills and got the chance to work directly with NOAA's experts.

- **DOC/NIST** staff engaged in strategic outreach and recruitment efforts at professional conferences (ED's HBCU Week Conference) and MSI career fair exhibitions (most recently at Morgan State University and Howard University) to raise awareness about academic opportunities such as internships, fellowships, associateships as well as employment within NIST. DOC/NIST staff participate in webinars and provide presentations at events like the HBCU Alliance Virtual Seminar Series to raise awareness about available opportunities to HBCU students. Recent talks have resulted in additional HBCUs being added to the Professional Research Experience Program (PREP). DOC's NICE Program, led by NIST, continues to build diversity, equity, and inclusion in STEM career learning via a number of venues such as hosting a webinar series that highlighted mentorship models to enhance diversity and increase persistence in cybersecurity careers; the diversity of military veterans and spouses; and cybersecurity career best practices to reach rural populations.

- **DOD's** SMART program continued to increase its outreach to students at HBCUs/MSIs. SMART also launched the Creative Research & Engineering Advancing Technical Equity in STEM (CREATES) grant, which is a competitive funding opportunity for underrepresented SMART scholars in STEM fields. Additionally, Naval STEM implemented Naval Horizons, a STEM essay contest that introduces students to cutting-edge STEM topics that impact the Navy and Marine Corps through an engaging video series. Over the past three years, the program has had a broad reach, with over 1,700 winners selected.

- **DOE**, through the Office of Science (SC), has launched several sponsored initiatives aimed at building STEM training capacity at institutions historically underrepresented in the DOE portfolio. The Reaching a New Energy Sciences Workforce (RENEW) initiative is sponsoring training opportunities for undergraduate and graduate students at MSIs and non-R1 institutions to inspire and prepare students to pursue education and training in STEM fields supported by SC, including opportunities in collaboration with the DOE National Laboratories. In FY2022, 41 awards were announced totaling $32 million. Awards are going to 37 institutions, including 24 MSIs, 13 of which are HSIs, five are HBCUs, and two are Asian American and Native American Pacific Islander-Serving Institutions (AANAPISIs). DOE also expanded its Visiting Faculty Program, which supports faculty from HBCUs, MSIs, and non-R1 institutions to carry out research collaborations with DOE National Laboratory scientists. VFP launched a second "track" which emphasizes support for faculty to develop STEM curricula at their home institutions. In addition, the Office of Nuclear Energy's (NE) University and Competitive Research Team has established a University Programs Engagement Committee comprised of individuals from HBCUs and other MSIs to provide guidance in creating more purposeful opportunities that leverage the capabilities at these institutions. In addition, the team continues to engage with university students and faculty via in-person and virtual visits to promote University Program funding opportunities. These include visits to two- and four-year institutions as well as MSIs including HBCUs and TCUs. The team also hosted various informational webinars for the community and has attended numerous conferences such as the 2022 National HBCU Week.

- **DOI** has worked to implement the strategic goal of inclusion in STEM. For example, USGS has expanded the number of STEM Educational Partnerships with MSIs, which involve joint research and training opportunities for faculty and students, from two to seven. Additionally, DOI developed the framework and implemented the Indian Youth Service Corps. The National Park Service (NPS) also has two internship programs that target diversity. These include a summer symposium for the programs providing professional development for students and an opportunity to share their summer research. The U.S. Fish and Wildlife Service (USFWS) launched their Directorate Fellowship Program in 2020 for 100 interns. The program recruits participants from MSIs and through diversity-focused professional organizations. In addition, the USFWS continues to grow the

Native Youth Climate Adaptation Leadership Conference, which brings together Indigenous high school youth with elders each summer to develop leadership in climate adaptation science.

- **DOL** sees Registered Apprenticeship not only as a proven workforce development strategy, but a strong diversity, equity, inclusion, and accessibility strategy because it provides career seekers, including those in underserved populations and underrepresented communities, with an opportunity to earn-and-learn at the same time and access a good-paying, high-quality job in high demand industries and occupations such as engineering, robotics, cybersecurity, advanced manufacturing, IT, aerospace, finance, and other STEM related fields. More specifically, Registered Apprenticeship programs offer paid, on the job training; educational training often leading to a free college degree or college credits; and a nationally recognized credential. In addition, Registered Apprenticeship programs often include supportive services including childcare, transportation, equipment, and even housing to ensure apprentices, especially those in underrepresented communities, are set up for success.

- Within **DOT**, FRA's initiatives build a STEM foundation for the future railroad workforce. Towards this goal, FRA has recently funded five universities, including HBCUs and MSIs, to support STEM efforts in Michigan, New Mexico, California, Tennessee, and Texas. These partnerships work with underrepresented groups, including Indigenous communities. Funded universities have hosted several events, such as a Science Fiesta Fair highlighting how new technologies can be used in different STEM fields, especially railroading. DOT/FRA also conducts and measures the effectiveness of outreach activities to recruit women and girls; students from rural communities; and students from other underrepresented backgrounds into STEM programs and foster interest in railroading careers. DOT/FAA supported Unmanned Aircraft Systems (UAS) STEM Outreach activities with Sinclair Community College, Kansas State University, and North Carolina State University. These activities involved introducing K–12 students to STEM-related aviation topics and research.

- **ED** launched YOU Belong in STEM as a key initiative for the Biden-Harris Administration. The Raise the Bar: STEM Excellence for All Students initiative is designed to strengthen STEM education nationwide. The new initiative unites government, nonprofits, professional organizations, industries, philanthropies, and other community stakeholders to take bold action towards breaking down long-standing barriers for student success in the STEM fields. ED is galvanizing the broader education ecosystem to prioritize three goals for STEM education: ensure all students from pre-K to higher education excel in rigorous, relevant, and joyful STEM learning; develop and support our STEM educators to join, grow, and stay in the STEM field; and invest in STEM education strategically and sufficiently using *American Rescue Plan* and other federal, state, and local funds. The initiative galvanized 275 national organizations to make commitments to advance key policy goals through actions totaling over $17 million and that will positively impact 12 million students and 100,000 STEM educators. A subsequent event is planned for April 2024.

- Recognizing **EPA's** goal to increase engagement with MSIs to support diversity, equity, inclusion, and accessibility, EPA's Office of Research and Development (ORD) established a template for Memorandums of Understanding (MOU) with MSIs in Calendar Year 2022. This collaboration is growing STEM partnerships in higher education institutions for the advancement of environmental education to improve awareness of national employment opportunities and other opportunities for individuals with disabilities. An internal mapping of MSIs co-located with ORD facilities in addition to an MSI Connections database to identify existing relationships between ORD and MSIs have been created to help identify more opportunities for potential MOU arrangements. Metrics are also being identified to ensure our intentional engagement with these MSI MOUs. In Calendar Year 2023, MOUs were signed with several institutions, such as Fort Valley State University, Tuskegee University, Bethune-Cookman University, and North Carolina Agricultural and Technical State University. Additionally, EPA's People, Prosperity, and the Planet (P3) Program supporting college students' environmental innovation has made efforts to increase the number of grants awarded to institutions who have not traditionally received awards and intends to use approximately 50% of the total amount of funding

available under this announcement for grants to "new awardees." This has resulted in increased awards for MSIs.

- **HHS/NIH** continues to support programs that implement the goals of the Federal STEM Education Strategic Plan, including the goal of increasing diversity, equity, and inclusion in STEM. For example, the NIH Blueprint Enhancing Neuroscience Diversity through Undergraduate Research Education Experiences (ENDURE) program provides undergraduate training through partnerships between research-intensive institutions and institutions with a substantial enrollment of neuroscience majors from diverse groups. The NIGMS Bridges to the Baccalaureate Research Training Program provides structured activities to prepare a diverse cohort of community college students to transfer to and complete a bachelor's degree in biomedical research fields. Additionally, the newly launched Youth Enjoy Science (YES) Program supports educational activities that encourage individuals from diverse backgrounds, including those from groups underrepresented in the biomedical and behavioral sciences, to pursue further studies or careers in research.

- **HHS/FDA** trains a number of students annually, and in FY2022, summer students at FDA learned about regulatory science research and had the opportunity to showcase their research projects at the FDA Annual-Summer Student Scientific Poster Day.

- **NASA** has extensively supported the Plan's goal to increase diversity, equity, and inclusion in STEM, all while helping the STEM engagement/education community navigate the COVID-19 pandemic. Since December 2018, NASA launched new or expanded with partnerships with Crayola Education, Discovery Education, Inc., LEGO Education, Microsoft Corporation, Girl Scouts, and other organizations to broaden access to NASA's mission and work. NASA also funded two cohorts of NASA TEAM II Community Anchor Awards and the MUREP INCLUDES initiative. In April 2022, NASA's Science Mission Directorate (SMD) invested an additional $10 million over four years towards meeting the needs of specific underserved audiences (including Hispanic and Coastal communities) through the Science Activation program. In September 2022, NASA awarded more than $4 million through the new Space Grant K–12 Inclusiveness and Diversity in STEM (SG KIDS) opportunity, creating opportunities for traditionally underrepresented and underserved K–12 students through regional collaborations of existing Space Grant consortia. In February 2023, NASA's Minority University Research and Education Project (MUREP) awarded $11.7 million to eight HBCUs through a new Data Science Equity, Access, and Priority in Research and Education (DEAP) opportunity, which will enable HBCU students and faculty to conduct innovative data science research that contributes to NASA's missions. And in March 2023, MUREP awarded over $3 million to seven HBCUs and one Predominantly Black Institution (PBI) to fund the MUREP Precollege Summer Institute to prepare students for college success.

- **NSF** created the Racial Equity in STEM Education initiative (NSF 22-634)[60] to support projects focused on advancing racial equity in STEM education and workforce development that are led or co-developed by individuals and communities most impacted by the inequities caused by systemic racism. The Dear Colleague Letter, Catalyzing Institutional Change to Support Greater Equity, Inclusion, and Access in STEM Academic Careers and Advanced Degree Attainment (NSF 23-087), was released to make awards to institutions of higher education for the development and assessment of innovative reform efforts designed to increase the recruitment, retention, and advancement of individuals from marginalized racial, ethnic, and Indigenous communities in academic STEM careers. The Dear Colleague Letter, Expanding Institutional Diversity in Support of STEM Research and Education Capacity (NSF 23-081), aims to develop or expand STEM research and education programs, recruit faculty and early career STEM researchers, provide student stipends for undergraduates and graduate students in STEM research and education, and enhance other activities necessary to build STEM research and education capacity. Workplace Equity for Persons with Disabilities in

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[60] https://www.nsf.gov/pubs/2022/nsf22634/nsf22634.htm

STEM and STEM Education solicitation (NSF 23-593)[61] is an NSF-wide supported solicitation that supports fundamental, applied, and translational research that advances knowledge and practice about diverse, equitable, inclusive, and accessible STEM and STEM education workplaces and postsecondary training environments for persons with disabilities. NSF created the Expanding Capacity in Quantum Information Science and Engineering (Expand QISE) program (NSF 22-561, republished as NSF 23-551, and the latest NSF 24-523)[62] supports research and education to increase research capacity and broaden participation in quantum information science and engineering. NSF also created the Expanding AI Innovation through Capacity Building and Partnerships (Expand AI) program (NSF 23-506)[63] to supports capacity-development projects and partnerships within the National AI Research Institutes ecosystem that help broaden participation in AI research, education, and workforce development. Through Improving Undergraduate STEM Education: Innovation in Two-Year College STEM Education (IUSE: ITYC) (NSF 23-584), NSF makes an intentional investment in the country's two-year institutions of higher education, or two-year colleges. The twin goals of the ITYC program are to (1) center students in the effort to advance innovation, promote equitable outcomes, and broaden participation for all students in STEM education at two-year colleges, and (2) enhance the capacity of two-year colleges to harness the talent and potential of their diverse student and faculty population through innovative disciplinary, multi-department, and college-wide efforts.

- In 2021, **SI'**s Smithsonian Science Education Center hosted its fifth annual STEM Teacher Leadership Diversity Summit and an NSF INCLUDES Initiative funded summit alumni workshop in collaboration with Howard University. This work provided annual support to over 100 different school district or state education agency teams who developed an action plan for attracting, retaining, and promoting teachers of color into the STEM teaching workforce within the STEM education ecosystem. In the summer of 2021, the Smithsonian National Air and Space Museum's Teacher Innovator Institute (TII) continued to serve middle school science, technology, engineering, arts, and mathematics teachers from across the US, convening a virtual institute. Sixty-eight teachers engaged in virtual TII and the program began recruitment for the 2022 institute, which will focus on early career educators who are educators of color, LGBTQ+ educators, and/or educators with disabilities.

Towards preparing the STEM workforce for the future

- **AmeriCorps** is working to strengthen pathways to education and employment and remove barriers to service so that service is a viable opportunity for Americans of all backgrounds. AmeriCorps members receive valuable exposure to and participate in authentic learning experiences during their service. For example, members protect watersheds, support wildland fire mitigation, conduct energy audits, and help communities become more climate resilient. This experience can provide AmeriCorps members with skills and knowledge that are valued by STEM employers.

- **DHS's** Homeland Security – Workforce opportunities to Increase Research Engagement Diversity (HS-WIRED) Internship Program provides an 8–12-week internship program for graduate and undergraduate MSI students interested in supporting cutting-edge research with leading scientists and engineers. Participants conduct research at Pacific Northwest National Laboratory (PNNL), providing an opportunity to establish connections with Department of Energy professionals working on homeland security-related research.

- **DOC**/**EDA** has supported the goal of workforce via two main investments: the STEM Talent Challenge and the Good Jobs Challenge. No additional STEM Talent Challenge awardees were made in FY2022, but EDA continued to administer previous FY2020 and FY2021 awards to 15 STEM Talent Challenge grantees. Through

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[61] https://new.nsf.gov/funding/opportunities/workplace-equity-persons-disabilities-stem-stem
[62] https://new.nsf.gov/funding/opportunities/expanding-capacity-quantum-information-science/nsf24-523/solicitation
[63] https://new.nsf.gov/funding/opportunities/expanding-ai-innovation-through-capacity-building

quarterly Community of Practice meetings with those grantees, EDA created space for the grantees to learn and exchange best practices in STEM workforce development. EDA also designed and launched the Good Jobs Challenge, which was funded via the *American Rescue Plan Act*. With $500 million in one-year supplemental funding, EDA aimed to make once-in-a-generation investments in high-quality, locally-led workforce systems. The program was designed with a critical focus on equity, once again aligning with EDA's investment priorities. Through awards to 32 industry-led workforce training partnerships in 31 states and Puerto Rico, these awardees will develop industry-led workforce training systems and place over 50,000 workers into quality jobs. Like the STEM Talent Challenge, DOC/EDA has launched a Community of Practice for the 32 Good Jobs Challenge awardees to exchange best practices. This Community of Practice is being supported by several outside organizations: Jobs for the Future (JFF) in partnership with American Association of Community Colleges (AACC), the Committee for Economic Development of The Conference Board, and the National Association of Workforce Boards (NAWB) with support from EDA. In December of 2022, EDA gathered delegations from all 32 grantees in Washington, DC, providing grantees with access to experts in the workforce field and opportunities to build connections with each other. The two-day convening highlighted meaningful partnerships between and across government, industry, educational institutions, community-based organizations, and other key stakeholders.

- **DOC/NOAA's** Teacher at Sea Program participants were able to sail on NOAA ships after being on hold for two years due to restrictions of the COVID-19 pandemic in 2022. The program welcomed a cohort of six teachers from across the country for the new 2022 field season. In addition, the Teacher at Sea Alumni Association took on the theme of Art and Science Integration to celebrate the ways that educators use the arts to engage their students and communities in the content and concepts that are important to a science literate society. NOAA continues to coordinate a consortium of 25 aquariums and marine science education centers located across North America through the Coastal Ecosystem Learning Centers (CELC) network. After a three-year hiatus due to impacts of the COVID-19 pandemic, 19 aquarium educators and six NOAA staff came together in person once again for the fourth Coastal Ecosystem Learning Centers (CELC) network workshop in 2022. Participants discussed the key priorities of climate literacy, seafood education, and youth engagement. Educators also discussed how to build capacity and create more professional development opportunities, how to best evaluate the group's activities, and how to maintain the momentum gained from the time spent together in person. NOAA also supported youth engagement projects at nine CELC institutions, where teams of up to 15 high school students designed and implemented projects in their community during the 2021–2022 school year. These teams were launched during the 2021 CELC Youth Engagement Summit. At least six of the nine teams have received continuing support from their CELC-member institution to continue their projects into 2023. NOAA's Ocean Exploration engages educators, students and the general public to enhance America's environmental literacy through the excitement of ocean discovery.

- **DOC/NIST's** student participation in the Summer Undergraduate and Research Fellowship (SURF) and the Graduate Student Measurement Science and Engineering (GMSE) Fellowship programs covers most STEM disciplines. These programs provide hands-on research experience with NIST researchers to help increase the workforce pipeline in STEM careers. The Summer Institute for Middle School Teachers provides instructional lessons in STEM for middle school teachers. NIST also offers K–12 educational resources on the NIST Educational STEM Resource Registry (NEST-R) resource webpage. The NICE program hosts an annual K12 Cybersecurity Conference, impacting over 650 educators and students and highlighting cybersecurity pathways through its annual K12 Cybersecurity Signing Day Celebration. The NICE Program Annual National Cybersecurity Career Week promotes awareness and exploration of cybersecurity and other STEM careers.

- **DOC/USPTO** developed and implemented new educational resources and activities that support educator upskilling. For example, the USPTO launched the inaugural cohort of the Master Teacher of Invention and Intellectual Property Education Program (MTIP) to cultivate a national network of teacher leaders who will

empower educators to foster invention and intellectual property education for the next generation of creative thinkers, problem solvers, inventors, innovators, and entrepreneurs. Additionally, DOC/USPTO consistently promotes awareness and knowledge about convergence education and innovation through workshops and presentations at conferences like You Belong in STEM at ED. All of the USPTO's new K–12 educational resources, including K–12 educator lesson plans, student activities, and learning games, are designed using the convergence education framework. All resources are available online at the USPTO's central education webpage: uspto.gov/education.

- **DOD's** Army Educational Outreach Program (AEOP), which includes the eCYBERMISSION competition, Junior Solar Sprint, Gains in the Education of Math and Science (GEMS), Camp Invention, and Unite, provided hands-on, meaningful STEM learning experiences to K–12 students through competitions or summer enrichment activities. The DOD STARBASE engaged fifth grade students across the country in challenging, "hands-on, minds-on" STEM activities. Students from predominantly Title I schools interacted with military personnel to explore STEM careers and observe real-world applications of STEM subjects. Lastly, in 2023, DOD hosted the inaugural DOD STEM Technical Exchange in Washington, DC. The event brought together more than 500 attendees from partners across the DOD STEM ecosystem to increase awareness and understanding of the depth and breadth of the DOD's collective efforts in K–20 STEM education, outreach, and workforce development.

- **DOE's** Office of Fossil Energy and Carbon Management (FECM) sponsors the Carbon Management Collegiate Competition where college students are tasked with proposing a regional carbon transport network, defining its business model, and optimizing the transport network across several parameters and with consideration to regional stakeholders, challenges, and cost variability. Interdisciplinary teams are required to present a real-world example of work in multi-functional teams. Teams were comprised of three or more undergraduate or graduate students and represent more than one major with preference towards majors or specializations in business, supply chain, geosciences, engineering, GIS, land management, law, computer science, and/or public policy. This competition encourages a diverse range of participants with consideration to disadvantaged communities and underrepresented minorities in STEM fields to advance carbon management technologies and achieve net-zero greenhouse gas emission goals in a just and sustainable way.

- Since 2019, **DOL**'s H-1B Skills Training Grants Program has announced grant funding of $640 million, including $172 million for two new grant programs in FY2023. The Program had approximately 56,000 active participants during FY2022, with an estimated 35 – 40% in STEM occupations. Since early 2022, DOL has also funded $191 million in grants and cooperative agreements in support of Registered Apprenticeships, including Apprenticeship Building America grants and industry intermediary and youth intermediary contracts. The number of active apprentices recorded in DOL's apprenticeship tracking system is 581,110, an increase of 103% since 2013. A growing number of these apprenticeships are in STEM occupations, such as cybersecurity. Additionally, the Secretary's Advisory Committee on Apprenticeship issued a final report in May 2023, which included STEM-related recommendations, to the Acting Secretary. Lastly, since 2018, 85% of DOL-funded YouthBuild programs offer training in in-demand industries beyond construction, including STEM fields.

- **DOS**'s Bureau of Educational and Cultural Affairs' (ECA) Office of Alumni Affairs provides policy guidance and oversight for global engagement with the millions of alumni of U.S. government sponsored and U.S. government-facilitated exchanges. Supporting overseas missions as the nexus of alumni engagement, Alumni Affairs develops and disseminates best practices, trains Public Diplomacy (PD) officers and Locally Employed Staff (LES) on alumni engagement strategies and manages a suite of strategic tools that include thematic events, professional development seminars, small grant programs, social media, and virtual programs. Alumni Affairs also engages directly with U.S. alumni. BridgeUSA launched two STEM initiatives in coordination with OSTP in 2022. Both initiatives were designed to expand STEM-based exchanges in support

of the Administration's strategic priorities. One is the Academic Training STEM Extension, which provides pre-doctoral level (i.e., bachelor's and master's degrees) exchange visitors in the College and University Student category an academic training extension of 18-months, giving them a total of up to 36 months. The previous maximum for non-doctorate STEM students was 18 months. The second is the Early Career STEM Research Initiative, which connects U.S. STEM businesses and research institutions with J-1 exchange visitors seeking STEM training and research experience through Department-designated BridgeUSA sponsors.

- **ED's** Office of Career, Technical, and Adult Education (OCTAE) launched Unlocking Career Success,[64] which is an interagency initiative that reimagines how our nation's high schools prepare all students to thrive in their future careers. This joint effort across the Departments of Education, Labor, and Commerce will support public and private sector leaders, government agencies, and other community-based organizations to help students earn postsecondary degrees and industry credentials that our employers need, and our economy demands. ED's OCTAE also announced 19 new grant awards totaling $25 million through the first-ever Perkins Innovation and Modernization,[65] Career Connected High Schools (CCHS) grant program. Grantees will leverage four evidence-based strategies, or "keys," to help students in unlocking career success including: providing postsecondary education and career guidance; increasing access to dual or concurrent enrollment programs; increasing work-based learning opportunities; and providing industry-recognized credentials. ED's Office of Postsecondary Education HSI STEM and Articulation Program supports Vaughn College, which offers STEM Day events and Manufacturing Day Conferences for high school students, faculty, partnering institutions of higher education, and industry leaders. Vaughn's STEM Day activities include workshops on topics like cybersecurity, AI, potentiometer circuit board design, and more. ED's Office of Postsecondary Education HSI STEM and Articulation Program also supports California State University, Stanislaus, which developed the program Accelerated STEM Pathways through Internships, Research and Engagement (ASPIRE). ASPIRE has launched the innovative STEM Career Ready U (STEM CRU) program that provides incoming freshmen and transfer students with on and off-campus hands-on internship experiences in collaboration with industry partners to support seamless transition into employment after graduation. The grant has connected more than 75 students to paid internship projects that are designed in collaboration with faculty and hiring managers from industry and customized to each student's desired career path in STEM.

- **EPA** continues to leverage strategic partnerships to support and enrich STEM students' experiences. For example, the Environmental Research Apprenticeship Program for College and University Students provides paid training opportunities for undergraduate and graduate students on-site at EPA's Groundwater Characterization and Remediation Division (GCRD) research facilities located in Ada, Oklahoma. Under mentorship by EPA staff, students develop environmental research projects, which provide essential work-based learning and real-world technical experience to the students. EPA's Office of Research and Development (ORD) recently began engagement with the Waste-management Research Consortium (WERC) Environmental Design Contest, cosponsoring a Task related to ORD's ongoing research priorities. Through the Contest, undergraduate students develop innovative solutions to real-world environmental challenges and present them through various formats at the annual competition. The contest directly prepares students to enter the STEM workforce through practical experience and engagement with government and industry professionals. EPA's P3 program engages multidisciplinary teams of undergraduate and graduate students in education and training opportunities to support STEM-based learning. Students receive paid compensation if they are considered employees of university or may receive stipends or travel assistance for participation on the grant. Team members take in-class experiences and knowledge and use it to develop innovative and sustainable solutions to pressing public health and environmental challenges. As a requirement of the grant, teams attend and showcase their designs at the EPA National Student Design ExpoP, which is co-located with

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[64] https://cte.ed.gov/unlocking-career-success/home
[65] https://cte.ed.gov/grants/innovation-and-modernization-grant-program

the TechConnect World Innovation Conference, where they engage and network with technology leaders. P3 grants are student-led giving students the opportunity to gain research, leadership, and management experience skills significant for careers in the STEM workforce.

- **NASA** engaged students in transdisciplinary learning opportunities through NASA's Artemis Student Challenges and The GLOBE Program, allowing students to contribute to the Artemis mission and our understanding of interconnected Earth's systems, respectively. NASA's internships program established a new website and provided virtual internship experiences over the course of the pandemic, leading to broader access to NASA internship opportunities. Female representation in NASA's internship program has grown from 39% to 50% over the past three years, and NASA interns represent all 50 states; Washington, DC; the Virgin Islands; and Puerto Rico. NASA expanded its existing partnership with Microsoft to develop the Minecraft Artemis Missions, released in March 2023. Minecraft Artemis Missions was developed to engage students ages 8 and up in NASA's next chapter in human spaceflight and encourage them to see themselves as future astronauts or scientists.

- To foster the growth of a globally competitive and diverse research workforce, **NSF** has launched several Dear Colleague Letters and programs. NSF issued a new Dear Colleague Letter on Future Topics for Workforce Development in Emerging Technology Career Pathways (NSF 23-100)[66] to seek input about challenges and opportunities related to investing in robust and engaging pathways for talent interested in working in emerging technology areas. Rapid advances in AI are transforming K–12 schools, including how teachers do their work and how students use technology to learn and carry out assignments such as writing and coding. Schools need research-based findings to harness the power of AI and support equitable and inclusive education while mitigating the risks of AI. In the Dear Colleague Letter, Rapidly Accelerating Research on Artificial Intelligence in K–12 Education in Formal and Informal Settings (NSF 23-097),[67] NSF is calling on the research community for rapid response research proposals to study the use and teaching of fast-changing AI in K–12 classrooms and informal settings. NSF launched a Dear Colleague Letter Supporting Cybersecurity & Privacy Education and Workforce Development (NSF 23-091)[68] that focuses on the development of evidence-based and evidence-generating approaches to improve cybersecurity education and workforce development at the K–12, undergraduate, graduate, and professional education levels. This Dear Colleague Letter aims strengthen the national cybersecurity workforce pipeline via the NSF CyberCorps®: Scholarship for Service program and the Cyber Defense Education and Training program at the Cybersecurity and Infrastructure Security Agency. NSF also announced a Skills Training in Advanced Research & Technology (START) Dear Colleague Letter (NSF 23-093)[69] for awardees of the Advanced Technological Education (ATE) Program, the Industry-University Cooperative Research Centers (IUCRC) Program, and the Engineering Research Centers (ERC) Program that provides students, faculty, and student/faculty teams in two-year Institutions of Higher Education (2-yr IHEs) with experiential learning opportunities for advanced skills development involving IUCRC or ERC associated projects. These opportunities support participants in acquiring core professional competencies and skills to support careers in sectors of the U.S. economy served by IUCRCs and ERCs. In addition, the Dear Colleague Letter provides for direct interaction with industry including mentored experiences at an industry member site/facility.

  NSF created the Expanding Capacity in Quantum Information Science and Engineering (ExpandQISE) program (NSF 23-551)[70] initiative to support research and training that will lead to scientific and engineering breakthroughs in quantum information science and engineering, while broadening participation and

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[66] https://new.nsf.gov/tip/updates/nsf-seeks-input-novel-approaches-emerging

[67] https://www.nsf.gov/pubs/2023/nsf23097/nsf23097.jsp

[68] https://www.nsf.gov/pubs/2023/nsf23091/nsf23091.jsp

[69] https://www.nsf.gov/pubs/2023/nsf23093/nsf23093.jsp

[70] https://new.nsf.gov/funding/opportunities/expanding-capacity-quantum-information-science

securing a talent pipeline matched to the needs of this emerging field. NSF's Innovation in Two-year College STEM Education (ITYC) solicitation (NSF 23-584)[71] encourages innovative and potentially transformative approaches that address the specific opportunities and challenges evident at two-year colleges in an effort to accelerate the impact of inclusive and evidence-based practices in more than 1000 two-year colleges across the country. NSF created the Future Manufacturing Program (NSF 23-550)[72] to support fundamental research and education of a future workforce and to overcome scientific, technological, educational, economic, and social barriers to catalyze new manufacturing capabilities that do not exist today. NSF also hosted The Future of Microelectronics Education Workshop,[73] bringing together members of different communities involved in microelectronics education to discuss current practices and partnerships, as well as the needs for the future of microelectronics education and ideas for approaches to fill these gaps.

- **SI's** STEM education activities at Smithsonian Astrophysical Observatory (SAO) are wide-ranging, primarily funded through PI-led competitive awards from NASA and NSF. These include Research Experiences for Undergraduates; major NASA-funded STEM Engagement programs associated with SAO's Chandra X-Ray Observatory and TEMPO missions; and the research, development, and scale-up of K–12 curriculum, interactive digital media, museum exhibits, and out-of-school time programs. In addition, SAO and Harvard education researchers collaborate on national-scale quantitative research studies involving the development of STEM learning assessments; predictors of effective teacher professional development; investigations of pre-college experiences that impact learners' STEM identity and career interest; and factors influencing college success in STEM. The Smithsonian Conservation Biology Institute's Center for Species Survival program offers learning opportunities for undergraduate and graduate students to gain experience in STEM fields. Specifically, participants gain knowledge in biomedical research practices, animal husbandry, and health fields. With the support of the Emerson Collective, the Smithsonian Institution is also launching a new internship program that will match 75 undergraduates from across the country with 25 Smithsonian Affiliates. The Smithsonian Learning Lab25 is a free, interactive platform for discovering millions of authentic digital resources, creating content with online tools, and sharing in the Smithsonian's expansive community of knowledge and learning. Launched in 2016 after years of research into teachers' needs and interests, the Lab's growing audience as of February 2022 is more than two million users, primarily K–12. Using Smithsonian digitized resources that now number nearly 6 million, these users have created 40,000 instructional items, such as lesson plans. Since its launch, the Smithsonian's Office of Education Technology (OET) has partnered with other Smithsonian Institution organizations, universities, and cultural organizations across the United States to fund and create new audience-specific functionality and content for the Learning Lab. Many of the resources draw on the content or knowledge from other U.S. federal agencies.

- **VA** has expanded multiple programs for veterans and transitioning service members who are pursuing STEM education and/or careers in STEM. For example, VA expanded eligibility under the Edith Nourse Rogers STEM Scholarship program to allow scholarships for those enrolled in dual-secondary degrees and health care professionals completing clinical training to become licensed to practice in a state or locality. The Rogers STEM Scholarship allows some eligible veterans and dependents in these high-demand fields to extend their Post-9/11 GI Bill benefits by up to nine months or $30,000 of additional benefits. VA also expanded the Veteran Employment through Technology Education Courses (VET TEC) pilot program to transitioning service members within 180 days of their separation. In addition, VA increased the annual funding for the program from $15 million to $45 million, due to the high demand and usage of the program. Additionally, VA launched the VET TEC Employer Consortium to bridge the gap between program completion and meaningful employment. The collaboration between Training Providers, Employers, and VA within the VET TEC Employer Consortium creates a key space for students to make connections, attend events hosted by VA and employer-

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[71] https://www.nsf.gov/pubs/2023/nsf23584/nsf23584.htm?org=NSF

[72] https://new.nsf.gov/funding/opportunities/future-manufacturing-fm

[73] https://new.nsf.gov/events/nsf-microelectronics-education-virtual-workshop

partners, and be primed for employment success at the completion of their program. VA, in partnership with IBM, also launched IBM SkillsBuild for VET TEC students. IBM SkillsBuild is a free online learning platform that provides adult learners the opportunity to learn IT skills and provides bridges to current employment opportunities.

Select Agency Highlights in Support of
Space-Related STEM Education and Workforce

In September 2022, the White House Office of Science and Technology Policy (OSTP) and National Space Council (NSpC) produced the **Interagency Roadmap to Support Space-Related STEM Education and Workforce**. OSTP and NSpC later formed, within CoSTEM, the interagency Space STEM Task Force, to enhance the diversity, strength, and growth of the space workforce. Three working groups (Inspiration, Pathways, and Workforce) developed recruitment and outreach materials, launched a social media awareness campaign, created online repositories of space-focused STEM learning resources, staffed recruitment events, and conducted in-person and virtual education and career pathways information sessions. These initiatives aimed to inspire and prepare students and educators and attract a more diverse pool of talent to space-related STEM fields and careers. Through this task force, CoSTEM and National Space Council departments and agencies contributed to the development of a robust and qualified space workforce, which is essential for maintaining U.S. leadership in space.

Interagency
Roadmap to Support
Space–Related STEM Education
and Workforce

A Report by the

National Science and Technology Council

of the

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

September 2022
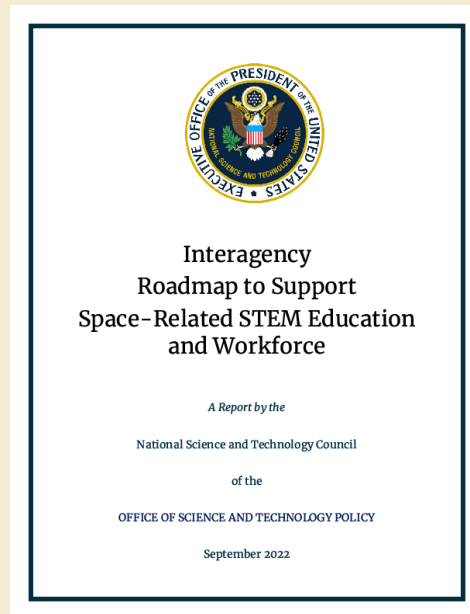
NASA: NASA staff co-led the Space STEM Task Force (SSTF) and led the Inspiration Working Group under the SSTF. Under the umbrella of the SSTF, NASA contributed to the development of interagency space STEM teaching, learning, and career resources housed on the Smithsonian Science Education Center's website; contributed content to an interagency social media campaign designed to raise awareness of space-related careers; and provided subject-matter experts to support the execution of an interagency space career webinar. Additionally, given NASA's mission, NASA's STEM engagement efforts are broadly aligned with the objectives of the Roadmap.

SI: In FY22, under the "Your Place in Space" initiative, the Smithsonian collaborated with the National Space Council and OSTP, along with multiple federal agencies, to launch a new Space STEM Career Resources Guide for K–12 Teachers and Students, along with a consolidated list of federal space STEM online resources for K–12 students and teachers.

Select Agency Highlights in Support of
[Space-Related STEM Education and Workforce](#)

DOD: In September 2022, DOD STEM launched a [Space Careers webpage](#) which showcases career paths and opportunities in Space STEM across the DOD, increases awareness about military and civilian space career opportunities, and features space technology jobs in action at the DOD. In December 2022, the third annual STEM2Space campaign was highly successful, with over 680 events across the nation, and locations in Puerto Rico, Cuba, Germany, Guam, Italy, Japan, and the United Kingdom. STEM2Space is a U.S. Space Force birthday volunteer tradition where Guardians guest teach a class in a K–8 setting based on an introduction to space curriculum. Over 325 volunteer civilians, Guardians, and Airmen engaged in activities, including a two-day civic engagement tour in Pittsburgh, PA from Vice Chief of Space Operations, Gen. David D. Thompson, to further knowledge about the U.S. Space Force, advocate for STEM education, and visit academic institutions conducting research and development for space technologies.

DOC/NIST: James Webb Space Telescope (JWST) First Images Community Event, held at the Boulder Public Library, was a free and open-to-the-public event directly addressing the Roadmap's Goal 1: Inspire greater engagement from educators and learners in space-related STEM content and fields. The event was broadly promoted among local pre-K–12 school districts, increasing the reach of and equitable access to pre-K–12 space-related education materials, resources, and activities. The approximately 100 participants learned about indicators for life on planets, new JWST science, and JWST data that highlights astronomical discoveries. Speakers included experts Dr. Greg Wirth of Ball Aerospace, Gretchen Greene of the National Institute of Standards and Technology (NIST), and Rose Smith of the University of Colorado's Sommers-Bausch Observatory. The speakers' talks directly addressed the Roadmap's Objective 1.1: Increase awareness of the breadth of space-related careers.

DOC/USPTO: USPTO worked with NASA HUNCH Design and Prototyping to provide innovation and intellectual property education modules across a national network of 277 participating high schools. USPTO in coordination with the USPTO Texas Regional Office served as judges at the 2023 Innovation Day for NASA HUNCH and at the NASA Minority University Research and Education Project (MUREP) Innovation Tech Transfer Idea Competition (MITTIC) at NASA HQ in Washington, DC, and the Johnson Space Center in Houston, Texas. USPTO has provided innovation and intellectual property education to high school students and educators globally in the Conrad Innovation Challenge. The Conrad Innovation Challenge is an annual competition that challenges students to create and build innovative solutions and apply their scientific, social, and economic knowledge to solve real-world problems.

ED's Office of Career, Technical, and Adult Education (OCTAE) launched the [Your Place in Space Challenge](#). This is the first challenge in the career and technical education (CTE) [Momentum](#) series, an annual challenge series to prepare high school students for rewarding careers and increase access to CTE. The Your Place in Space Challenge invited high schools to submit designs for a product or service that will contribute to space missions and exploration.

NSF: NSF launched a Dear Colleague Letter on [Supplemental Funding for Space-Related Preparation and Awareness for Career Equity](#) (NSF 22-123) to support the [United States Space Priorities Framework](#) by providing funds to active NSF awardees with projects at the intersection of the science, technology, engineering, and mathematics (STEM) and space ecosystems, that aim to improve diversity in the space workforce; some example careers can be seen in solar and space physics research, aerospace, advanced manufacturing, quantum computing, communication, nanotechnology, and AI. NSF received dozens of inquiries to the Space Dear Colleague Letter and subsequently made four supplemental awards, and one new standard award, in support of the Space Priorities initiative.

Closing Summary

The 2018 Federal STEM Education Strategic Plan was released following a White House State-Federal STEM Education Summit held earlier that year.[74] The central objective of the Strategic Plan was to ensure lifelong access to high-quality STEM education for all Americans and to position the U.S. as the global leader in STEM literacy, innovation, and employment. To achieve this objective, the strategy identified three overarching goals: build strong foundations for STEM literacy; increase diversity, equity, and inclusion in STEM; and prepare the STEM workforce for the future. Supporting these goals were four pathways: develop and enrich strategic partnerships; engage students where disciplines converge; build computational literacy; and operate with transparency and accountability. Progress reports released in 2019,[75] 2020,[76] 2021,[77] and 2022[78] summarized efforts made to achieve the strategic objectives, including an inventory of federal programs, their budgets, and alignment with the goals and pathways of the Plan. This is the last report to capture activities supporting the 2018 Strategic Plan and its implementation through Spring 2023. This report addresses reporting requirements from the *America COMPETES Reauthorization Act of 2010*, the *American Innovation and Competitiveness Act of 2017*, and the *CHIPS and Science Act of 2022*.[79] Additional information about the federal STEM education portfolio and agency investments in STEM education can be found in the appendices. Future progress reports will address implementation of a new CoSTEM strategic plan, under development at the time of release of this report.

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[74] https://trumpwhitehouse.archives.gov/wp-content/uploads/2018/06/Summary-of-the-2018-White-House-State-Federal-STEM-Education-Summit.pdf

[75] https://trumpwhitehouse.archives.gov/wp-content/uploads/2019/10/Progress-Report-on-the-Federal-Implementation-of-the-STEM-Education-Strategic-Plan.pdf

[76] https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/Progress-Report-Federal-Implementation-STEM-Education-Strategic-Plan-Dec-2020.pdf

[77] 2021-CoSTEM-Progress-Report-OSTP.pdf (https://www.whitehouse.gov/wp-content/uploads/2022/01/2021-CoSTEM-Progress-Report-OSTP.pdf)

[78] https://www.whitehouse.gov/wp-content/uploads/2023/02/Final_2022_CoSTEM_Progress_Report.pdf

[79] https://uscode.house.gov/view.xhtml?req=(title:42%20section:6621%20edition:prelim

Appendices

Appendix 1. Agency Alignment to Plan Pathways and Objectives (Version: 12.04.2018)

GOALS FOR AMERICAN STEM EDUCATION

★ Build Strong Foundations for STEM Literacy ★

★ Increase Diversity, Equity, and Inclusion in STEM ★

★ Prepare the STEM Workforce for the Future ★

Pathways	Objectives	DOC	DOD	DOE	DOI	DOL	DOS	DOT	ED	EPA	HHS	NASA	NSF	SI	USDA
Develop and Enrich Strategic Partnerships	Foster STEM Ecosystems that Unite Communities	●	●	●	●		●	●	●	●	●	●	●	●	●
	Increase Work-Based Learning and Training through Educator-Employer Partnerships	●	●	●	●	●		●	●	●	●	●	●	●	●
	Blend Successful Practices from Across the Learning Landscape	●	●	●			●	●	●				●	●	●
Engage Students where Disciplines Converge	Advance Innovation and Entrepreneurship Education	●	●	●			●	●	●	●	●		●		●
	Make Mathematics a Magnet	●	●	●					●				●		●
	Encourage Transdisciplinary Learning	●	●	●	●			●	●	●	●	●	●	●	●
Build Computational Literacy	Promote Digital Literacy and Cyber Safety	●	●				●		●		●		●		●
	Make Computational Thinking an Integral Element of All Education	●	●	●	●				●		●		●	●	●
	Expand Digital Platforms for Teaching and Learning	●		●					●	●			●	●	●
Operate with Transparency and Accountability	Leverage and Scale Evidence-Based Practices Across STEM Communities	━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━													
	Report Participation Rates of Underrepresented Groups	━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━													
	Use Common Metrics to Measure Progress	━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━													
	Make Program Performance and Outcomes Publicly Available	━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━													
	Develop a Federal Implementation Plan and Track Progress	━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━													

Appendix 2. Portfolio of Programs Supporting Veterans and Military Spouses in STEM

The *Supporting Veterans in STEM Careers Act* was signed in February 2020 to improve the representation and equity of veterans and military spouses in STEM fields. The *Act* directed the White House Office of Science and Technology Policy (OSTP) to develop and facilitate the implementation of a strategic plan to support veterans, service members, and military spouses in STEM education and careers by establishing an Interagency Working Group (IWG) to coordinate efforts across the federal government.

The resulting *Strategic Plan to Improve Representation of Veterans and Military Spouses in STEM Careers*,[80] published in December 2021, addressed points of intersection between STEM education and barriers to growing the domestic STEM workforce, as well as changing conditions that could positively influence the employment of veterans and military spouses. The Plan identifies overarching goals and specific actions the federal government can take to address barriers veterans, transitioning service members, and military spouses experience when pursuing their education in STEM and STEM careers. The Plan also proposes workforce investments that fuel the expansion of science and engineering to maintain global leadership in research and development (R&D).

As part of the implementation of the Plan, the Interagency Working Group on Veterans and Military Spouses (IWGVS) conducted a data call in 2022 to gather information on federal investments for military members, veterans, and military spouses that include STEM education and/or STEM career components. Collection and analysis of these data streamlined connections with existing federal government STEM investments and will inform policymaking.

Of the 19 agencies on CoSTEM at the time of the data call, 14 participated in the data call. Of the 14 respondents, five agencies (DOD, DOL, NSF, USDA, and VA) reported operating STEM investments with an emphasis on military members, veterans, and/or military spouses. Combined, these five agencies execute 25 such investments (Table 2.1). Of the 25 investments, six benefit military members, 19 benefit veterans, and six benefit military spouses.

Table 2.1. Investments Included in the Data Call

Agency	Investment
DOD	Military Service Academies
	Credentialing Programs
	United Services Military Apprenticeship Program
	Voluntary Education Tuition Assistance
	SkillBridge
	My Career Advancement Account (MyCAA)
	Spouse Education and Career Opportunities (SECO)
	Military Spouse Employment Partnership (MSEP)
	DOD SMART Scholarship
	Military Academy Internship Program
DOL	DOL H-1B Skills Training Grants
	Veterans and Military Transition Center
	MyNextMove for Veterans
	Jobs for Veterans State Grants
	Homeless Veterans' Reintegration Program
NSF	Advanced Technological Education (ATE) Program

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[80] https://www.whitehouse.gov/wp-content/uploads/2021/12/12-21_CoSTEM-STEM-Vets-Plan.pdf

	CyberCorps Scholarships for Service (SFS)
	Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)
	Veterans Research Supplement (VRS) - Engineering Directorate
USDA	Enhancing Agricultural Opportunities for Military Veterans (AgVets)
	Military Family Research and Outreach Reimbursables
	The Women and Minorities in Science, Technology, Engineering, and Mathematics Fields (WAMS)
	AFRI Agricultural Workforce Training Program (AWT)
	4-H Military Partnership Outreach and Support Projects
VA	Rogers STEM Scholarship

Table 2.2 highlights agency responses on offered STEM activities. Agencies also reported several of these activities as best practices (evidence-based, promising, or emerging, as defined in Box 2.1) for the inclusion of or increased participation of military members, veterans, or military spouses in STEM education or STEM careers and/or as best practices for increasing STEM content, activities, and/or opportunities in investments focused on military members, veterans, and/or military spouses.

Box 2.1: Definition of Best Practices[81]

> **Evidence-Based Practices:** To the greatest extent possible, the decisions that shape STEM education programs and policies—by stakeholders alike—will be grounded on a reliable evidence base, will account appropriately for individual variation in stakeholders' and programs' needs, and will support the generation of new insights on program effectiveness. Evidence is defined here as information from research and evaluation that has met some established test of validity. Processes that involve the development and use of evidence should be accessible and transparent to all stakeholders.
>
> **Promising Practices:** Promising practices are those that are consistent with principles established by research but have not been verified by evaluation. "Promising practices" can also be used to refer to practices that are known to be "evidence-based" under a specific context, but are being applied in a different context.
>
> **Emerging Practices:** Emerging practices are considered to be interventions that are new, innovative, or exploratory in nature, and while they may be based on some level of evidence, that evidence is not sufficient for it to be considered a promising practice.

Eleven of the investments reported having goals and/or objectives related to diversity, equity, inclusion, or accessibility. To evaluate progress toward diversity, equity, inclusion, and accessibility goals, investments are using a variety of metrics, including race, ethnicity, and gender data for applicants and awardees. Regarding demographic data collection, fewer than a third of the investments gather data on participants' race and ethnicity, and fewer than half collect data on participants' gender. Fewer than a quarter are gathering information on whether participants reside in rural or urban areas. Only five of the 25 investments reported collecting data on participants' disability status. Most investments do not collect participants' military service information, such as the number of years of service and/or military specialty. Investments collect limited data on participants' career backgrounds: although 13 of the investments collect data on educational degrees earned, fewer than half collect

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information on participants' educational field of study, current occupation, or current employment status. Fourteen of the investments reported conducting informal assessments, with more than half doing so either annually or quarterly. Ten of the investments reported performing formal program evaluations.

Data collection on participants' military service history; educational and career background; race and ethnicity; gender and sexual orientation; rural status; and disability status by a greater number of investments would provide an increased understanding of who these investments are serving or not serving, which would, in turn, inform programmatic changes to better serve and enable targeted outreach to underrepresented groups within the military, veteran, and military spouse community. Data collection can further be improved by providing agencies with a mechanism for cross-referencing program data against military member, veteran, and military spouse data.

Future multi-agency data calls may wish to ask agencies to identify barriers to the implementation of best practices and supports needed to overcome these barriers. Gathering this information may enable more investments to transition to using evidence-based best practices and thereby improve program outcomes and maximize program impact. Additionally, investments may benefit from collecting individual-level participant data that can be disaggregated as needed to facilitate improved tracking of participants' engagement in STEM activities and the STEM workforce. Collecting program outcome data is key to expanding and ensuring equity in access to STEM opportunities for military members, veterans, and military spouses.

Table 2.2. STEM Activities and Best Practices within Investments

Reported Activity/Practice	# of Investments Reporting Activity (N = 23)	# of Investments Reporting Activity as a Best Practice (N = 17)
Has partnership activities that provide STEM education and/or career support to participants	15	13
Has communication and outreach efforts aimed at non-federal stakeholders	14	10
Has a way to collect participant feedback to support programming improvement	13	12
Supports the participation of STEM employers who provide STEM training and apprenticeship opportunities	13	11
Provides apprenticeships, mentorships, internships, and other work-based learning opportunities directly to participants	12	13
Provides social and financial supports to help participants succeed in STEM careers	12	11
Increases diversity, equity, inclusion, and/or accessibility, in general, for underrepresented groups in STEM	12	10
Promotes and advances the use of competency-based activities to help participants better understand the transferability of their (military) skills	12	6
Supports greater mobility across education, transfer of field, mobility of the workforce, and/or asynchronous work to increase access to STEM careers	11	9
Provides incentives to advance participation in STEM-relevant credentialing courses and training programs	10	6
Supports curriculum development	8	7
Maps STEM career opportunities that align with (military) knowledge and occupation codes	8	4
Partners with organizations co-located with military installations to support participants in STEM	6	5
Offers reimbursement to participants after re-licensure and re-certification	4	5
Offers/develops reciprocity agreements that establish interstate license recognition	2	2
Supports institutions of higher education to increase recruitment and retention of participants in STEM degree programs	N/A	10
Adds STEM employers to existing training and apprenticeship programs	N/A	9
Enhances STEM program to ensure greater mobility of participants (thus supporting greater education and career advancement)	N/A	9
Recruits and maintains participants in college	N/A	9
Supports institutions of higher education that increase recruitment and retention of participants in (technical) STEM careers	N/A	9
Provides incentives that advance participation in STEM-relevant credentialing courses and training programs	N/A	6
Includes STEM content in agency programs	N/A	5
Hires participants to the federal sector	N/A	4
Hires participants to the private sector	N/A	3

Appendix 3. Summary of the Federal STEM Education Investment Inventory (Appendix 4) and Summary of the FY2022 Portfolio (Appendix 5)

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. Agencies have different definitions of "programs," "projects," and "activities." The STEM education "investment" definition was created to provide a common unit of analysis.[82] The summary below aims to share common characteristics across and within the STEM Education investment portfolio. Data in this appendix is derived from two data calls that agencies responded to in 2023 about their investments in STEM education— a data call led by OMB and a data call led by OSTP. Agencies responded to multiple questions about the purpose of their investments; the participants served by their investments; how these investments are supporting diversity, equity, and inclusion; how agencies are reporting on participation in their investments; and the evaluations that were completed or are in-progress related to these investments. The figures below provide an overview of these responses across the federal portfolio. Each year, CoSTEM/OSTP refines its data collection and reporting process to produce the portfolio. Table 3.1 reflects how many investments were collected as part of the 2023 data call. Figure 3.1 shows how many investments provided additional information for the CoSTEM portfolio.

Table 3.1. Federal STEM Education Budgets (FY2022, FY2023, and FY2024)

Agency	Number of Investments in CoSTEM Inventory (Appendix 4)	FY2022 Actual ($, million)	FY2023 Estimated ($, million)	FY2024 President's Budget ($, million)	Number of Investments Reflected in FY2022 Portfolio (Appendix 5)
CNCS/AmeriCorps	4	123.1	123.1	123.1	4
DHS	2	11.2	9.7	11.7	1
DOC[83]	13	44.7	49.2	59.6	13
DOD	10	231.4	251.7	223.3	13
DOE	56[84]	294.5	339.0	441.4	27[85]
DOI	1	1	1	1	1
DOL	1	0	63.2	0	1
DOT	11	115.5	117.2	103.0	7

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[82] https://www.whitehouse.gov/ostp/news-updates/2021/12/31/nstc-progress-report-on-the-implementation-of-the-federal-stem-education-strategic-plan/

[83] Programs funded by the *American Rescue Plan Act* are excluded from this table; all figures in Appendix 3; Appendix 4; and Appendix 5.

[84] The NNSA Minority Serving Institution Partnership Program (MSIPP) and the NNSA Tribal Education Partnership Program (TEPP) are reflected as two separate programs under "Number of Investments in CoSTEM Inventory" and in Appendix 4.

[85] The NNSA Minority Serving Institution Partnership Program (MSIPP) and the NNSA Tribal Education Partnership (TEPP) are reflected as one program under "Number of Investments Reflected in FY2022 Portfolio;" in all figures in Appendix 3; and in Appendix 5.

ED[86]	13	460.6	546.3	600.2	9
EPA	3	6.1	6.6	6.4	3
HHS	70[87,88,89,90]	1028.9	1089.3	1124.7	52[91,92,93,94]
NASA	7	174.2	185.4	206.8	7
NRC	3	26.8	30.2	17	0
NSF	27[95]	1547.2	1667.4	1789.3	26[96]
SI	1	5.7	5.1	6.3	1
USDA	20	441.2	207.2	233.7	16
VA	2	133.7	137.8	103	2
Grand Total	244	4645.8	4829.4	5050.5	183

[86] Investments funded by the *American Rescue Plan Act* are excluded from this table; all figures in Appendix 3; Appendix 4; and Appendix 5.

[87] The Cancer Research Education Grants Program (R25) and National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed) are counted as one investment under "Number of Investments in CoSTEM Inventory" and in Appendix 4. The funding for the National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed) is encompassed within the funding for the Cancer Research Education Grants Program (R25).

[88] The Fogarty Global Health Training Program (US predoc component) and the Launching Future Leaders in Global Health (LAUNCH) Research Training Program are reflected as two separate programs under "Number of Investments in CoSTEM Inventory" and in Appendix 4.

[89] The Design by Biomedical Undergraduate Teams (DEBUT) Challenge is excluded from "Number of Investments in CoSTEM Inventory" and from Appendix 4 because the program's FY2022 funding fell below the reporting threshold of $300,000.

[90] The Research Initiative for Scientific Enhancement (RISE); the Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35); the Graduate Research Training Initiative for Student Enhancement (G-RISE); and the Undergraduate Research Training Initiative for Student Enhancement (U-RISE) are counted as two programs under "Number of Investments Reflected in CoSTEM Inventory" and in Appendix 4. The budgets for G-RISE and U-RISE are encompassed within the budgets for RISE and the Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35).

[91] The Cancer Research Education Grants Program (R25) and National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed) are counted as separate programs under "Number of Investments Reflected in FY2022 Portfolio;" in all figures in Appendix 3; and in Appendix 5.

[92] The Fogarty Global Health Training Program (US predoc component) and the Launching Future Leaders in Global Health (LAUNCH) Research Training Program are reflected as one program under "Number of Investments Reflected in FY2022 Portfolio;" in all figures in Appendix 3; and in Appendix 5.

[93] The Design by Biomedical Undergraduate Teams (DEBUT) Challenge is included under "Number of Investment Reflected in FY2022 Portfolio;" in all figures in Appendix 3; and in Appendix 5.

[94] The Research Initiative for Scientific Enhancement (RISE); the Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35); the Graduate Research Training Initiative for Student Enhancement (G-RISE); and the Undergraduate Research Training Initiative for Student Enhancement (U-RISE) are counted as four programs under "Number of Investments Reflected in FY2022 Portfolio;" in all figures in Appendix 3; and in Appendix 5.

[95] The Research Experiences for Teachers (RET) in Engineering and Computer Science and the Research Experiences for Teachers Sites in Biological Sciences, NSF 21-584 are counted as one program called "Research Experiences for Teachers (RET)" under "Number of Investments in CoSTEM Inventory" and in Appendix 4.

[96] The Research Experiences for Teachers (RET) in Engineering and Computer Science and the Research Experiences for Teachers Sites in Biological Sciences, NSF 21-584 are counted as two programs under "Number of Investments Reflected in FY2022 Portfolio;" in all figures in Appendix 3; and in Appendix 5.

Figure 3.1. Federal STEM Education Investments by Agency for FY2022

FY2022 Number of Programs Reflected in This Year's Portfolio
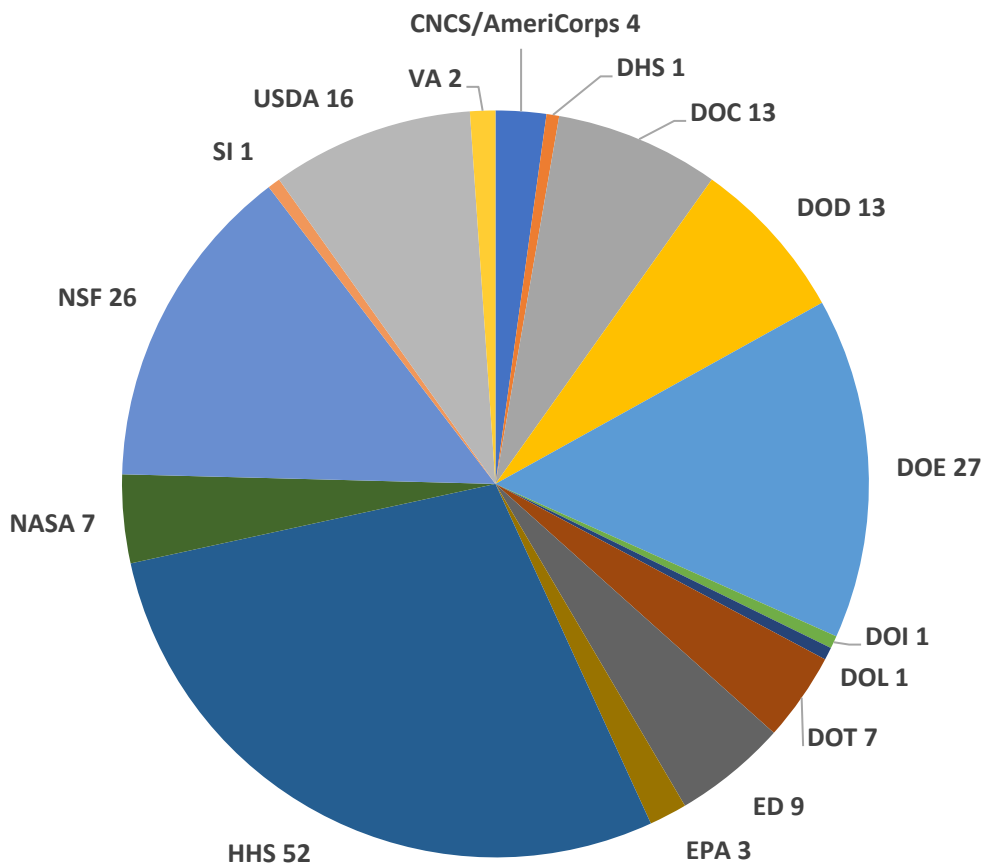
Most federal investments were created before the creation of the 2018 Federal STEM Education Strategic Plan. Nevertheless, Figure 3.2 conveys where investments align directly or indirectly to the goals and pathways of the current Plan.

Figure 3.2. FY2022 Federal Investments by Goals and Pathways

FY2022 Federal Investments by Goals and Pathways
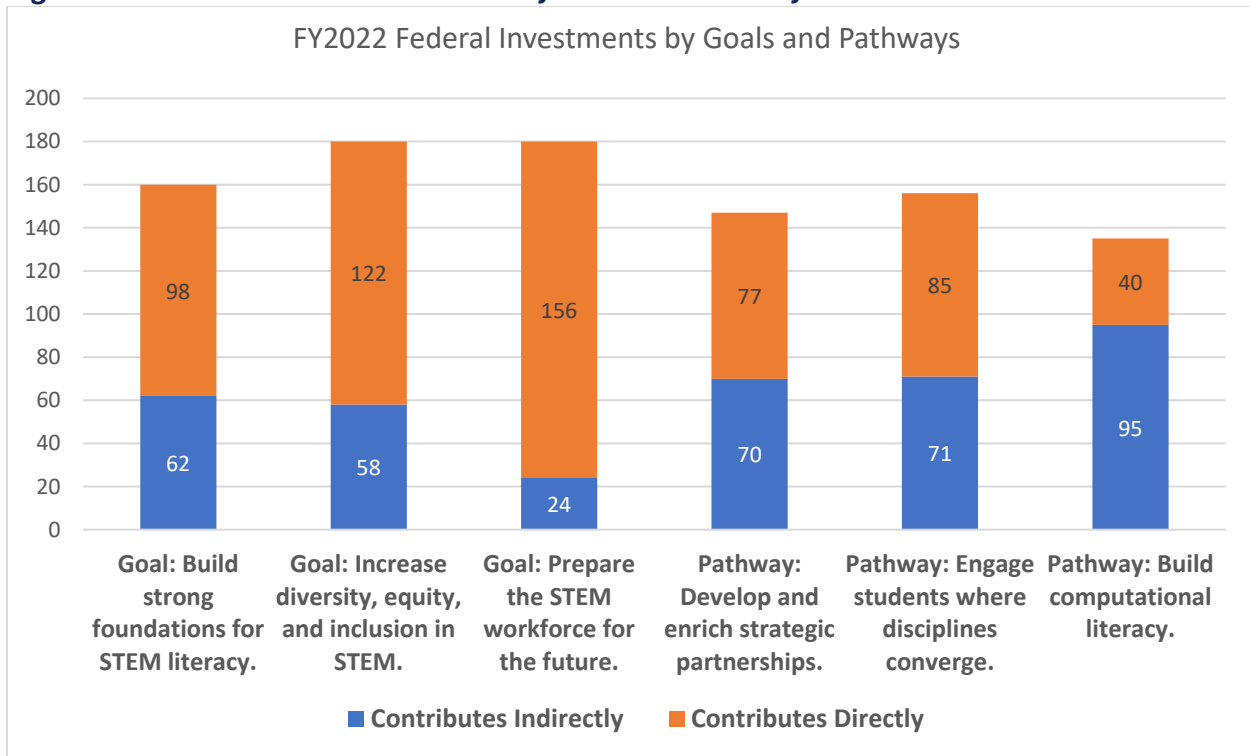
At some agencies, STEM education investments support formal and informal STEM education programming, STEM education research, and/or capacity-building opportunities to improve STEM interest and understanding and to foster a broader national STEM workforce. Other agencies may have investments that focus on mission-specific workforce education, which focuses on training a workforce directly related to an agency's mission (e.g., aerospace engineering, national security science, nuclear regulatory science) and/or developing an agency's future STEM workforce. These investments typically offer undergraduate internships, graduate scholarships, and/or capacity-building opportunities in fields tightly aligned to an agency's mission. Using the categories found in the definition of a STEM education investment,[97] agencies reported on the primary and secondary objectives of their STEM education investments. Figure 3.3 captures the primary and secondary objectives of the investments across the CoSTEM portfolio. As seen in Figure 3.3, most federal STEM education investments report STEM learning as one of their primary objectives. STEM education investments can cover a range of fields. This diversity reflects the wide range of disciplinary areas and/or transdisciplinary areas investments support, as seen in Figure 3.4.

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[97] https://www.whitehouse.gov/wp-content/uploads/2022/01/2021-CoSTEM-Progress-Report-OSTP.pdf

Figure 3.3. FY2022 Federal Investments by Primary and Secondary Objectives

FY2022 Federal Investments by Objective

Figure 3.4. FY2022 Federal Investments by Disciplinary/Transdisciplinary Area

FY2022 Federal Investments by Disciplinary/Transdisciplinary Area
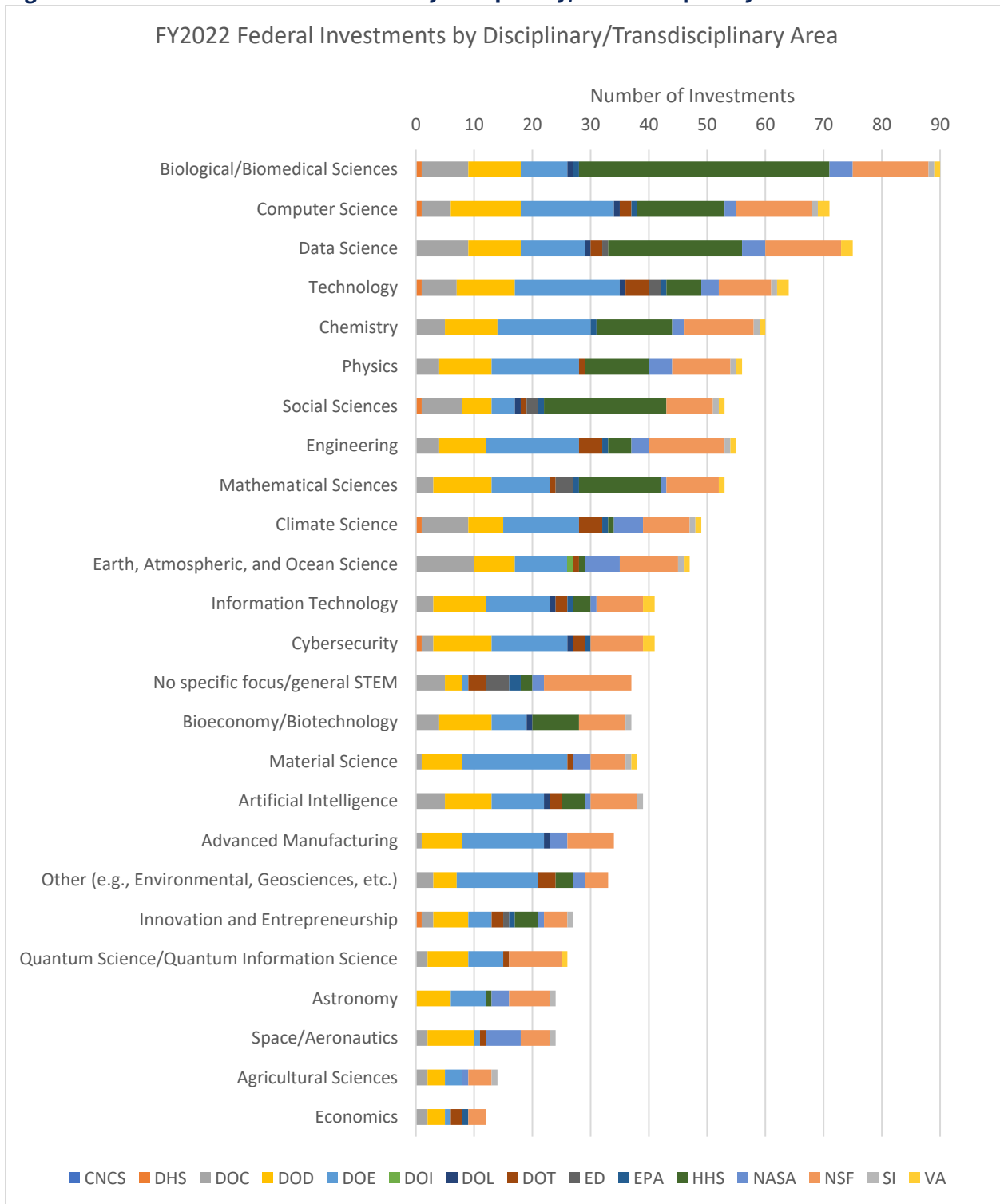
The types of funding support that investments provide are seen in Figure 3.5. This reflects some of the ways federal investments interact with organizations and/or individuals directly through funding and/or programming. Figure 3.5 does not reflect the ways that federal investments interact with organizations and/or individuals indirectly (for example, through informal activities, outreach efforts, and/or through the dissemination of resources).

Figure 3.5. FY2022 Federal Investments by Types of Funding

FY2022 Federal Investments by Types of Funding and Agency

The types of organizations that participated with and/or were served by federal investments are noted in Figure 3.6.

Figure 3.6. FY2022 Federal Investments by Participating Organizations/Organizations Served
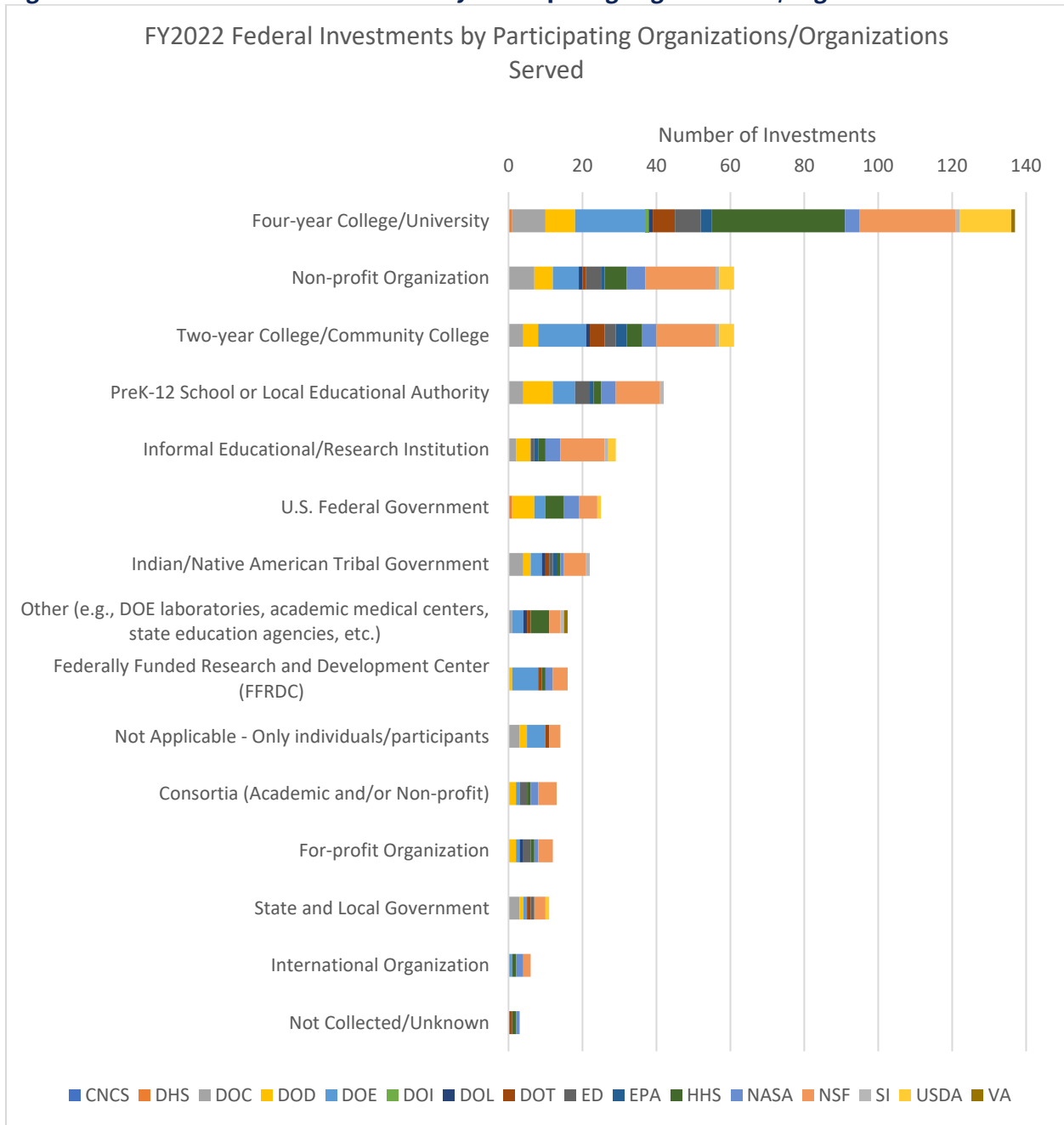
As noted, many investments directly or indirectly support the Strategic Plan's goal of increasing diversity, equity, and inclusion. Figure 3.7 notes investments that focus on organizations that serve underserved communities.

Figure 3.7. FY2022 Federal Investments with a Focus on Organizations that Serve Underserved/Underrepresented Communities

FY2022 Federal Investments with a Focus on Organizations that Serve Underserved/Underrepresented Communities
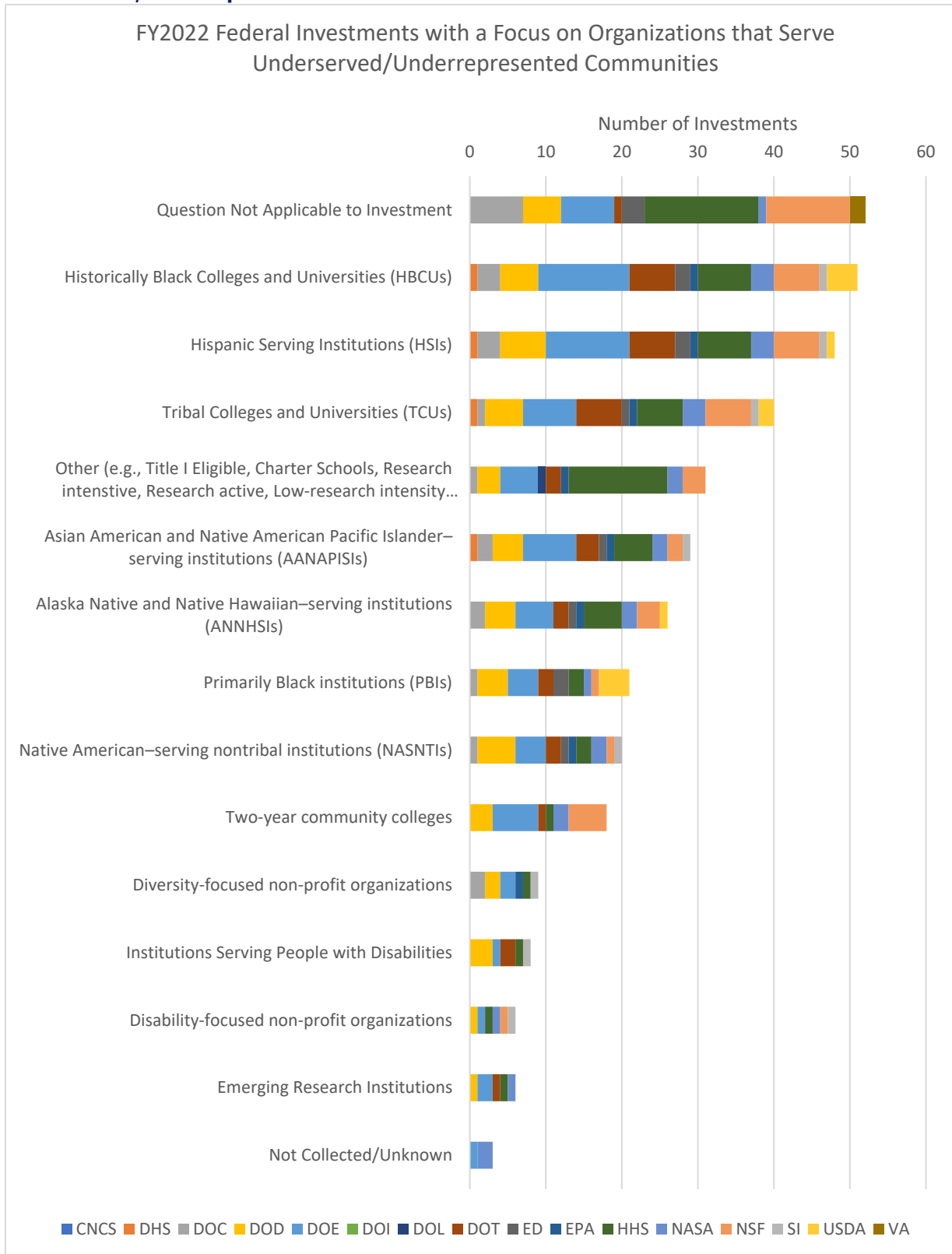
Of the two- and four-year organizations reported in Figure 3.6, Figure 3.8 shows whether the organization could have also been a Minority Serving Institution or related/similar organization.

Figure 3.8. FY2022 Federal Investments by Participating Organizations/Organizations Served, Specifically Minority Serving Institutions

FY2022 Federal Investments by Participating Organizations/Organizations Served, Specifically Minority Serving Institutions
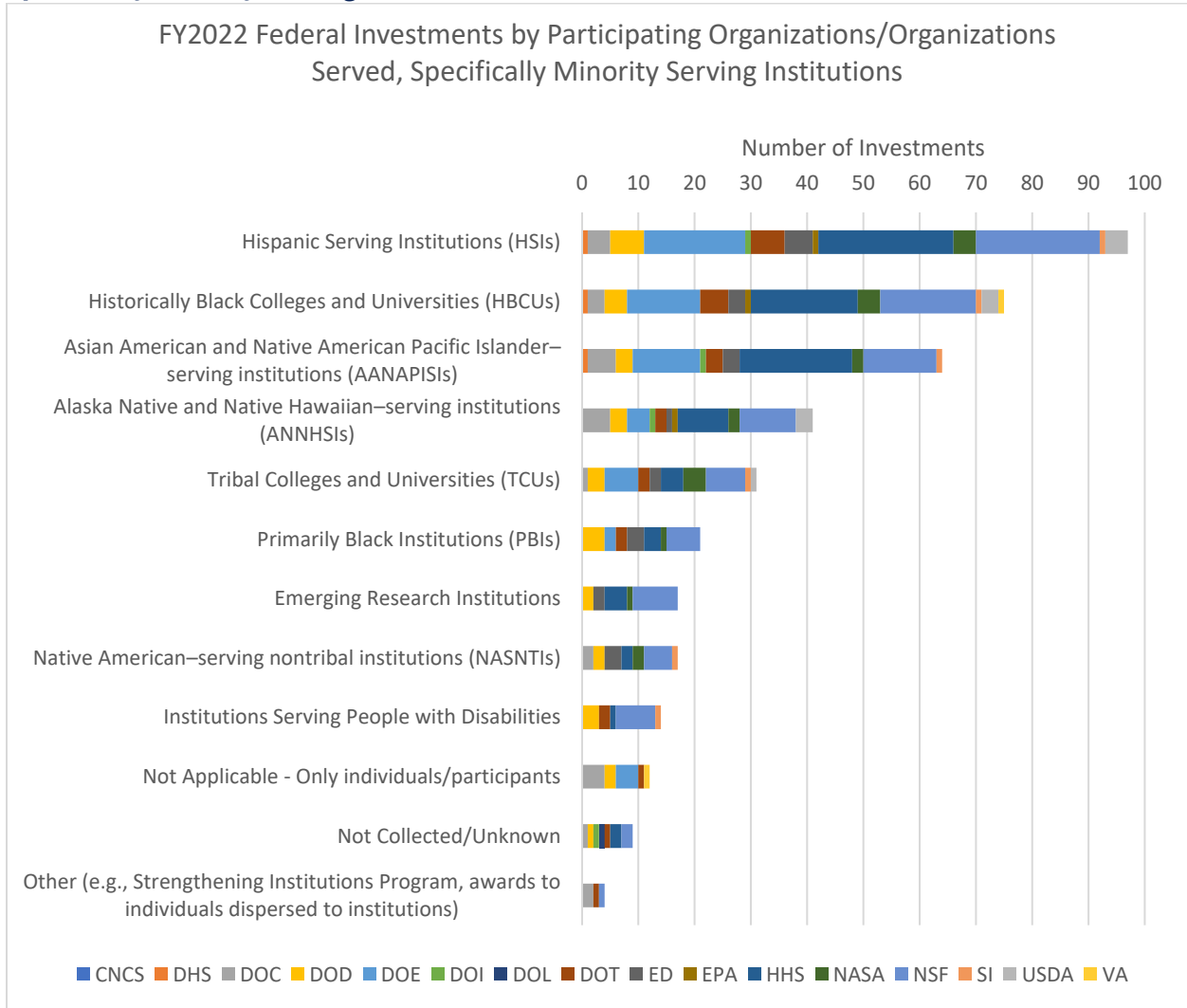
More information on how agencies fund HBCUs, TCUs, and MSIs can be found at NCSES' Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions.[98] The survey collects data from federal agencies about obligations[99] for science and engineering (S&E) activities. These obligations reflect research and experimental development (R&D); funding of fellowships, traineeships, training grants (FTTGs)[100]; R&D plant; facilities and equipment for instruction in S&E, and other general support for S&E. The most current information on federal agency investments in research to HBCUs, TCUs, and MSIs is from FY2021.[101]

According to NCSES, in FY2021, federal agency[102] obligations to institutions of higher education (IHE)[103] for science and engineering (S&E) activities was $43.2 billion.

High-Hispanic-enrollment institutions (HHEs)[104] received $3.5 billion in FY2021. Forty-nine percent of federal S&E support to HHEs was from HHS ($1.7 billion), followed by NSF ($843 million). The University of Illinois, Chicago was the leading recipient of federal S&E support among HHEs with $299 million.[101]

In FY2021, historically Black colleges and universities (HBCUs)[105] received $552 million. USDA was the largest funder of S&E support to HBCUs with $213 million. NSF and HHS each had total S&E support obligations of $140 million and $130 million, respectively. North Carolina A&T State University was the leading recipient of federal S&E support among all HBCUs with $42 million.[101]

Tribal colleges and universities[106] (TCUs) received $34 million in FY2021. NSF was the largest funder of S&E support with obligations of $18 million (51.6%). USDA followed with $14 million. Among TCUs, Diné College was the leading recipient of federal S&E support with $5 million.[101]

STEM education initiatives are often designed for many different audiences and often have to address the needs of multiple audiences. Individuals may directly or indirectly benefit from federal STEM investments; for example, university faculty may receive a grant to provide professional development to teachers, and these teachers provide enhanced instruction to students.

Agencies classify these individuals (i.e., university faculty and/or researchers, teachers, students, etc.) as primary/direct and/or secondary/indirect beneficiaries. While CoSTEM/FC-STEM has guidance[107] on how to define/classify a participant and how to determine whether a participant is a primary and/or secondary beneficiary, this guidance is still fairly new and therefore, it is not being used/applied consistently across all CoSTEM investments for reporting purposes. With more time, technical support, and continued reporting, OSTP expects increased use of the guidance and increased fidelity of the data.

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[98] https://ncses.nsf.gov/surveys/federal-support-survey/
[99] Obligations represent the amount for orders placed, contracts awarded, services received, and similar transactions during a given period, regardless of when the funds were appropriated or when future payment of money is required.
[100] Fellowships, traineeships, and training grants (FTTGs) includes all fellowship, traineeship, and training grant programs that are directed primarily toward the development and maintenance of the scientific workforce.
[101] https://ncses.nsf.gov/pubs/nsf24316
[102] Data was obtained from 33 federal agencies (14 federal departments and 19 independent agencies) that had obligations for R&D during FY2021 or FY2022, according to the NCSES report, https://ncses.nsf.gov/pubs/nsf24316.
[103] IHE as defined within: https://ncses.nsf.gov/pubs/nsf24316; footnote 2.
[104] HHE as defined within: https://ncses.nsf.gov/pubs/nsf24316; footnote 9.
[105] HBCU as defined within: https://ncses.nsf.gov/pubs/nsf24316; footnote 11. Sixty-nine of the nation's 101 HBCUs received federal obligations for S&E activities in FY2021.
[106] Tribal colleges and universities as defined within: https://ncses.nsf.gov/pubs/nsf24316; footnote 14. Twenty-nine Tribal colleges and universities received federal obligations for S&E activities in FY2021.
[107] https://www.whitehouse.gov/wp-content/uploads/2022/01/2021-CoSTEM-Progress-Report-OSTP.pdf
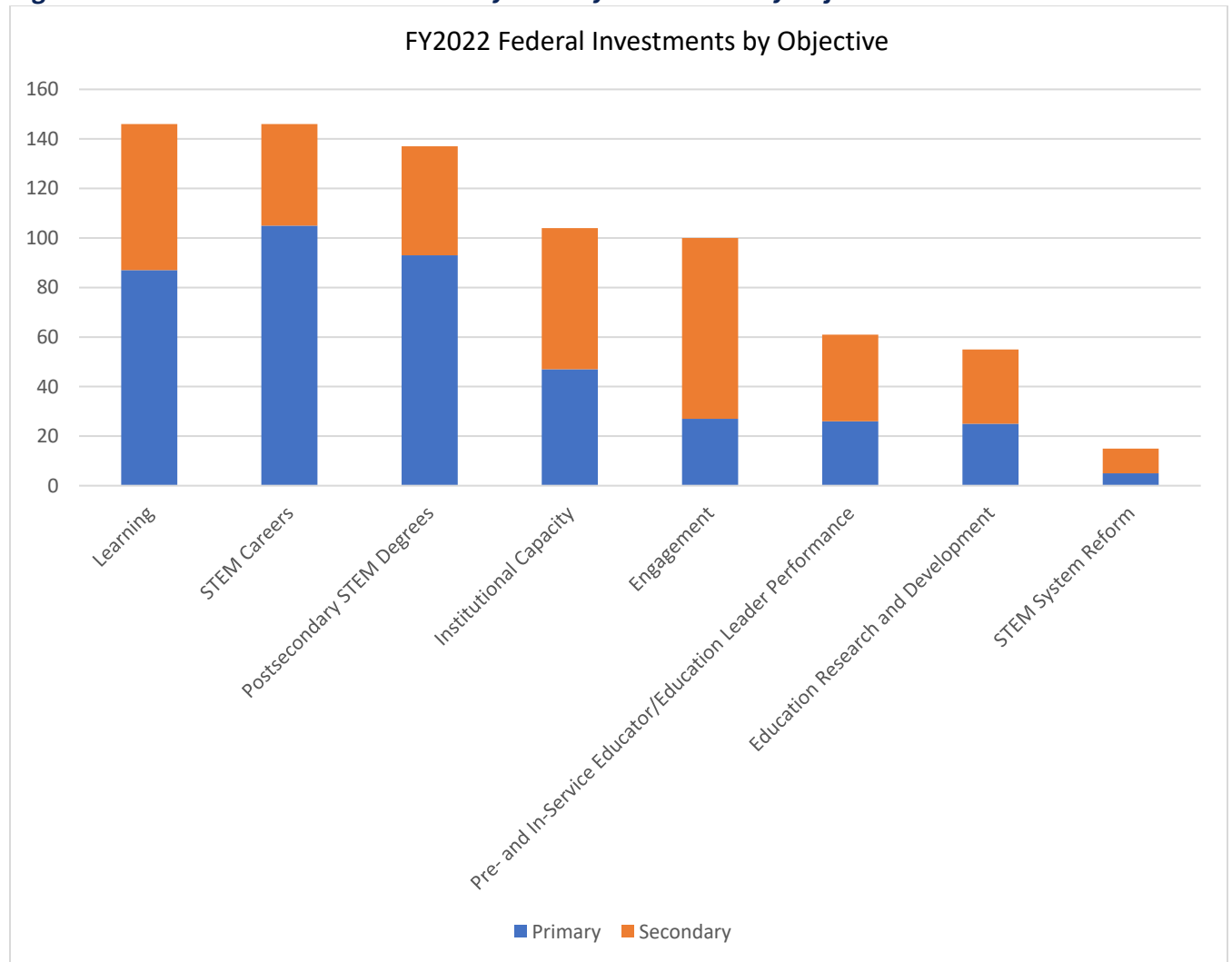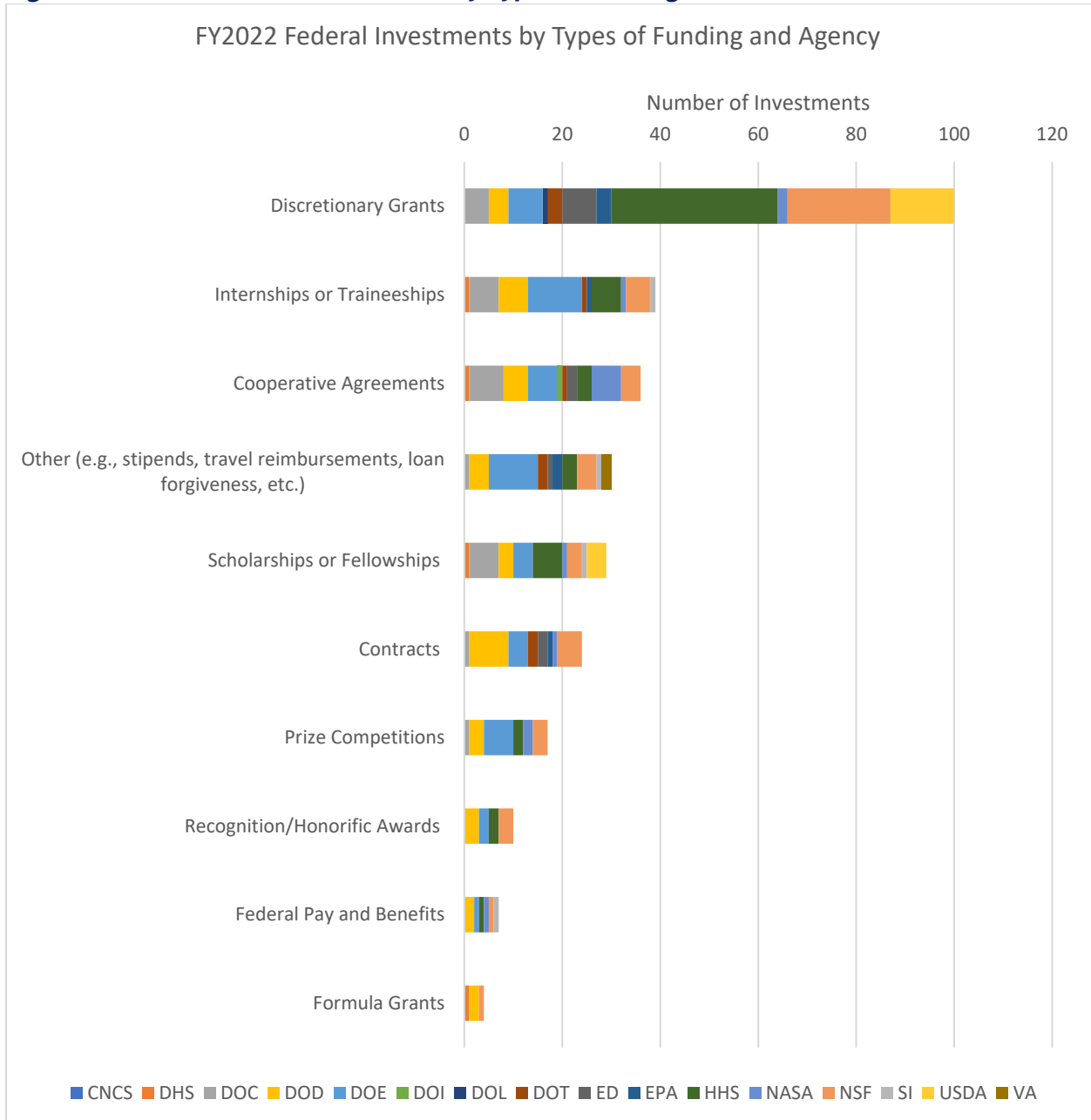
Figure 3.9. FY2022 Federal Investments by Types of Participants

FY2022 Federal Investments by Types of Participants

Number of Investments

Legend: ■ Primary or Direct Beneficiaries ■ Secondary or Indirect Beneficiaries ■ Both ■ Beneficiaries not categorized
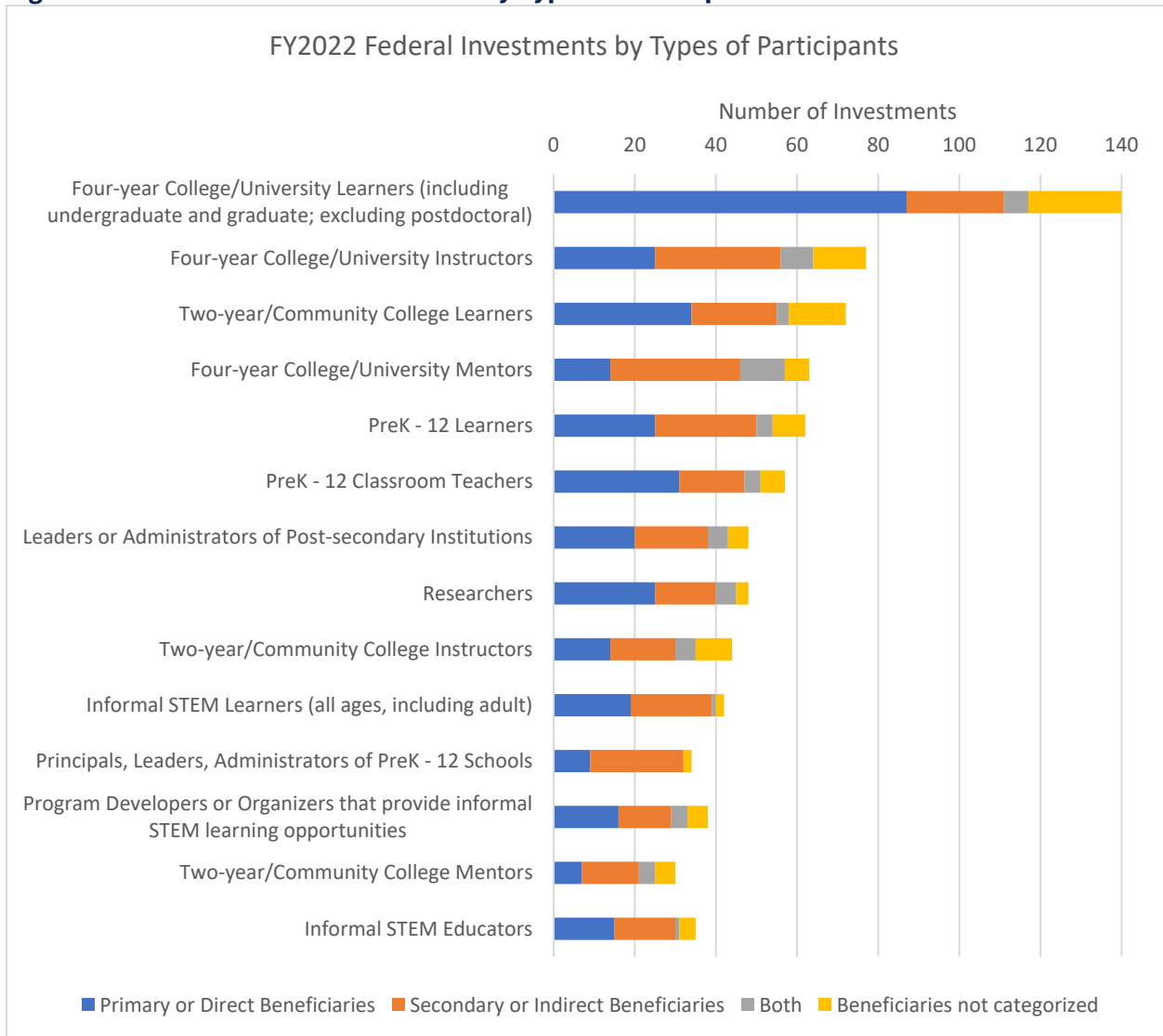
According to this year's CoSTEM data collection, the most frequently served participants among CoSTEM investments were postsecondary learners, as seen in Figure 3.9. Figure 3.10 shows the same data from Figure 3.9 but by agency (investments), and Figure 3.11 notes investments that may have a focus supporting participants from underserved/underrepresented communities.

Figure 3.10. FY2022 Federal Investments by Types of Participants

FY2022 Federal Investments by Types of Participants and Agencies
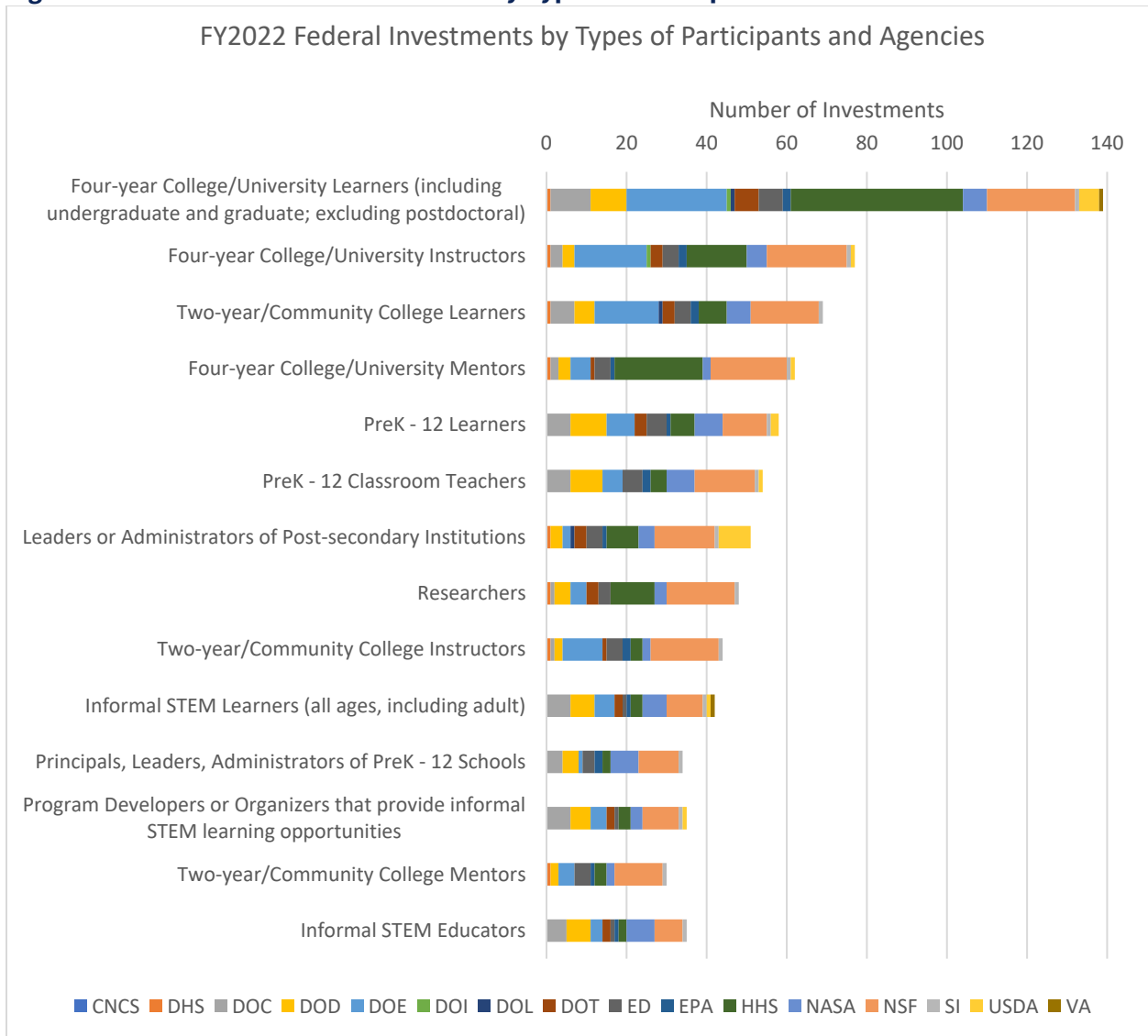
Figure 3.11. FY2022 Federal Investments with a Focus on Participants from Underserved/Underrepresented Communities

FY2022 Federal Investments with a Focus on Participants from Underserved/Underrepresented Communities
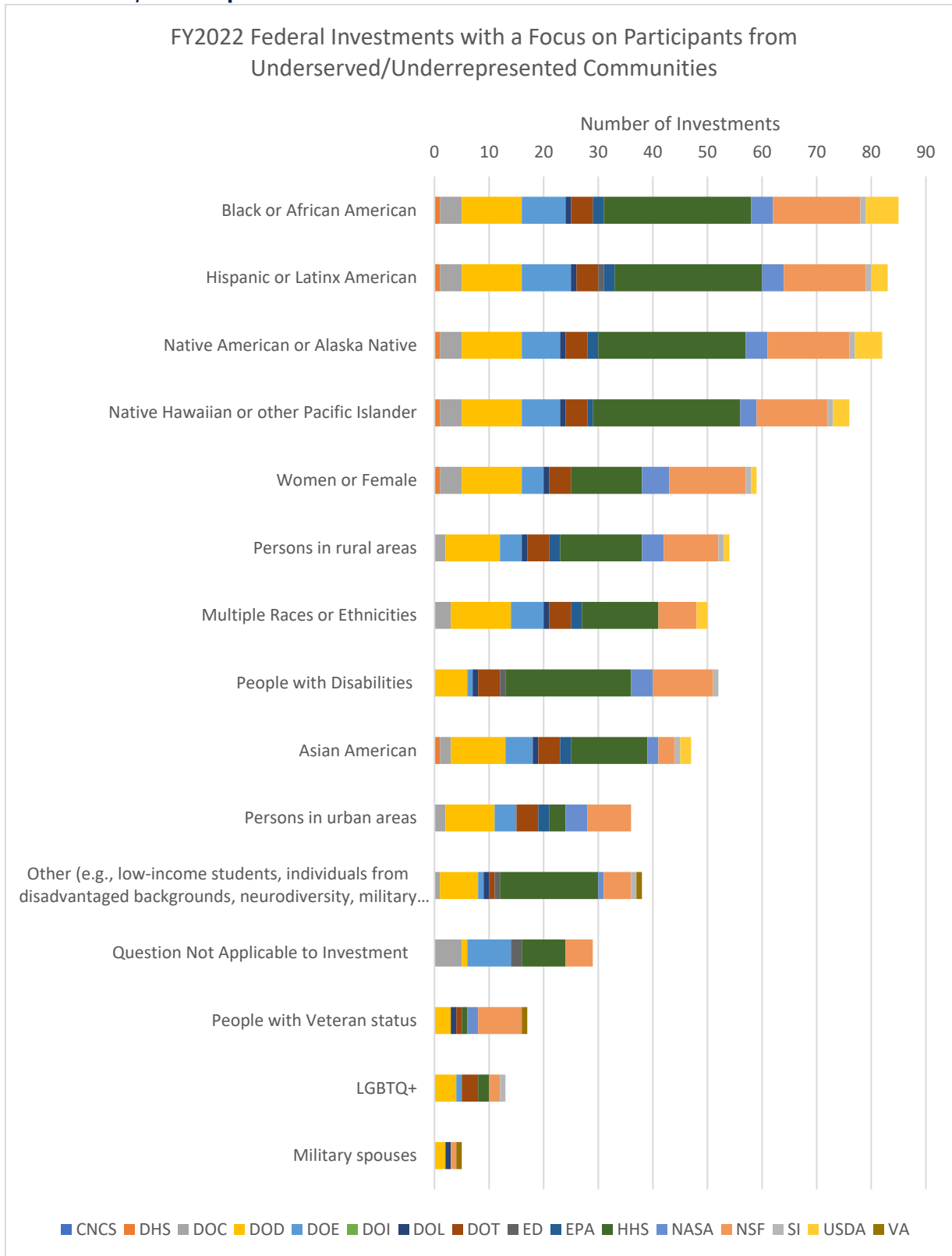
Mechanisms for data collection vary greatly across investments. During the 2023 data call, investments shared whether a program evaluation was completed in FY2022 and if a public report was available. Figure 3.12 notes investments that completed an evaluation in FY2022 and/or if there are plans to do so in the future. Other types of evidence-building activities, which occur more frequently than program evaluations, are not reflected in Figure 3.12.

Figure 3.12. FY2022 Federal Investments by Evaluations

FY2022 Federal Investments by Evaluation

■ Yes, a program evaluation was completed in FY2022. Results Publicly Available.

■ Yes, a program evaluation was completed in FY2022. Results Not Publicly Available.

■ Yes, began or continued a program evaluation in FY2022.

■ No program evaluation was conducted in FY2022. Future evaluation anticipated.

■ No program evaluation was conducted in FY2022. No plans for future evaluation reported/captured in 2023 data call.

Appendix 4. Federal STEM Education Investment Inventory

Below is a list of STEM education investments and funding levels provided to OMB during its 2023 data call on federal STEM education investments. Investments were included if they had any funding in FY2022 or FY2023. The inventory provided reflects investment consolidations and/or terminations in FY2022. Investments with no new appropriations stayed on the inventory as remaining investment funds are dispersed. Investments in the table below are alphabetized by Agency, then by Investment Name. (NC: Not Collected.)

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
CNCS/ AmeriCorps		AmeriCorps NCCCC	0.7	0.7	0.7
CNCS/ AmeriCorps		AmeriCorps State & National (Competitive)	90.5	90.5	90.5
CNCS/ AmeriCorps		AmeriCorps State & National (Formula)	28.8	28.8	28.8
CNCS/ AmeriCorps		AmeriCorps VISTA	3.1	3.1	3.1
DHS	S&T	Educational Programs - Minority Serving Institutions	7.7	7.7	5.2
DHS	CWMD	National Nuclear Forensics Expertise Development Program[108]	3.5	2.0	6.5
DOC	NOAA	Bay Watershed Education and Training (B-WET)	8.3	8.7	8.7
DOC	NOAA	Environmental Literacy Program (ELP)	2.0	3.5	3.5
DOC	NOAA	Ernest F. Hollings Scholarship Program	5.9	6.2	6.8
DOC	NOAA	Jose E. Serrano Educational Partnership Program with Minority Serving Institutions	20.0	20.8	20.8
DOC	NOAA	Margaret A. Davidson Graduate Fellowship	1.8	1.4	1.8
DOC	NOAA	Nancy Foster Scholarship Program	0.7	0.7	0.9
DOC	NOAA	National Sea Grant College Program	1.7	1.7	1.7
DOC	NIST	NIST Summer Institute for Middle School Science Teachers	0.2	0.3	0.3
DOC	NOAA	NOAA Teacher at Sea Program	0.6	0.6	0.6
DOC	NOAA	Ocean Exploration Education and Internships	0.5	1.0	0.5
DOC	NIST	STEM Pipeline for the Next Generation Scientists and Engineers with emphasis on the Graduate Student Measurement Science and Engineering (GMSE) Fellowship Program	0.8	1.0	3.2
DOC	EDA	STEM Talent Challenge	2.0	2.5	10.0
DOC	NIST	Summer Undergraduate Research Fellowship Program	0.2	0.8	0.8

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[108] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This program is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
DOD	DAF AFRL	Air & Space Forces K–12 STEM Outreach Program (Dept of Air Force K–12 STEM Program)	4.7	5.2	5.6
DOD	DAF AFRL	Air and Space Force LEGACY[109]	NC	NC	NC
DOD	DASA (R&T)	Army Educational Outreach Program (AEOP)	10.6	11.2	11.2
DOD	USD P&R, M&RA	DoD STARBASE Program	42	50	0
DOD	NSA	GenCyber[110]	NC	NC	NC
DOD	MDA	Inspiring Generations with New Ideas to Transform Education (IGNITE)	0.4	0.4	0.3
DOD	DTRA	Joint Science and Technology Institute (JSTI)	0	1	1
DOD	OUSD (R&E)	National Defense Education Program (NDEP) Science, Mathematics, and Research for Transformation (SMART) Scholarship-for-Service Program	88.8	103.9	131.7
DOD	OUSD (R&E)	National Defense Education Program (NDEP) STEM Education and Outreach	33.9	27.7	25.9
DOD	OUSD (R&E)	National Defense Science and Engineering Graduate Fellowship Program (NDSEG)	45	45	45
DOD	DON ONR	Naval Research Enterprise Internship Program (NREIP)	5.1	6.2	2.2
DOD	DON ONR	Science and Engineering Apprenticeship Program (SEAP)	0.95	1.1	0.39
DOD	NSA	Science of Security[111]	NC	NC	NC
DOE	EERE	Advanced Vehicle Technology Competitions (AVTC)	3.4	4	4
DOE	IE	Alaska Resource Education (ARE) Energy Education and Outreach[112]	0.6	0.6	0.6
DOE	EERE	Algae Technology Educational Consortium	1.1	0.9	1.4
DOE	EERE	BETO STEM Activity[113]	0	0.5	0.5
DOE	EERE	Bioenergy Research and Education Bridge[114]	0.4	0.6	0.6
DOE	EERE	BTO STEM and Workforce Fellows[115]	5	4.9	5
DOE	NNSA	Center of Excellence for Materials Degradation and Life Extension[116]	3.3	2.7	2.7
DOE	EERE	Collegiate Wind Competition	1.2	1.2	2
DOE	SC	Community College Internships (CCI) Program	2	2.2	2.3
DOE	SC	Computational Science Graduate Fellowship (CSGF)	15	15	20
DOE	CESER	CyberForce Competition	2.1	2.6	3

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[109] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[110] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[111] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[112] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[113] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

[114] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[115] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[116] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
DOE	EERE	Frontier Observatory for Research in Geothermal Energy (FORGE)[117]	NC	NC	NC
DOE	EERE	Gaps in Workforce Training apprenticeship, and workforce development ambassadorship programming[118]	0	0	10
DOE	EERE	Geothermal Energy STEM Activities[119]	2.4	2.3	10
DOE	OE	Grid Storage Launchpad Education Program/Lab Embedded Entrepreneurship Program[120]	0	3	3.5
DOE	FECM	HBCUs, Education, and Training[121]	0.6	8	14
DOE	EERE	Hydrogen, and Fuel Cell STEM Activities[122]	0.5	1	0.9
DOE	EERE	Industrial Assessment Centers	15	0	0
DOE	EERE	JUMP Into STEM	0.5	1.3	1
DOE	SC	LCLS Internship Program[123]	0.5	0.6	0.6
DOE	FECM	Mickey Leland Fellowship Energy Fellowship Program	0.9	1	1
DOE	ED	Minority Education, Workforce, & Training (MEWT) Cooperative Agreements[124]	1	2.3	0
DOE	ED	Minority Educational Institutions Student Partnership Program (MEISPP)	0.6	2.3	15
DOE	EM	Minority Serving Institution Partnership Program (MSIPP)	6	6	6
DOE	NNSA	Minority Serving Institution Partnership Program (MSIPP)[125]	40	45	45
DOE	EERE	Minority Serving Institutions (MSI) Program[126]	0	0.5	0.5
DOE	EM	MSI STEM, Manufacturing and Cybersecurity Consortium[127]	50	50	50
DOE	SC	National Science Bowl	2.9	3	3.1
DOE	NNSA	NNSA Graduate Fellowship Program (NGFP)[128]	10.4	11.6	12.7
DOE	SC	Nuclear Chemistry Summer School (NCSS)	0.6	0.8	0.9

[117] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[118] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

[119] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[120] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

[121] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[122] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[123] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[124] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[125] In Appendix 5, this investment is combined with the NNSA Tribal Education Partnership Program (TEPP). NNSA MSIPP and NNSA TEPP are counted as two investments in "Inventory" count but as one investment in "Portfolio" count in Table 3.1 in Appendix 3.

[126] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[127] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[128] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
DOE	NNSA	Nuclear Nonproliferation International Safeguards Graduate Fellowship Program[129]	0.8	0.8	0.9
DOE	SC	Office of Science Graduate Student Research (SCGSR) Program	5	5	6.1
DOE	EERE	Offshore Wind Center of Excellence[130]	4	0.7	1
DOE	CESER	ORISE Cadets[131]	0.1	0	0.1
DOE	CESER	ORISE Fellows[132]	0	0.4	0.4
DOE	OE	Partnership with NSF Research Experiences for Undergraduates (REU) program[133]	0	1	1.9
DOE	NNSA	Pit Production Workforce Development Partnership	10	10	0
DOE	SC	Reaching a New Energy Sciences Workforce - RENEW[134]	30.5	60	107
DOE	NNSA	Rickover Fellowship Program in Nuclear Engineering	1.4	1.4	1.4
DOE	NNSA	Savannah River Site Community Reuse Organization Workforce Opportunities in Regional Careers Program	1.2	1.4	1.4
DOE	SC	Science Undergraduate Laboratory Internships	14	15.7	16
DOE	EERE	Solar Decathlon	3.9	4.2	3.5
DOE	EERE	Solar District Cup (aka DOE Collegiate Solar Districts Challenge, CPS # 34173)	0.6	0.6	0.6
DOE	EERE	Solar STEM Activities[135]	0.9	4.2	4.4
DOE	NNSA	Stewardship Science Academic Alliances (SSAA)	27.5	24.2	26
DOE	NNSA	Tribal Education Partnership Program (TEPP)[136]	10	10	10
DOE	SC	U.S. Particle Accelerator Training Program	1	1	1
DOE	FECM	University Coal Research (Renamed to University Carbon Research in FY23 Request)[137]	2.5	5	5
DOE	EERE	University Engagement Program to increase OSW[138]	0	0	5
DOE	NE	University Nuclear Leadership Program (UNLP)	6	6.5	6.6
DOE	CESER	University-based Cybersecurity Centers[139]	2	2	2

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[129] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[130] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[131] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[132] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[133] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

[134] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[135] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[136] In Appendix 5, this investment is combined with the NNSA Minority Serving Institution Partnership Program (MSIPP). NNSA MSIPP and NNSA TEPP are counted as two investments in "Inventory" count but as one investment in "Portfolio" count in Table 3.1 in Appendix 3.

[137] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[138] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

[139] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
DOE	CESER	University-based R&D-Congressionally Directed[140]	0	2	2
DOE	SC	Visiting Faculty Program (VFP)	2.1	2.1	2.1
DOE	EERE	Water Power STEM/Workforce	1.9	2.6	6.4
DOE	EERE	Wind Fellowship and Internship Programs to Expand Diversity in the Workforce[141]	0	0	9
DOE	EERE	Wind Workforce Development[142]	1.2	1.6	1
DOE	FEMP	Workforce Development[143]	2	3	4.5
DOI	USGS	The USGS National Cooperative Geologic Mapping Program (NCGMP) EDMAP Program	1	1	1
DOL	ETA	H-1B Skills Training Grants	0	63.2	0
DOT	FAA	Aviation Research[144]	0.2	0	0
DOT	FAA	Aviation Workforce & Education Division[145]	3.9	4.7	5.6
DOT	FAA	Aviation Workforce Development[146]	10	15	0
DOT	FAA	Centers of Excellence Grant Program	1.6	0.3	0
DOT	FHWA	Dwight D. Eisenhower Transportation Fellowship Program	1.7	2	2
DOT	FRA	Encouraging Early (K–12) Interest in Railroad Careers through STEM Education	0	0.1	0.1
DOT	FHWA	Garrett A. Morgan Technology and Transportation Education Program[147]	1.7	0.4	0.4
DOT	FRA	Making Railroading a Career of Choice through STEM Education	0.5	0.9	0.8
DOT	FHWA	National Summer Transportation Institute (NSTI)	2.7	2.7	2.7
DOT	FHWA	Summer Transportation Internship Program for Diverse Groups (STIPDG)	1.4	1.4	1.4
DOT	OST-R	University Transportation Centers Program	91.8	89.7	90
ED	OESE	Education Innovation and Research – STEM (EIR)	82	87	0
ED	OPE	Fund for the Improvement of Postsecondary Education (FIPSE)[148]	3.7	58	350
ED	OPE	Graduate Assistance in Areas of National Need (GAANN)[149]	23.5	23.5	23.5
ED	OPE	Minority Science and Engineering Improvement Program (MSEIP)	14.5	16.4	18.4
ED	OESE	Out of School Time Career Pathway (OSTCP)	2.0	1.8	0

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[140] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[141] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

[142] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[143] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[144] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was terminated in FY2023 and is not included in Appendix 5.

[145] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[146] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[147] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[148] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[149] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
ED	IES	Pooled Evaluation[150]	0.1	3.7	2
ED	OPE	Predominantly Black Institutions Competitive Grant Program	3.9	3.9	3.9
ED	IES	Regional Educational Laboratories (REL)	3.7	6.5	6.3
ED	IES	Research in Special Education	13.2	13.8	14.4
ED	IES	Research, Development, and Dissemination (RDD)	57.2	72.7	79.9
ED	OPE	Teacher Loan Forgiveness	90.5	98.8	101.8
ED	OPE	Title III, Part F HSI STEM and Articulation Program	94.3	94.3	0
ED	OPE	Upward Bound Math and Science Program[151]	72	65.9	0
EPA	AO	Environmental Education Grant Program	3.1	3.6	3.3
EPA	AO	National Environmental Education and Training Program	2.2	2.2	2.3
EPA	ORD	U.S. EPA's People, Prosperity, and the Planet (P3) Program	0.8	0.8	0.8
HHS	NIH	ACE2 SARS-CoV2-mediated valve disease in a microphysiological tissue-chip model[152]	0.4	0.5	0.5
HHS	NIH	AD/ADRD Clinical Trials Short Course[153]	0.8	0.8	0.8
HHS	NIH	Aging Research Dissertation Awards to Increase Diversity (R36 Clinical Trial Not Allowed)	1.2	0.6	0.3
HHS	NIH	Biomedical Research Inclusion & Diversity to Grow Excellence in Science - Undergraduate Program in Pathology for HBCUs (BRIDGE-UP HBCU)[154]	0.3	0.3	0.3
HHS	NIH	Bridges to the Baccalaureate Research Training Program	11	9.7	9.7
HHS	NIH	Bridges to the Doctorate Program	1.4	0.2	0
HHS	NIH	Cancer Research Education Grants Program (R25)[155]	20.7	21.5	21.1
HHS	NIH	Cancer Research Training Award (CRTA) Program[156]	68.1	77.3	77.7
HHS	NIH	Center for Cancer Research Cancer/Johns Hopkins University Master of Science in Biotechnology Concentration in Molecular Targets and Drug Discovery Technologies[157]	0	0	0

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[150] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[151] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[152] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[153] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[154] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[155] In Appendix 5, this investment is split into two entries, Cancer Research Education Grants Program (R25) and National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed). Cancer Research Education Grants Program (R25) and National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed) are reflected as one investment in the "Inventory" count but as two investments in the "Portfolio" count in Table 3.1 in Appendix 3.
[156] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[157] This investment was terminated in FY2023. Included in "Portfolio" count but not "Inventory" count in Table 3.1 in Appendix 3.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
HHS	NIH	Enhancing Science, Technology, EnginEering, and Math Education Diversity (ESTEEMED) Research Education Experiences (R25)	2.2	2.5	2.7
HHS	NIH	Fogarty Global Health Training Program (US predoc component)[158]	1.4	2	2.1
HHS	NIH	Genome Research Experiences to Attract Talented Undergraduates into Genomic Fields to Enhance Diversity (GREAT R25)	0.6	1.4	1.4
HHS	NIH	Graduate Partnerships Program	16.3	19	20
HHS	HRSA	Health Careers Opportunity Program[159]	15.5	16	18.5
HHS	NIH	Health Careers Opportunity Program[160]	1.9	0.3	0.3
HHS	NIH	Initiative for Maximizing Research Education in Genomics; Diversity Action Plan	2.5	2.6	3.3
HHS	NIH	Initiative for Maximizing Student Development	8.8	3.8	0
HHS	NIH	Kidney Technology Development Research Education Program (R25 - Independent Clinical Trial Not Allowed); solicited via two funding announcements: RFA-DK-19-006 and RFA-DK-20-006	0.6	0.6	0.6
HHS	NIH	Launching Future Leaders in Global Health (LAUNCH) Research Training Program[161]	1.4	1.4	1.4
HHS	NIH	Mathematics and Science Cognition and Learning (MSCL) Program[162]	8	8.3	8.3
HHS	NIH	Maximizing Access to Research Careers (MARC)	15.7	13.3	13.3
HHS	NIH	MSTEM: Advancing Diversity in Aging Research through Undergraduate Education (R25 - Independent Clinical Trial Not Allowed)	9.3	11.3	12.2
HHS	NIH	National Institute of Diabetes and Digestive and Kidney Diseases Research, Education Program Grants for Summer Research Experiences (R25)[163]	3	3.1	3.1
HHS	NIH	National Library of Medicine Institutional Training Grants for Research Training in Biomedical Informatics and Data Science	10.4	9.3	10.5
HHS	NIH	NCATS CTSA Program Research Education Grants[164]	0	0.4	0.7
HHS	NIH	NCI Predoctoral to Postdoctoral Fellow Transition Award	2.1	2.1	2.1
HHS	NIH	NIA Research and Entrepreneurial Development Immersion (REDI): Entrepreneurship Enhancement Award[165]	0.6	1.4	3.2

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[158] In Appendix 5, this investment is included in the Launching Future Leaders in Global Health (LAUNCH) Research Training Program. In Table 3.1 in Appendix 3, NIH Fogarty and NIH LAUNCH are reflected as two investments in the "Inventory" count but as one investment in the "Portfolio" count.

[159] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[160] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[161] In Appendix 5, the entry with the same name includes both this investment and the Fogarty Global Health Training Program (US predoc component). In Table 3.1 in Appendix 3, NIH Fogarty and NIH Launch are reflected as two investments in the "Inventory" count but as one investment in the "Portfolio" count.

[162] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[163] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[164] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

[165] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
HHS	NIH	NIA Research and Entrepreneurial Development Immersion (REDI): Entrepreneurship Enhancement Award (K01)[166]	0.5	0.8	1.7
HHS	NIH	NIA Research and Entrepreneurial Development Immersion (REDI): Entrepreneurship Enhancement Award (R41/R42 & R43/R44)[167]	1.8	1.5	3
HHS	NIH	NIDA Research Education Program for Clinical Researchers and Clinicians	5.2	5.1	4
HHS	NIH	NIDCR Dental Specialty and PhD Program (DSPP)(K12)[168]	0.5	0.7	0.7
HHS	NIH	NIDDK Education Program Grants (R25 Clinical Trial Not Allowed) PAR-21-034	1	1	1
HHS	NIH	NIH Big Data to Knowledge (BD2K) Enhancing Diversity in Biomedical Data Science[169]	0	0	0
HHS	NIH	NIH Blueprint and BRAIN Initiative Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award	4.2	4.2	6
HHS	NIH	NIH Blueprint Enhancing Neuroscience Diversity through Undergraduate Research Education Experiences (ENDURE)	3.9	4	3.5
HHS	NIH	NIH Building Infrastructure Leading to Diversity (BUILD) Initiative (RL5 portion only)	5.9	4.6	0
HHS	NIH	NIH Building Infrastructure Leading to Diversity (BUILD) Initiative (TL4 portion only)	7.2	4.9	0
HHS	NIH	NIH Institutional Excellence in Diversity, Equity, Inclusion, and Accessibility in Biomedical and Behavioral Research Prize Competition[170]	0	NC	0
HHS	NIH	NIH Neuroscience Development for Advancing the Careers of a Diverse Research Workforce	4.1	3.2	4
HHS	NIH	NIMHD Minority Health and Health Disparities International Research Training (T37)	1.7	2.4	2.4
HHS	NIH	NLM's Short-term Research Education Training Programs in Biomedical Informatics and Data Science	0.8	0.8	0.8
HHS	NIH	Notice of Special Interest (NOSI): Administrative Supplements to Recognize Excellence in Diversity, Equity, Inclusion, and Accessibility (DEIA) Mentorship[171]	0	NC	18
HHS	NIH	Office of Intramural Training and Education (OITE)[172]	0.3	0.4	0.4
HHS	NIH	Oxford-Cambridge Scholars Program (Ox/Cam)[173]	0.4	0.6	0.6
HHS	NIH	P30 CURE Supplement[174]	0	0	0
HHS	NIH	Postbaccalaureate Intramural Research Training Award Program	63.7	76.3	84.7

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[166] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[167] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[168] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[169] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was terminated in FY18 and is therefore not included in Appendix 5.

[170] This investment was new in FY2023. This investment is included in Appendix 5.

[171] This investment was new in FY2023. This investment is included in Appendix 5.

[172] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[173] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[174] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was terminated in FY2022 and is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
HHS	NIH	Postbaccalaureate Research Education Program (PREP)	15.7	16.6	16.6
HHS	NIH	Programs to Increase Diversity Among Individuals Engaged in Health-Related Research (PRIDE)[175]	4.6	4.4	4.3
HHS	NIH	Providing Research Education Experiences to Enhance Diversity in the Next Generation of Substance Use and Addiction Scientists (R25 Clinical Trials Not Allowed)	3.1	3.4	3
HHS	NIH	Research Initiative for Scientific Enhancement (RISE)[176]	21.2	23.2	23.2
HHS	NIH	Research Supplements to Promote Diversity in Health-Related Research	138.5	138.5	138.5
HHS	NIH	Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35)[177]	352.3	378.3	384.2
HHS	NIH	Ruth L. Kirschtein NRSA for Individual Predoctoral Fellows, including Underrepresented Racial/Ethnic Groups, Students from Disadvantaged Backgrounds, and Predoctoral Students with Disabilities	127.4	133.2	136.4
HHS	NIH	Science Education Partnership Award	29.7	33.9	34.5
HHS	NIH	Short Courses on Interdisciplinary Behavioral and Social Sciences Research on Aging[178]	0.5	0.5	0.5
HHS	NIH	Short Courses on Interdisciplinary Behavioral and Social Sciences Research on Alzheimer's Disease and Related Dementias[179]	0.2	0.2	0.1
HHS	NIH	Short-Term Research Education Program to Enhance Diversity in Health-Related Research	5.1	5.2	5.2
HHS	NIH	Short-Term Research Experience Program to Unlock Potential	1.2	1.2	1.2
HHS	CDC	STEM at CDC[180]	0.6	0.6	0.6

[175] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[176] The budget for Research Initiative for Scientific Enhancement (RISE) includes funding for the Graduate Research Training Initiative for Student Enhancement (G-RISE) and the Undergraduate Research Training Initiative for Student Enhancement (U-RISE). G-RISE and U-RISE funding is also encompassed within Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35). RISE, G-RISE, U-RISE, and Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35) are reflected as two investments for the "Inventory" count but as four investments for the "Portfolio" count in Table 3.1 in Appendix 3. RISE, G-RISE, U-RISE, and Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35) are listed as four separate investments in Appendix 5.

[177] The budget for Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35) includes funding for the Graduate Training Research Initiative for Student Enhancement (G-RISE) and the Undergraduate Training Research Initiative for Student Enhancement (U-RISE). G-RISE and U-RISE funding is also encompassed within Research Initiative for Scientific Enhancement (RISE). RISE, G-RISE, U-RISE, and Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35) are reflected as two investments for the "Inventory" count but as four investments for the "Portfolio" count in Table 3.1 in Appendix 3. RISE, G-RISE, U-RISE, and Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35) are listed as four separate investments in Appendix 5.

[178] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[179] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[180] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
HHS	NIH	Strengthening Institutional Capacity to Conduct Global Cancer Research in Low-and Middle-Income Countries (response missing)	1.9	2.7	2.7
HHS	NIH	Student Intramural Research Training Award Program	4.5	6.3	7
HHS	NIH	Substance Use/Substance Use Disorder Dissertation Research Award (R36 - Clinical Trials Optional)	0.5	0.7	0.3
HHS	NIH	Summer Institute for Research Education in Biostatistics and Data Science	1.6	2.4	2.6
HHS	NIH	Summer Research Education Experience Program	5.6	8.3	8.2
HHS	NIH	Team-Based Design in Biomedical Engineering Education (R25)	0.8	0.8	0.8
HHS	NIH	Transition to Aging Research for Predoctoral Students (F99/K00 Clinical Trial Not Allowed)	0.3	0.5	1.1
HHS	NIH	UMD-NCI Partnership for Integrative Cancer Research	1	0.9	0.9
HHS	NIH	Undergraduate Research Education Program (UP) to Enhance Diversity in the Environmental Health Sciences	1	0.8	0.9
HHS	NIH	Undergraduate Scholarship Program	4.6	4.5	5
HHS	NIH	Undergraduate Summer Research Education in Kidney, Urologic, and Hematologic Diseases; solicited via two funding announcements: RFA-DK-13-005 and RFA-DK-18-006	0.7	0.8	0.8
HHS	NIH	Werner H Kirsten Student Internship Program[181]	0.9	1.2	1.2
NASA	SMD	Global Learning and Observations to Benefit the Environment (GLOBE) Program	6.8	9.4	11.9
NASA	OSTEM	Minority University Research and Education Project (MUREP)	43	45.5	48.1
NASA	STMD	NASA's TechRise Student Challenge	1.8	2.5	2.5
NASA	OSTEM	National Space Grant College and Fellowship Project (Space Grant)	54.5	57	58
NASA	OSTEM	Next Gen STEM (NGS)	13.5	14	25.7
NASA	SMD	Robotics Alliance Project (RAP)	4	5	5
NASA	SMD	Science Activation Program	50.6	52	55.6
NRC	Office of Small Business and Civil Rights	Minority Serving Institutions Grants Program[182]	0	0	2
NRC	Office of the Chief Human Capital Officer	Training Resources related to STEM Education and Workforce Development[183]	12.2	14.2	15
NRC	Office of Nuclear	University Nuclear Leadership Program[184]	14.6	16	0

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[181] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[182] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is new in FY2024 and is therefore not included in Appendix 5.
[183] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[184] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
	Regulatory Research				
NSF	EDU	Advanced Technological Education	75	77	75
NSF	EDU	Advancing Informal STEM Learning (AISL)	65.5	86	80
NSF	EDU	Alliances for Graduate Education and the Professoriate Program	8.5	12.5	15.5
NSF	EDU & CISE	CS for All: Research and RPPs	24.2	24.5	24.5
NSF	EDU	Cybercorps: Scholarship for Service (SFS)	63	85.5	74
NSF	EDU	Discovery Research Pre-K–12	98.5	111.5	99.5
NSF	EDU	EDU Core Research (ECR) Program	80.9	82.9	99.9
NSF	EDU	Excellence Awards in Science and Engineering (EASE)	4.1	7.4	8
NSF	EDU	Graduate Research Fellowship Program (GRFP)	290	322	380.3
NSF	CISE, EDU, & MPS	Harnessing the Data Revolution (HDR): Data Science Corps (DSC)[185]	3.4	3	0
NSF	EDU	Historically Black Colleges and Universities Undergraduate Program	38	46	48.5
NSF	EDU	Improving Undergraduate STEM Education: Directorate for STEM Education (IUSE: EDU)	96.2	135.1	108.2
NSF	EDU	Improving Undergraduate STEM Education: Hispanic Serving Institutions	48.5	55.5	60.5
NSF	EDU	Innovative Technology Experiences for Students and Teachers (ITEST)	34.8	48.1	49.7
NSF	OISE	International Research Experience for Students	7.6	12	12
NSF	EDU	Louis Stokes Alliances for Minority Participation	51.5	55.5	70.5
NSF	EDU	NSF Research Traineeships (NRT)	60	88.5	62.5
NSF		NSF's Eddie Bernice Johnson Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) Initiative	23	35	50.5
NSF	BIO	Research and Mentoring for Postbaccalaureates in Biological Sciences	32.5	30	49.1
NSF	ENG	Research Experience and Mentoring (REM)	1	1	1
NSF		Research Experiences for Teachers (RET)[186]	12.8	8.1	13.2
NSF		Research Experiences for Undergraduates (REU)	80.6	79.9	84.8
NSF	EDU	Robert Noyce Teacher Scholarship Program	67	69	69
NSF	EDU	Scholarships in Science, Technology, Engineering and Math (S-STEM) Core Program	243.7	144.4	149.1
NSF	EDU	STEM Teacher Corps[187]	0	0	60

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[185] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was terminated in FY2023 and is not included in Appendix 5.

[186] In Appendix 5, this investment is split into two entries, Research Experiences for Teachers (RET) in Engineering and Computer Science and Research Experiences for Teachers Sites in Biological Sciences, NSF 21-584. In Table 3.1 in Appendix 3, RET in Engineering and Computer Science and Research Experiences for Teachers Sites in Biological Sciences, NSF 21-584 are reflected as one investment in "Inventory" count but as two separate investments in "Portfolio" count.

[187] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is new in FY2024 and is therefore not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
NSF	CISE	Training-based Workforce Development for Advanced Cyberinfrastructure (CyberTraining)	19.4	21	21
NSF	EDU	Tribal Colleges and Universities Program (TCUP)	17.5	26	23
Smithsonian		STEM Informal Education and Instruction	5.7	5.1	6.3
USDA	NIFA	1890 Facilities Grant Program	21.5	21.5	24.8
USDA	NIFA	1890 Institutions Capacity Building Grants Program: Extension	65	72	76
USDA	NIFA	1890 Institutions Capacity Building Grants Program: Teaching	28.2	29.7	29.7
USDA	NIFA	4-H Science and 4-H Youth Development Program[188]	NC	NC	NC
USDA	APHIS	AgDiscovery[189]	1	1.1	1.2
USDA	NIFA	Agriculture and Food Research Initiative[190]	15.0	15.0	15.0
USDA	NIFA	Agriculture in the Classroom	1	1	1
USDA	NIFA	Alaska Native-Serving and Native Hawaiian-Serving Institutions Education Competitive Grants Program	4	5	5
USDA	NIFA	Distance Education Grants Program for Institutions of Higher Education in Insular Areas	2	2.5	2.7
USDA	NIFA	Federally Recognized Tribes Extension	3.5	4.3	7.7
USDA	NIFA	From Learning to Leading: Cultivating the Next Generation of Diverse Food and Agriculture Professionals[191]	250	0	0
USDA	NIFA	Graduate Fellowships (National Needs)[192]	NC	NC	NC
USDA	NIFA	Higher Education Challenge (HEC) Grants Program[193]	NC	NC	NC
USDA	NIFA	Higher Education Multicultural Scholars Program (MSP)	10	10	10
USDA	NIFA	Hispanic Serving Institutions Education Grants Program	14	16	20
USDA	APHIS	Historically Black Colleges/Universities Vet Tech Programs[194]	0.8	0.8	0.9
USDA	NIFA	NIFA Fellowship Grants Program (AFRI Predoctoral and Postdoctoral Fellowships)[195]	NC	NC	NC
USDA	APHIS	Other APHIS STEM Programs/Conferences/Internships[196]	0	0.5	0.5
USDA	NIFA	Scholarships for Students at 1890 Institutions	10	10	10

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[188] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[189] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[190] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[191] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was terminated in FY2023 and is not included in Appendix 5.

[192] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[193] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[194] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

[195] Included in "Portfolio" count but not in "Inventory" count in Table 3.1 in Appendix 3.

[196] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment was new in FY2023 and is therefore not included in Appendix 5.

Agency	Sub-Agency/ Sub-Organization	Name of Investment (Budgets to the right are in the millions)	FY2022 Actual	FY2023 Estimate	FY2024 President's Budget
USDA	APHIS	Tribal College/University Curriculum Enhancement - Funding provided to Navajo Technical University to assist with strengthening its Veterinary Technology[197]	0.1	0.1	0.1
USDA	NIFA	Tribal Equity Grants Program	5.5	7	15
USDA	APHIS	USDA-APHIS "Safeguarding Natural Heritage: Strengthening Youth Connections to the Land" Summer Enrichment Program[198]	0.2	0.3	0.3
USDA	NIFA	Women and Minorities in Science, Technology, Engineering, and Mathematics Fields Program	1	2	2.3
USDA	NIFA	Youth and Families at Risk[199]	8.4	8.4	8.4
VA	VBA	Rogers STEM Scholarship	41.2	51.3	58
VA	VBA	Veteran Employment Through Technology Education Courses (VET TEC)	92.5	86.5	45

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[197] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[198] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.
[199] Included in "Inventory" count but not "Portfolio" count in Table 3.1 in Appendix 3. This investment is not included in Appendix 5.

Appendix 5. FY2022 Federal STEM Education Portfolio

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. In accordance with the *America COMPETES Act*, individual budget data for FY2022, FY2023, FY2024 are captured and reflected in Appendix 4.

Appendix 5 provides further information about the federal STEM education portfolio by investment in support of requirements in the *America COMPETES Reauthorization Act of 2010*. The information in Appendix 5 was derived from an OSTP-led data call to CoSTEM/FC-STEM agencies in early 2023. Through the data call, agencies selected best-fit responses to questions about each investment's:

- primary CoSTEM objective(s);
- alignment to the *2018 Federal STEM Education Strategic Plan* goals and pathways;
- funding mechanisms;
- types of organizations served;
- types of participants/individuals served (directly and/or indirectly);
- number of participants served, and the number and/or percentage of participants from different demographic groups (if collected and/or reportable);
- way of determining participant locality/rural status; and
- publicly available evaluation reports completed in FY2022.

Investments are alphabetized in the table below by Agency, then by Sub-Agency/Sub-Organization, and then by Investment Name. Some investment names in the table below are hyperlinked, taking readers to the investment's home page/general website in most cases.

In serving the American public, federal agencies have a responsibility to provide broad access to their investments and to be accountable for ensuring that federal activities are open and accessible to members of the population. Collection and reporting on the participation of various groups in federal STEM education programs provide agencies with opportunities to gauge their effectiveness at fostering diversity and inclusion. These tracking and reporting activities are essential to public accountability, legislative mandates, and to supporting the Plan's goal to promote diversity, equity, and inclusion in STEM. See the CoSTEM 2022 Progress Report[200] for more information regarding ways CoSTEM/FC-STEM agencies can designate a participant to support reporting purposes. The CoSTEM 2022 Progress Report also contains information on the potential barriers or challenges investments may face that preclude them from collecting and/or reporting demographic and/or participant data. When possible, links to investment-level or agency-level reports, dashboards, and/or websites have been provided. Please note for any investments and/or agencies that did provide demographic information, most often demographic information about participants is based on self-reported data and not all participants choose to disclose this information. Any results that are shared below must be interpreted with

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[200] https://www.whitehouse.gov/wp-content/uploads/2022/01/2021-CoSTEM-Progress-Report-OSTP.pdf

caution due to the issue of non-responses. Due to varying agency/investment collection and reporting processes/practices, non-responses may or may not have been included in the numbers and/or percentages below.

Mechanisms for data collection vary greatly across investments. If conducted and when possible, investments shared whether their program finished a formal evaluation this year and when available, provided a link to the publicly available evaluation report. Instead of and in most cases, investments, outside of a formal program evaluation, carried out other types of assessments—such as a focus groups, participant surveys, pre- and post-testing, and attitudinal surveys, for example, but these assessments are not reflected below. The last column in the table below fulfills congressional mandates to provide when available public reports from evaluations completed from the previous year (i.e., FY2022). Based on an analysis of the FY2022 STEM education investments, where primary objectives, audiences, and STEM fields were considered, investments were found not to be duplicative. Additional review of data provided within the data call provides evidence of characteristics that distinguished the investments from one another.

Table Legend/Abbreviations:

Columns on Goal and Pathway Alignment
D: indicates a major outcome of the STEM investment contributes directly to the attainment of the goal or pathway (or progress towards the attainment of the goal or pathway).
I: indicates a major outcome of the STEM investment contributes indirectly to the attainment of the goal or pathway, or the investment outcome supports the goal or pathway (or progress towards the goal or pathway), but is not a stated goal or objective of the investment.
U: indicates the anticipated outcomes of the investment are unlikely to contribute, directly or indirectly, to achieve the goal or pathway.

Columns on Participants or Race and Ethnicity
G: Gender
R/E: Race and Ethnicity
W: White
A: Asian
AA: Black or African American

NA/AN: American Indian or Alaska Native
H/L: Hispanic or Latino/a
NH/PI: Native Hawaiian or Other Pacific Islander
MR/E: More than One Race/Ethnicity

Other Columns
(IP): Individual Participant
C/NR: Collected but Not Reportable
NC: Not Collected
N/A: Not Applicable

PRA: Persons in Rural Areas [By Zip Code, By Locality (City, etc.), or By SOM (Some Other Measure)]
PUA: Persons in Urban Areas

FY2022 Federal STEM Education Portfolio

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
CNCS/ AmeriCorps		AmeriCorps NCCC	U	U	U	U	U	U	N/A	Other (Teams of 18–26-year-olds)	Nonprofit Organization	Pre-K–12 Learners, Informal STEM Learners	Data collection and/or reporting of participant information varies across federal investments. For more information about this investment/from this agency, follow the provided links: https://americorps.gov/partner/how-it-works/americorps-nccc and https://data.americorps.gov/.					Link
CNCS/ AmeriCorps		AmeriCorps State & National (Competitive)	D	D	D	I	D	U	Direct classroom instruction (IP), STEM learning program (IP), Tutoring (IP), Mentoring (IP)	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution, Indian/ Native American Tribal Government, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/ Community College Learners, Four-year College/ University Learners, Informal STEM Learners, Program Developers or Organizers that provide informal STEM learning opportunities	Data collection and/or reporting of participant information varies across federal investments. For more information about this investment/from this agency, follow the provided links: https://americorps.gov/partner/how-it-works/americorps-state-national and https://data.americorps.gov/					N/A
CNCS/ AmeriCorps		AmeriCorps State & National (Formula)	D	D	D	I	D	U	Direct classroom instruction (IP), STEM learning program (IP), Tutoring (IP), Mentoring (IP)	Formula Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/Research Institution, Indian/Native	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/ Community College Learners, Four-year College/University Learners, Informal STEM Learners, Program Developers or Organizers that provide informal	Data collection and/or reporting of participant information varies across federal investments. For more information about this investment/from this agency, follow the provided links: https://americorps.gov/partner/how-it-works/americorps-state-national and https://data.americorps.gov/					N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
											American Tribal Government, Nonprofit Organization	STEM learning opportunities						
CNCS/AmeriCorps		AmeriCorps VISTA	D	D	D	I	U	U	Other (AmeriCorps VISTA Members)	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/Community College, Four-year College/University, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/Community College Learners, Four-year College/University Learners, Four-year College/University Mentors, Program Developers or Organizers that provide informal STEM learning opportunities	Data collection and/or reporting of participant information varies across federal investments. For more information about this investment/from this agency, follow the provided links: https://americorps.gov/partner/how-it-works/americorps-vista and https://data.americorps.gov/					N/A
DHS	S&T	Educational Programs - Minority Serving Institutions	D	D	D	D	D	D	Direct classroom instruction (IP), Fellowships (IP), Internships or Traineeships (IP), Outreach (IP), Mentoring (IP), Research aimed at improving STEM education (IP)	Formula Grants (Both), Cooperative Agreements (IP), Scholarships (IP), Internships (IP)	Four-year College/University, U.S. Federal Government	Researchers, Two-year/Community College Learners, Two-year/Community College Instructors, Two-year/Community College Mentors, Four-year College/University Learners, Four-year College/University Instructors, Four-year College/University Mentors, Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
DOC	EDA	STEM Talent Challenge	D	D	D	D	I	I	N/A	Discretionary Grants (Organizations)	Two-year College/ Community College,	Two-year/ Community College Learners, Four-	4,037	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
											Four-year College/ University, Indian/ Native American Tribal Government, Nonprofit Organization, State and Local Government	year College/ University Learners, Informal STEM Learners, Program Developers or Organizers that provide informal STEM learning opportunities						
DOC	NIST	NIST Summer Institute for Middle School Science Teachers	D	I	I	U	U	U	Internships or Traineeships (IP), STEM learning program (IP)	Internships (IP)	N/A	Pre-K–12 Learners, Pre-K–12 Classroom Teachers	20	20	NC	90%	NC	N/A
DOC	NIST	STEM Pipeline for the Next Generation Scientists and Engineers with emphasis on the Graduate Student Measurement Science and Engineering (GMSE) Fellowship Program	D	D	D	D	D	D	Online education resource sites (IP), Fellowships (IP), Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP), Institutional support for leaderships (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP)	Cooperative Agreements (Both)	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners, Program Developers or Organizers that provide informal STEM learning opportunities	C/NR	C/NR	C/NR	C/NR	NC	N/A
DOC	NIST	Summer Undergraduate Research	D	I	D	I	D	D	Online education resource sites (IP), Fellowships (IP),	Scholarships (IP), Internships (IP)	Two-year College/ Community College,	Two-year/ Community College Learners, Four-	C/NR	156	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Fellowship Program							Internships or Traineeships (IP), STEM learning program (IP), Mentoring (IP), Training or Professional development (IP)		Four-year College/ University	year College/ University Learners						
DOC	NOAA	Bay Watershed Education and Training (B-WET)	D	I	I	D	D	U	Direct classroom instruction (IP), Instructional material development (Organizations), STEM learning program (IP), Outreach (IP), Training or Professional development (Both), Institutional support for leaderships (Organizations), Teacher in-service activities (IP), Other authentic STEM experiences (Field environmental investigations)	Discretionary Grants (Organizations), Cooperative Agreements (Organizations)	Pre-K–12 School or Local Educational Authority, Four-year College/ University, Indian/ Native American Tribal Government, Nonprofit Organization, State and Local Government	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	145 institutions; 2,800 educators; 49,000 students	NC	NC	NC	C/NR	N/A
DOC	NOAA	Environmental Literacy Program (ELP)	D	I	I	D	D	I	Instructional material development (Organizations), Online education	Cooperative Agreements (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/ Community College Learners, Four-year	52 institutions; 2,000 formal and informal educators; 6,000 K–12	NC	NC	NC	Zip Code and Location (e.g., city,	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									resource sites (Organizations), Internships or Traineeships (IP), STEM learning program (IP), Outreach (IP), Training or Professional development (IP), Teacher in-service activities (IP), Other authentic STEM experiences (Participants engaged in real-world problem-solving related to climate change, environmental hazards, and resilience-building, which could be considered authentic STEM experiences.)		College/ University, Indian/Native American Tribal Government, Nonprofit Organization, State and Local Government	College/ University Learners, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	students; 7,000 individuals engaged in informal education				town, census block)	
DOC	NOAA	[Ernest F. Hollings Scholarship Program](#)	I	I	D	I	U	U	Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP)	Scholarships (IP), Internships (IP)	N/A	Two-year/Community College Learners, Four-year College/University Learners	373	373	72.7% W; 8.3% A; 4.3% B/AA; 0.3% NA/AN; 6.2% H/L; 0.5% NH/PI;	NC	C/NR	N/A

Agency	Sub-Agency/Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
															6.7% MR/E; 7.2% ND			
DOC	NOAA	Jose E. Serrano Educational Partnership Program with Minority Serving Institutions	I	D	D	D	I	I	Fellowships (IP), Internships or Traineeships (IP), Outreach (Both), Mentoring (IP), Training or Professional development (IP), Institutional support for leaderships (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Both)	Cooperative Agreements (Organizations), Scholarships (IP), Internships (IP)	Four-year College/University	Four-year College/University Learners, Four-year College/University Instructors, Four-year College/University Mentors	224	224	12.1% W; 4.5% A; 39.3%B/AA; 35.3% H/L; 0.9% NH/PI; 4.5% MR/E; 3.6% ND	65.8%	C/NR	N/A
DOC	NOAA	Margaret A. Davidson Graduate Fellowship	I	I	D	D	D	U	Fellowships (IP), Outreach (Organizations), Mentoring (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of	Cooperative Agreements (Organizations), Scholarships (IP)	Four-year College/University	Four-year College/University Learners, Four-year College/University Instructors, Four-year College/University Mentors	24	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									talent in STEM fields and careers (IP)									
DOC	NOAA	Nancy Foster Scholarship Program	U	I	I	I	I	U	Training or Professional development (IP)	Scholarships (IP)	N/A		14	C/NR	57.1% W; 7.1% A; 14.3% B/AA; 21.4% H/L	100%	NC	N/A
DOC	NOAA	National Sea Grant College Program	D	D	D	I	D	I	Direct classroom instruction (Both), Instructional material development (Both), Online education resource sites (Both), Fellowships (IP), Internships or Traineeships (Both), STEM learning program (Organizations), Outreach (Both), Mentoring (IP), Training or Professional development (IP), Teacher in-service activities (IP), Research aimed at improving STEM education (IP), Research aimed at improving opportunities and	Discretionary Grants (Organizations), Cooperative Agreements (Organizations), Scholarships (Organizations), Internships (IP)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution, Indian/ Native American Tribal Government, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Four-year College/ University Learners, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	34	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									supporting the full participation of talent in STEM fields and careers (IP)									
DOC	NOAA	NOAA Teacher at Sea Program	I	I	I	I	I	U	Fellowships (IP), Outreach (IP), Teacher in-service activities (IP), Other authentic STEM experiences (Teacher research experience at-sea with NOAA scientists)	Discretionary Grants (Organizations), Other (Travel reimbursement)	Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors, Informal STEM Learners, Informal STEM Educators	200	N/A	NC	NC	Zip Code	N/A
DOC	NOAA	Ocean Exploration Education and Internships	D	D	D	D	D	D	Instructional material development (Organizations), Online education resource sites (Organizations), Internships or Traineeships (IP), STEM learning program (IP), Mentoring (IP), Training or Professional development (IP),	Discretionary Grants (Organizations), Contracts (Both), Cooperative Agreements (Organizations), Prizes (Organizations), Internships (IP)	Pre-K–12 School or Local Educational Authority, Four-year College/ University, Informal Educational/ Research Institution, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Four-year College/ University Learners, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	9 organizations for Diversity, Equity, Inclusion, and Accessibility (DEIA); 14 organizations for Education Programs; 424 participants; 10 Explorers-in-Training	NC	C/NR	C/NR	Zip Code and Location (e.g., city, town, census block)	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Teacher in-service activities (IP)									
DOD	DAF AFRL	Air & Space Forces K–12 STEM Outreach Program (Dept of Air Force K–12 STEM Program)	D	D	D	D	D	D	Direct classroom instruction (Both), Instructional material development (IP), Online education resource sites (IP), STEM learning program (Both), Outreach (Both), Tutoring (IP), Mentoring (IP), Training or Professional development (Both), Teacher in-service activities (Both)	Contracts (Organizations), Cooperative Agreements (Organizations), Prizes (Organizations), Other (Sponsorships for community and national partner events)	Pre-K–12 School or Local Educational Authority, Four-year College/ University, Informal Educational/ Research Institution, U.S. Federal Government, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	945,657	722	11.1% W; 0.8% A; 6.6% B/AA; 6.1% NA/AN; 58.6% H/L; 16.8% NH/PI	68.9 %	NC	N/A
DOD	DAF AFRL	Air and Space Force LEGACY	D	D	D	D	D	D	Direct classroom instruction (IP), Instructional material development (Both), Online education resource sites (IP), Internships or Traineeships (Both), STEM learning program (Both), Outreach (Both), Tutoring (IP), Mentoring (IP), Training or	Contracts (Organizations), Internships (IP)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, U.S. Federal Government	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University	354	354	66.1% W; 9% A; 6.5% B/AA; 1.1% NA/AN; 7.3% H/L; 5.9% MR/E; 3.7% ND; 0.3% Other	48%	Rural determined by other measure.	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Professional development (IP), Teacher in-service activities (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Both)			Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities						
DOD	DASA (R&T)	Army Educational Outreach Program (AEOP)	D	D	I	D	I	I	Online education resource sites (IP), Fellowships (IP), Internships or Traineeships (IP), STEM learning program (IP), Outreach (IP), Mentoring (IP), Training or Professional development (IP), Teacher in-service activities (IP)	Discretionary Grants (IP), Formula Grants (IP), Contracts (IP), Cooperative Agreements (IP), Prizes (IP), Honorifics (IP), Scholarships (IP), Internships (IP)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution, Indian/ Native American Tribal Government, U.S. Federal Government, Nonprofit Organization, For-profit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Two-year/ Community College Learners, Four-year College/ University Learners, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators	18,579	18,579	30.8% W; 18.1% A; 16% B/AA; 0.6% NA/AN; 16.9% H/L; 0.4% NH/PI; 7.6% MR/E; 7% ND; 2.7% Other	48%	Zip Code and Location (e.g., city, town, census block)	Link
DOD	DON ONR	Naval Research Enterprise Internship Program (NREIP)	D	I	D	U	I	I	Internships or Traineeships (IP)	Internships (IP)	N/A	Two-year/Community College Learners, Four-year College/University Learners	480	480	67.9% W; 21.5% A; 7.9% B/AA; 1.7% NA/AN; 12.7%	34%	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
															H/L; 0.6% NH/PI; 2.9% ND; 4.6% Other			
DOD	DON ONR	Science and Engineering Apprenticeship Program (SEAP)	D	I	D	U	I	I	Internships or Traineeships (IP)	Internships (IP)	N/A	Pre-K–12 Learners	180	180	46.7% W; 36.7% A; 12.2% B/AA; 1.1% NA/AN; 10% H/L; 1.1% NH/PI; 8.3% ND; 1.7% Other	45.6 %	NC	N/A
DOD	DTRA	Joint Science and Technology Institute (JSTI)	D	D	D	I	D	I	N/A	Other (Inter-Agency Agreement with ORNL/ORISE)	Pre-K–12 School or Local Educational Authority	Pre-K–12 Learners, Pre-K–12 Classroom Teachers	N/A	N/A	NC	NC	N/A	N/A
DOD	MDA	Inspiring Generations with New Ideas to Transform Education (IGNITE)	D	D	D	D	D	D	N/A	Contracts (Organizations), Other (Equipment and learning materials)	Pre-K–12 School or Local Educational Authority	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Four-year College/ University Learners, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	615	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
DOD	NSA	GenCyber	I	D	D	I	D	I	STEM learning program (Both), Teacher pre-service activities (IP)	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University	Pre-K–12 Learners, Pre-K–12 Classroom Teachers	3,522	3,522	47.4% W; 14% A; 19.3% B/AA; 1.7% NA/AN; 9% H/L; 0.8% NH/PI; 3.5% MR/E; 2.6% Other	51.5 %	NC	N/A
DOD	NSA	Science of Security	I	I	I	D	D	I	I	Outreach (Organizations)	Contracts (Organizations), Prizes (Both)	Four-year College/ University, Nonprofit Organization	Researchers, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors	NC	NC	NC	NC	NC	Link
DOD	OUSD (R&E)	National Defense Education Program (NDEP) Science, Mathematics, and Research for Transformation (SMART) Scholarship-for-Service Program	D	D	D	D	I	I	Fellowships (IP), Internships or Traineeships (IP), Outreach (Both), Mentoring (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of	Discretionary Grants (IP), Contracts (Organizations), Cooperative Agreements (Organizations), Honorifics (IP), Scholarships (IP), Internships (IP), Federal Pay (IP)	Four-year College/ University, U.S. Federal Government	Two-year/ Community College Learners, Four-year College/ University Learners	2,049	4,266	67.3% W; 7.9% A; 6.2% B/AA; 0.5% NA/AN; 9.1% H/L; 0.1% NH/PI; 3.2% MR/E; 4.4% ND	32.7 %	Zip Code and Location (e.g., city, town, census block)	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									talent in STEM fields and careers (Both), Other authentic STEM experiences (SMART SEED Grant, SMART Ambassador Program, and the SMART Scholar and Mentor of the Year award (SMOTY))									
DOD	OUSD (R&E)	National Defense Education Program (NDEP) STEM Education and Outreach	D	D	D	D	D	D	Direct classroom instruction (IP), Instructional material development (IP), Online education resource sites (IP), Fellowships (IP), Internships or Traineeships (IP), STEM learning program (IP), Outreach (IP), Tutoring (IP), Mentoring (IP), Training or Professional development (IP), Institutional support for leaderships (Organizations), Teacher pre-service activities (IP),	Discretionary Grants (Organizations), Cooperative Agreements (Organizations), Other (MIPRs (for internal NDEP solicitation and awards to Defense Labs & Centers); Interagency Agreements for partnerships with other Federal Agencies)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/Research Institution, U.S. Federal Government, Nonprofit Organization, For-profit Organization, Consortia (Academic and/or Nonprofit), Federally Funded Research and Development Center (FFRDC)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal	50,341	N/A	44.2% W; 20.2% A; 12% B/AA; 1.1% NA/AN; 10.4% H/L; 0.2% NH/PI; 6.5% MR/E; 5.5% ND; 33.4% Other	36.9 %	Zip Code	Link

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Teacher in-service activities (IP)			STEM learning opportunities						
DOD	OUSD (R&E)	National Defense Science and Engineering Graduate Fellowship Program (NDSEG)	D	D	D	D	D	I	Direct classroom instruction (IP), Mentoring (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP)	Contracts (Organizations), Honorifics (IP), Scholarships (IP), Internships (IP)	Four-year College/ University, Informal Educational/Research Institution	Four-year College/ University Learners	156	156	NC	31.4%	NC	N/A
DOD	USD P&R, M&RA	DOD STARBASE Program	D	D	D	D	D	D	Direct classroom instruction (Both), Instructional material development (Both), Online education resource sites (Both), STEM learning program (Both), Outreach (Both), Mentoring (Both), Training or Professional development (Both), Institutional support for infrastructure (Organizations), Institutional support for leaderships	Formula Grants (Organizations), Contracts (Organizations), Cooperative Agreements (Organizations), Federal Pay (Organizations)	Pre-K–12 School or Local Educational Authority, Indian/ Native American Tribal Government, U.S. Federal Government, Nonprofit Organization, State and Local Government, Consortia (Academic and/or Nonprofit)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Four-year College/ University Learners, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	97,224	85,603	48.8% W; 3.8% A; 15.1% B/AA; 2.1% NA/AN; 22% H/L; 1.2% NH/PI; 5% MR/E; 1.9% ND	49.1%	Zip Code	Link

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									(Both), Teacher pre-service activities (Both), Teacher in-service activities (Both)									
DOE	CESER	CyberForce Competition	I	D	D	I	I	I	Other authentic STEM experiences (Competitions to strengthen and test skills, informational webinars, and a virtual career fair)	Other (DOE FFRDC Award Funding)	Two-year College/ Community College, Four-year College/ University, U.S. Federal Government, Federally Funded Research and Development Center (FFRDC)	Two-year/ Community College Learners, Four-year College/ University Learners	906 from CyberForce Competition; 447 additional activities	C/NR	NC	C/NR	Location (e.g., city, town, census block)	N/A
DOE	ED	Minority Educational Institutions Student Partnership Program (MEISPP)	I	D	D	D	D	D	Direct classroom instruction (Both), Instructional material development (Both), Internships or Traineeships (Both), STEM learning program (Both), Mentoring (Both), Training or Professional development (Both), Teacher in-service activities (Both), Research aimed at improving STEM education (Both), Research aimed at improving opportunities and	Cooperative Agreements (Both), Scholarships (Both), Internships (Both)	Two-year College/ Community College, Four-year College/ University, Indian/ Native American Tribal Government, Nonprofit Organization, State and Local Government	Researchers, Two-year/ Community College Learners, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Program Developers or Organizers that provide informal STEM learning opportunities	N/A	C/NR	C/NR	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									supporting the full participation of talent in STEM fields and careers (Both), Other authentic STEM experiences (Both)									
DOE	EERE	Advanced Vehicle Technology Competitions (AVTC)	D	D	D	D	D	I	Direct classroom instruction (IP), Outreach (Both), Mentoring (Both), Training or Professional development (IP), Other authentic STEM experiences (both)	Other (DOE FFRDC Award Funding)	Pre-K–12 School or Local Educational Authority, Four-year College/University, Federally Funded Research and Development Center (FFRDC)	Pre-K–12 Learners, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors	685	C/NR	NC	NC	NC	Link
DOE	EERE	Algae Technology Educational Consortium	D	D	D	D	D	I	Instructional material development, Online education resource sites, Fellowships, Internships or Traineeships, STEM learning program, Outreach, Training or Professional development	Prizes	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/ Community College Learners, Four-year College/ University Learners, Informal STEM Learners, Informal STEM Educators	C/NR	N/A	C/NR	C/NR	NC	Link
DOE	EERE	Collegiate Wind Competition	D	D	D	D	D	D	STEM learning program, Research aimed at improving opportunities and supporting the full	Discretionary Grants	Two-year College/ Community College, Four-year College/ University	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Four-year College/ University Learners, Four-year	C/NR	C/NR	NC	NC	C/NR	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									participation of talent in STEM fields and careers			College/ University Instructors						
DOE	EERE	Frontier Observatory for Research in Geothermal Energy (FORGE)	D	I	D	U	D	U	Direct classroom instruction, Instructional material development, Online education resource sites, Outreach, Training or Professional development, Teacher in-service activities, Research aimed at improving STEM education	Cooperative Agreements, Prizes, Honorifics	Pre-K–12 School or Local Educational Authority, Four-year College/ University	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Four-year College/ University Learners, Four-year College/ University Instructors, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	NC	NC	NC	NC	NC	Link
DOE	EERE	Industrial Assessment Centers	I	D	D	I	I	I	Internships or Traineeships, STEM learning program, Training or Professional development	Cooperative Agreements, Internships	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/University Instructors	1183	NC	NC	NC	NC	N/A
DOE	EERE	JUMP Into STEM	I	D	D	D	D	D	Internships or Traineeships, Outreach, Mentoring	Internships	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year	C/NR	N/A	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
												College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors						
DOE	EERE	Solar Decathalon	D	D	D	D	D	I	Instructional material development, Online education resource sites, STEM learning program, Mentoring, Other authentic STEM experiences (Yes), Other (Design and/or construction of a zero-energy building)	Contracts (Both), Prizes (Organizations), Honorifics (IP)	Two-year College/ Community College, Four-year College/ University	Four-year College/ University Learners, Four-year College/ University Instructors, Informal STEM Learners	C/NR	C/NR	NC	C/NR	NC	N/A
DOE	EERE	Solar District Cup (aka DOE Collegiate Solar Districts Challenge, CPS # 34173)	D	D	D	D	D	I	Outreach (Both), Mentoring (IP), Training or Professional development (IP), Institutional support for infrastructure (Organizations), Institutional support for leaderships (Organizations), Research aimed at improving opportunities and supporting the full participation of	Contracts (Organizations), Prizes (IP), Other (Note that the SDC competition does not give monetary awards, but rather national publicity to prize-winning students and their institutions that highlights their technical and entrepreneurial accomplishments to the industrial community.)	Two-year College/ Community College, Four-year College/ University, Indian/ Native American Tribal Government, U.S. Federal Government, For-profit Organization, Federally Funded Research and Development Center (FFRDC)	Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	292	C/NR	C/NR	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									talent in STEM fields and careers (IP), Other authentic STEM experiences (Individual Participants: real-world application of solar and storage design and modeling skills)									
DOE	EERE	Water Power STEM/Workforce	D	I	D	D	I	U	Direct classroom instruction (IP), Online education resource sites (Both), STEM learning program (Both), Mentoring (IP), Training or Professional development (IP)	Contracts (Organizations), Prizes (IP), Other (Stipends to students participating in the collegiate competition to cover costs of participation)	Pre-K–12 School or Local Educational Authority, Two-year College/Community College, Four-year College/ University, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	29	N/A	NC	NC	C/NR	Link

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
DOE	EM	Minority Serving Institution Partnership Program (MSIPP)	D	D	D	D	D	I	Internships or Traineeships	Discretionary Grants (Organizations), Internships (IP), Other ($10M: MSIPP Competitive Research Awards)	Four-year College/University	Two-year/ Community College Learners, Two-year/Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors	130	N/A	NC	NC	N/A	N/A
DOE	FECM	Mickey Leland Fellowship Energy Fellowship Program	I	D	D	I	I	I	Internships or Traineeships (IP), Outreach (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP)	Internships (IP)	N/A	Two-year/ Community College Learners, Four-year College/ University Learners	49	C/NR	C/NR	C/NR	C/NR	N/A
DOE	NE	University Nuclear Leadership Program (UNLP)	I	I	D	I	I	U	Fellowships (IP), Internships or Traineeships (IP)	Scholarships (IP)	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors	123	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
DOE	NNSA	Minority Serving Institution Partnership Program (MSIPP) & including the Tribal Education Partnership Program (TEPP)[201]	I	D	D	D	D	I	Direct classroom instruction, Internships or Traineeships, STEM learning program, Outreach, Tutoring, Mentoring, Training or Professional development, Teacher in-service activities, Research aimed at improving STEM education, Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers	Internships (Both), Other (DOE FFRDC Award Funding)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Indian/ Native American Tribal Government, Nonprofit Organization, Consortia (Academic and/or Nonprofit), Federally Funded Research and Development Center (FFRDC)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors	N/A	C/NR	NC	C/NR	Zip Code and Location (e.g., city, town, census block)	N/A
DOE	NNSA	Pit Production Workforce Development Partnership	I	D	D	D	I	I	Direct classroom instruction	Discretionary Grants	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors	N/A	N/A	NC	NC	N/A	N/A
DOE	NNSA	Rickover Fellowship	I	I	D	U	D	D	Fellowships	Cooperative Agreements	Nonprofit organizations	Four-year College/University	5	NC	NC	NC	N/A	N/A

[201] NNSA MSIPP and NNSA TEPP are listed as two separate investments in Appendix 4.

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Program in Nuclear Engineering										Instructors, University Learners						
DOE	NNSA	Savannah River Site Community Reuse Organization Workforce Opportunities in Regional Careers Program	I	I		D	D	I	Instructional material development, training or professional development, internships, STEM learning programs	Discretionary Grants	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors	C/NR	N/A	NC	NC	N/A	N/A
DOE	NNSA	Stewardship Science Academic Alliances (SSAA)	I	I	D	D	D	I	Fellowships, Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers, Other authentic STEM experiences (SSGF and LRGF students participate in NNSA Lab research)	Discretionary Grants, Cooperative Agreements	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners, Four-year College/ University Instructors	NC	NC	NC	NC	NC	N/A
DOE	SC	Computational Science Graduate Fellowship (CSGF)	I	I	D	D	D	I	Internships or Traineeships (IP), Outreach (Both), Tutoring (IP), Mentoring (IP), Training or Professional development (IP), Institutional support	Discretionary Grants (Organizations), Scholarships (IP), Internships (IP), Federal Pay (Both), Other (Management of CSGF is supported through a grant, Tuition (to universities); Travel, stipend, and practicum expenses to fellows)	Nonprofit Organization, Federally Funded Research and Development Center (FFRDC)	Researchers, Four-year College/ University Learners	114 fellows; 43 universities; 12 National labs	C/NR	NC	C/NR	NC	Link 1, Link 2

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									for leaderships, Research aimed at improving STEM education (Both), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Both), Other authentic STEM experiences (Practicum at DOE national laboratory)									
DOE	SC	Nuclear Chemistry Summer School (NCSS)	I	D	D	I	D	U	Direct classroom instruction, Online education resource sites, STEM learning program, Mentoring, Training or Professional development, Institutional support for leaderships	Discretionary Grants	Four-year College/ University, Federally Funded Research and Development Center (FFRDC)	Four-year College/ University Learners	24	C/NR	NC	C/NR	NC	N/A
DOE	SC	U.S. Particle Accelerator Training Program	I	I	D	D	D	I	Direct classroom instruction (Both), Instructional material development (Both), Online education resource sites (Both), Fellowships (IP), Internships or	Cooperative Agreements, Scholarships	Four-year College/ University, U.S. Federal Government, Nonprofit Organization, International Organization, Federally Funded Research and Development Center (FFRDC)	Four-year College/ University Learners, Four-year College/ University Instructors, Program Developers or Organizers that provide informal STEM learning opportunities	288	C/NR	C/NR	C/NR	Zip Code and Location (e.g., city, town, census block)	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Traineeships (Both), STEM learning program (Both), Outreach (Both), Tutoring (Both), Mentoring (Both), Training or Professional development (Both)									
DOE	SC	Science Undergraduate Laboratory Internships	I	I	D	I	D	I	Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP)	Internships (IP), Other (Stipend, including housing and travel stipend)	N/A	Two-year/ Community College Learners, Four-year College/ University Learners	1,058	C/NR	C/NR	C/NR	C/NR	N/A
DOE	SC	Community College Internships (CCI) Program	I	D	D	I	D	I	Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP)	Internships (IP), Other (Stipend, including housing and travel stipend)	N/A	Two-year/ Community College Learners	104	C/NR	C/NR	C/NR	C/NR	N/A
DOE	SC	National Science Bowl	D	I	D	I	D	I	Online education resource sites, Outreach, Mentoring, Training or Professional development, Other authentic STEM experiences (preparing for and participating in a science competition with a team)	Contracts, Prizes	Pre-K–12 School or Local Educational Authority	Pre-K–12 Learners, Informal STEM Learners	8,345	C/NR	C/NR	C/NR	Location (e.g., city, town, census block)	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
DOE	SC	Office of Science Graduate Student Research (SCGSR) Program	I	I	D	I	D	I	Internships or Traineeships, Training or Professional development	Internships (IP), Other (Stipend for general living expenses and reimbursement for in/out-bound transportation)	N/A	Four-year College/ University Learners	131	C/NR	C/NR	C/NR	C/NR	N/A
DOE	SC	Visiting Faculty Program (VFP)	I	D	D	I	D	I	Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP)	Internships (IP)	N/A	Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors	87	C/NR	C/NR	C/NR	C/NR	N/A
DOI	USGS	The USGS National Cooperative Geologic Mapping Program (NCGMP) EDMAP Program	D	D	D	D	I	U	Fellowships (Both), Internships or Traineeships (IP), Training or Professional development (IP), Other authentic STEM experiences (Research experiences)	Cooperative Agreements (Both)	Four-year College/ University	Four-year College/ University Learners, Four-year College/ University Instructors	96	NC	NC	NC	N/A	N/A
DOL	ETA	H-1B Skills Training Grants	I	D	D	D	U	I	Direct classroom instruction (IP), Instructional material development (Organizations), Internships or Traineeships (IP),	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University, Indian/ Native American Tribal Government, Nonprofit Organization, For-profit Organization	Two-year/ Community College Learners, Four-year College/ University Learners, Leaders or Administrators of Post-secondary Institutions	56,855	78,331	50.7% W; 7.4% A; 19.1% B/AA; 1.4% NA/AN; 12.3% H/L; 1.1%	34.5 %	C/NR	Link 1, Link 2, Link 3, Link 4

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Outreach (Both), Training or Professional development (IP), Institutional support for leaderships (Organizations)						NH/PI; 1.6% MR/E; 6.5% Other			
DOT	FAA	Centers of Excellence Grant Program	I	U	I	D	D	U	Training or Professional development (Organizations), Institutional support for infrastructure (Organizations), Institutional support for leaderships (Organizations), N/A	Discretionary Grants (Organizations), Cooperative Agreements (Organizations)	Four-year College/ University, State and Local Government, Federally Funded Research and Development Center (FFRDC), Not Collected/ Unknown, N/A	Four-year College/ University Learners, Four-year College/ University Instructors, Leaders or Administrators of Post-secondary Institutions	C/NR	C/NR	C/NR	NC	Zip Code	N/A
DOT	FHWA	Dwight D. Eisenhower Transportation Fellowship Program	D	D	D	D	D	I	N/A	Discretionary Grants (IP)	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Four-year College/ University Learners	216	N/A	NC	NC	NC	N/A
DOT	FHWA	National Summer Transportation Institute (NSTI)	D	D	D	D	D	D	Other authentic STEM experiences (General STEM, with a transportation focus.)		Two-year College/ Community College, Four-year College/ University, Indian/ Native American Tribal Government	Pre-K–12 Learners, Four-year College/ University Learners	C/NR	C/NR	C/NR	C/NR	NC	N/A
DOT	FHWA	Summer Transportation Internship Program for	I	D	D	D	D	I	Instructional material development (IP), Online education	Contracts (Organizations), Internships (IP), Other (stipend, paid housing, travel, and field trips)	Two-year College/ Community College, Four-year College/	Two-year/ Community College Learners, Four-year College/ University Learners	C/NR	C/NR	C/NR	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Diverse Groups (STIPDG)							resource sites (IP), Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP)		University, Nonprofit Organization							
DOT	OST-R	University Transportation Centers Program	D	D	D	D	D	D	Research, education and technology transfer activities for US students and professionals at 2- and 4-year colleges and universities.	Discretionary Grants (Organizations)	Two-year College/Community College, Four-year College/University	Researchers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/University Instructors	N/A	N/A	NC	NC	N/A	Link
DOT	FRA	Encouraging Early (K–12) Interest in Railroad Careers through STEM Education	D	D	D	D	D	U	N/A	Other (N/A - Did not provide services)	N/A	Pre-K–12 Learners, Researchers, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	Data not available in data call.	0	NC	NC	N/A	N/A
DOT	FRA	Making Railroading a Career of Choice through STEM Education	D	D	D	D	D	U	Direct classroom instruction (Both), Online education resource sites (Organizations), STEM learning	Contracts (Organizations)	Four-year College/University	Pre-K–12 Learners, Researchers, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year	NC	0	NC	NC	No	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									program (Organizations), Outreach (Organizations), Mentoring (Organizations), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations)			College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities						
ED	IES	Regional Educational Laboratories (REL)	I	I	I	I	I	I	Training or Professional development (Organizations), Teacher in-service activities (Organizations), Research aimed at improving STEM education (Organizations)	Contracts (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution, Indian/Native American Tribal Government, Nonprofit Organization, Consortia (Academic and/or Nonprofit)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year	NC	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
												College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities						
ED	IES	Research in Special Education	I	I	D	I	D	I	Training or Professional development (Organizations), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations)	Discretionary Grants (Organizations), Cooperative Agreements (Organizations)	Four-year College/University, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/University Mentors, Leaders or Administrators of Post-secondary Institutions	22	22	N/A	NC	NC	Link
ED	IES	Research, Development, and	I	I	D	I	D	I	Training or Professional development	Discretionary Grants (Organizations), Contracts	Four-year College/ University, Nonprofit	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers,	123	58	N/A	NC	NC	Link

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Dissemination (RDD)							(Organizations), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations)	(Organizations), Cooperative Agreements (Organizations)	Organization, For-profit Organization	Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions						
ED	OESE	Education Innovation and Research (EIR)	D	D	I	I	D	D	Competitive discretionary research grants to support evidenced-based STEM interventions to enhance student academic achievement and teacher efficacy.	Competitive grants in 3 categories, early phase, mid-phase and scale up grants.	Eligible Applicants: (a) A local educational agency (LEA); (b) A State educational agency (SEA); (c) The Bureau of Indian Education (BIE); (d) A consortium of SEAs or LEAs; (e) A nonprofit organization; and (f) An SEA, an LEA, a consortium described	High-need K–12 students and K–12 teachers in high-need schools.	N/A	N/A	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
											in (d), or the BIE, in partnership with-- (1) A nonprofit organization; (2) A business; (3) An educational service agency; or An institution of higher education.							
ED	OESE	Out of School Time Career Pathway (OSTCP)	D	D	D	I	D	D	Discretionary competitive grant to SEAs in partnership with 21stCCLC grantees, including at least one rural LEA to offer students work-based learning experiences and industry recognized credentials, internships and/or apprenticeships	Five-year demonstration grant requiring annual progress to be eligible for continuation grants.	SEA 21stCCLC program in partnership with LEAs including at least one rural LEA.	Youth participating in 21stCCLC programs.	N/A	N/A	NC	NC	N/A	N/A
ED	OPE	Minority Science and Engineering Improvement Program (MSEIP)	D	D	D	D	D	I	Discretionary competitive grants to assists predominantly minority institutions in effecting long-range improvement in science and engineering	The program funds are generally used to implement institutional projects, special projects, cooperative projects, and design projects for a broad range of activities that address specific barriers that eliminate or reduce the entry of	Predominantly minority institutions of higher education.	IHE students, faculty, support staff.	N/A	N/A	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									education programs and increasing the flow of underrepresented ethnic minorities, particularly minority women, into science and engineering careers.	minorities into science and technology fields.								
ED	OPE	Predominantly Black Institutions Competitive Grant Program	D	D	D	I	I	I	The purpose of the Predominantly Black Institutions Competitive Grant Program is to support Predominantly Black Institutions (PBIs) to establish or strengthen programs in the following areas: Science, technology, engineering, or mathematics (STEM) Health education Internationalization or globalization Teacher preparation; or Improving educational	Five-year projects that establish or strengthen programs at predominantly Black institutions that are designed to increase the institution's capacity to prepare students for instruction in the above noted fields.	Predominantly Black Institutions	Students and faculty of PBIs	N/A	N/A	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									outcomes of African-American males									
ED	OPE	Teacher Loan Forgiveness	I	D	D	I	U	U	Loan forgiveness for K–12 educators.	Other (Federal student loan forgiveness)	Pre-K–12 School or Local Educational Authority	Pre-K–12 Classroom Teachers	N/A	N/A	NC	NC	N/A	N/A
ED	OPE	Title III, Part F HSI STEM and Articulation Program	D	D	D	I	I	D	Discretionary competitive grants for HSIs to support STEM faculty and students.	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	NC	C/NR	C/NR	NC	NC	N/A
EPA	AO	Environmental Education Grant Program	I	I	I	D	D	I	N/A	Discretionary Grants (Organizations), Other (A grantee under this solicitation will be required to award exactly 25% (no more and no less) of the funds received from EPA to eligible subrecipients in the form of subawards of $5,000 or less. Learn more about the subaward requirement in Section I (G) of the RFA (https://www.epa.gov/system/files/documents/2021-09/2022-	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Indian/ Native American Tribal Government	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University	N/A	N/A	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
										ee-local-grants-rfa-region-1-final.pdf).)		Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators						
EPA	AO	National Environmental Education and Training Program	I	I	I	I	I	U		Discretionary Grants (Organizations), Contracts (Organizations), Fellowships (IP)	Two-year College/Community College, Four-year College/ University, Nonprofit Organization	Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools	1012,540	NC	NC	NC	Not specified.	N/A
EPA	ORD	U.S. EPA's People, Prosperity, and the Planet (P3) Program	D	D	D	D	D	D	N/A	Discretionary Grants (Organizations), Other (Grants can pay undergraduate and graduate student salaries and/or tuition)	Two-year College/Community College, Four-year College/University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors	N/A	NC	NC	NC	C/NR	N/A
HHS	NIH	Aging Research Dissertation Awards to Increase Diversity (R36 Clinical Trial Not Allowed)	D	D	D	U	I	U	Training or Professional development (IP)	Discretionary Grants (Organizations)	Four-year College/University	Four-year College/ University Learners	19	19	N/A	NC	C/NR	N/A
HHS	NIH	Bridges to the Baccalaureate Research Training Program	U	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University, Nonprofit Organization	Two-year/ Community College Learners, Four-year College/ University Learners	C/NR	C/NR	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
HHS	NIH	Bridges to the Doctorate Program	U	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Four-year College/ University Learners	C/NR	C/NR	NC	NC	N/A	N/A
HHS	NIH	Cancer Research Education Grants Program (R25)	D	D	D	D	D	I	Direct classroom instruction (IP), Internships or Traineeships (IP), STEM learning program (IP), Mentoring (IP), Training or Professional development (IP)	Discretionary Grants (Organizations)	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Informal STEM Learners	2977	N/A	N/A	NC	NC	N/A
HHS	NIH	Center for Cancer Research/Johns Hopkins University Master of Science in Biotechnology Concentration in Molecular Targets and Drug Discovery Technologies			N/A				N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A
HHS	NIH	Design by Biomedical Undergraduate	D	I	D	D	D	I	Outreach (Both)	Prizes (IP), Honorifics (IP)	Four-year College/University	Researchers, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year	456	NC	NC	NC	C/NR	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Teams (DEBUT) Challenge[202]										College/ University Mentors						
HHS	NIH	Enhancing Science, Technology, EnginEering, and Math Education Diversity (ESTEEMED) Research Education Experiences (R25)	D	D	D	D	D	I	Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP), Institutional support for leaderships (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP), Other authentic STEM experiences (Research experiences)	Other (NIH Grant Support)	Four-year College/ University	Four-year College/ University Learners	55	C/NR	N/A	NC	NC	N/A
HHS	NIH	Genome Research Experiences to Attract Talented Undergraduates into Genomic Fields to Enhance	D	D	D	D	D	I	Internships or Traineeships (IP), STEM learning program (IP), Mentoring (IP), Training or Professional development (IP), Institutional support	Discretionary Grants (Organizations), Internships (IP)	Four-year College/University	Researchers, Four-year College/ University Learners, Four-year College/ University Mentors	C/NR	C/NR	C/NR	C/NR	NC	N/A

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[202] This investment is excluded from Appendix 4 because its FY2022 funding fell below the reporting threshold of $300,000.

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Diversity (GREAT R25)							for leaderships (Organizations)									
HHS	NIH	Graduate Partnerships Program	I	U	D	I	I	U	Fellowships (IP), Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP), Other authentic STEM experiences (Research experiences)	Prizes (IP), Honorifics (IP), Scholarships (IP), Internships (IP)	Four-year College/ University, U.S. Federal Government, International Organization	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Program Developers or Organizers that provide informal STEM learning opportunities	387	NC	NC	NC	NC	N/A
HHS	NIH	Graduate Research Training Initiative for Student Enhancement (G-RISE)[203]	U	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Four-year College/ University Learners, Four-year College/ University Mentors	C/NR	C/NR	NC	NC	N/A	N/A
HHS	NIH	Initiative for Maximizing Research Education in Genomics; Diversity Action Plan	I	D	D	D	D	I	Internships or Traineeships, Outreach, Mentoring, Training or Professional development, Research aimed at	Discretionary Grants, Internships	Four-year College/ University	Researchers, Four-year College/ University Learners, Four-year College/ University Mentors	C/NR	C/NR	C/NR	C/NR	NC	N/A

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[203] In Appendix 4, this investment is encompassed within the Research Initiative for Scientific Enhancement (RISE) and the Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35).

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									improving opportunities and supporting the full participation of talent in STEM fields and careers									
HHS	NIH	Initiative for Maximizing Student Development	U	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Four-year College/ University Learners, Four-year College/ University Mentors	C/NR	C/NR	NC	NC	N/A	N/A
HHS	NIH	Kidney Technology Development Research Education Program (R25 - Independent Clinical Trial Not Allowed); solicited via two funding announcements: RFA-DK-19-006 and RFA-DK-20-006	D	I	D	I	D	I	STEM learning program (IP), Mentoring (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP)	Discretionary Grants	N/A	Four-year College/ University Learners	NC	C/NR	C/NR	C/NR	NC	N/A
HHS	NIH	Launching Future Leaders in Global Health (LAUNCH) Research Training Program	I	D	D	D	D	I	N/A	Discretionary Grants (Organizations)	Consortia (Academic and/or Nonprofit)	Researchers, Four-year College/ University Learners	27	C/NR	N/A	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
HHS	NIH	Maximizing Access to Research Careers (MARC)	U	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Four-year College/University	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	C/NR	C/NR	NC	NC	N/A	N/A
HHS	NIH	MSTEM: Advancing Diversity in Aging Research through Undergraduate Education (R25 - Independent Clinical Trial Not Allowed)	D	D	D	I	I	U	Mentoring (IP), Training or Professional development (IP)	Discretionary Grants (Organizations)	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners	C/NR	C/NR	C/NR	C/NR	NC	N/A
HHS	NIH	National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed)[204]	D	D	N/A	D	D		Direct classroom instruction (IP), Instructional material development (IP), Online education resource sites (Both), Fellowships (IP), Internships or Traineeships (IP), STEM learning	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Four-year College/ University, Indian/ Native American Tribal Government, Federally Funded Research and Development Center (FFRDC)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University	C/NR	C/NR	N/A	NC	NC	N/A

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[204] In Appendix 4, this program is encompassed within the Cancer Research Education Grants Program (R25).

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									program (IP), Outreach (Both), Mentoring (IP), Training or Professional development (IP), Teacher pre-service activities (IP), Teacher in-service activities (IP), Research aimed at improving STEM education (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP), Other authentic STEM experiences (This program provided Cancer Research Training and Cancer Curriculum Development)			Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities							
HHS	NIH	National Library of Medicine Institutional Training Grants for Research Training in	U	D	D	U	U	D	N/A	Discretionary Grants (Organizations), Scholarships	Four-year College/ University	Four-year College/ University Learners	212	C/NR	NC	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Biomedical Informatics and Data Science																
HHS	NIH	NCI Predoctoral to Postdoctoral Fellow Transition Award		N/A					N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A
HHS	NIH	NIDA Research Education Program for Clinical Researchers and Clinicians	D	I	D	U	D	I	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A
HHS	NIH	NIDDK Education Program Grants (R25 Clinical Trial Not Allowed) PAR-21-034	D	I	D	I	D	I	STEM learning program (IP), Mentoring (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP)	Discretionary Grants	N/A	Researchers, Four-year College/ University Learners	NC	C/NR	C/NR	C/NR	NC	N/A
HHS	NIH	NIH Blueprint and BRAIN Initiative Diversity Specialized	D	D	D	U	I	U	Mentoring (IP), Training or Professional development (IP)	Discretionary Grants (Organizations)	Four-year College/University		105	C/NR	N/A	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award																
HHS	NIH	NIH Blueprint Enhancing Neuroscience Diversity through Undergraduate Research Education Experiences (ENDURE)	N/A	D	D	U	I	I	N/A	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University	Two-year/Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors	C/NR	C/NR	C/NR	C/NR	NC	N/A
HHS	NIH	NIH Building Infrastructure Leading to Diversity (BUILD) Initiative (RL5 portion only)	U	D	D	U	U	U	N/A	Cooperative Agreements (Organizations), Internships (Organizations)	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	C/NR	C/NR	C/NR	C/NR	NC	N/A
HHS	NIH	NIH Building Infrastructure	U	D	D	U	U	U	N/A	Cooperative Agreements (Organizations)	Two-year College/ Community College,	Two-year/ Community College Learners, Two-	C/NR	C/NR	C/NR	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Leading to Diversity (BUILD) Initiative (TL4 portion only)									Four-year College/ University	year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors						
HHS	NIH	NIH Institutional Excellence in Diversity, Equity, Inclusion, and Accessibility in Biomedical and Behavioral Research Prize Competition	U	D	I	U	U	U	N/A	N/A	N/A	Researchers, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	N/A	C/NR	C/NR	C/NR	C/NR	N/A
HHS	NIH	NIH Neuroscience Development for Advancing the Careers of a Diverse Research Workforce	D	D	D	U	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Informal STEM Learners	C/NR	C/NR	C/NR	C/NR	NC	N/A
HHS	NIH	NIMHD Minority Health and Health Disparities International	I	D	D	I	I	I	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Research Training (T37)																
HHS	NIH	NLM's Short-term Research Education Training Programs in Biomedical Informatics and Data Science	D	D	D	I	I	D	N/A	Discretionary Grants (Organizations), Internships (Both)	Four-year College/ University	Four-year College/ University Learners	143	143	N/A	NC	NC	N/A
HHS	NIH	Notice of Special Interest (NOSI): Administrative Supplements to Recognize Excellence in Diversity, Equity, Inclusion, and Accessibility (DEIA) Mentorship	U	D	I	U	U	U	Mentoring (Both), Training or Professional development (IP), Other authentic STEM experiences (Funds will be provided to perform additional activities within the scope of the parent grant. Funds may also be provided to extend diversity, equity, inclusion, and accessibility activities.)	Discretionary Grants (Organizations)	Not Collected/Unknown	Researchers, Two-year/ Community College Learners, Four-year College/ University Learners, Four-year College/ University Mentors	C/NR	NC	NC	NC	C/NR	N/A
HHS	NIH	Postbaccalaureate Intramural Research Training Award Program	I	I	D	U	I	I	Internships or Traineeships (Both), Training or Professional development (Both), Other authentic	Scholarships (IP)	U.S. Federal Government	Four-year College/University Learners	1,643	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									STEM experiences (research experiences)									
HHS	NIH	Postbaccalaureate Research Education Program (PREP)	D	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Four-year College/University	Four-year College/ University Learners, Four-year College/University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	C/NR	C/NR	NC	NC	N/A	N/A
HHS	NIH	Providing Research Education Experiences to Enhance Diversity in the Next Generation of Substance Use and Addiction Scientists (R25 Clinical Trials Not Allowed)	D	D	D	U	I	I	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A
HHS	NIH	Research Initiative for Scientific Enhancement (RISE)	U	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Four-year College/University	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or	C/NR	C/NR	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
												Administrators of Post-secondary Institutions						
HHS	NIH	Research Supplements to Promote Diversity in Health-Related Research	U	D	D	I	I	I	Other authentic STEM experiences (Biomedical clinical, behavioral and social sciences research)	Discretionary Grants (Both)	Informal Educational/ Research Institution	Pre-K–12 Learners, Researchers, Four-year College/ University Learners	0	C/NR	NC	C/NR	NC	N/A
HHS	NIH	Ruth L. Kirschstein National Research Service Award Institutional Research Training Grants (T32, T35)	U	I	D	U	I	U	Internships or Traineeships (IP), Mentoring (IP), Training or Professional development (IP), Other authentic STEM experiences (IP)	Discretionary Grants (Organizations)	Four-year College/ University	Four-year College/ University Learners	C/NR	NC	NC	NC	N/A	N/A
HHS	NIH	Ruth L. Kirschstein NRSA for Individual Predoctoral Fellows, including Underrepresented Racial/Ethnic Groups, Students from Disadvantaged Backgrounds, and Predoctoral Students with Disabilities	U	D	D	U	U	U	Fellowships (IP), Mentoring (IP), Training or Professional development (IP), Other authentic STEM experiences (IP)	Discretionary Grants (IP)	Four-year College/ University	Four-year College/ University Learners	959	N/A	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
HHS	NIH	Science Education Partnership Award	D	D	D	D	D	D	Direct classroom instruction (Both), Instructional material development (Both), Online education resource sites (Both), STEM learning program (Both), Outreach (Both), Tutoring (Both), Mentoring (Both), Training or Professional development (Both), Institutional support for infrastructure (Both), Teacher pre-service activities (Both), Teacher in-service activities (Both), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP), Other authentic STEM experiences	Discretionary Grants (Organizations), Other (Competitive peer-reviewed grants)	Pre-K–12 School or Local Educational Authority, Four-year College/ University, Informal Educational/Research Institution, U.S. Federal Government, Nonprofit Organization, For-profit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	NC	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									(Research experiences)									
HHS	NIH	Short-Term Research Education Program to Enhance Diversity in Health-Related Research	I	D	D	D	I	I	Direct classroom instruction, STEM learning program, Mentoring, Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers	Discretionary Grants	Four-year College/ University	Four-year College/ University Learners	NC	NC	NC	NC	N/A	N/A
HHS	NIH	Short-Term Research Experience Program to Unlock Potential	I	D	D	I	I	U	STEM learning program (IP), Mentoring (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP)	Discretionary Grants	Four-year College/ University	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/ Community College Learners, Four-year College/ University Learners, Four-year College/ University Mentors	NC	C/NR	NC	C/NR	Rural determined by other measure	N/A
HHS	NIH	Strengthening Institutional Capacity to Conduct Global Cancer Research in Low-and Middle-Income Countries		N/A					N/A	N/A	N/A	N/A	C/NR	N/A	NC	NC	N/A	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
HHS	NIH	Student Intramural Research Training Award Program	I	I	D	U	I	I	Internships or Traineeships (Both), Training or Professional development (Both), Other authentic STEM experiences (research experiences)	Scholarships (IP)	U.S. Federal Government	Pre-K–12 Learners, Researchers, Two-year/ Community College Learners, Four-year College/ University Learners	826	NC	NC	NC	NC	N/A
HHS	NIH	Substance Use/Substance Use Disorder Dissertation Research Award (R36 - Clinical Trials Optional)	D	I	D	U	I	D	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A
HHS	NIH	Summer Institute for Research Education in Biostatistics and Data Science	I	I	D	I	D	D	Direct classroom instruction, STEM learning program, Mentoring, Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers	N/A	Four-year College/ University	Four-year College/ University Learners	NC	NC	NC	C/NR	N/A	N/A
HHS	NIH	Summer Research Education Experience Program	D	I	D	U	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Four-year College/ University Learners, Four-year	116	C/NR	C/NR	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
												College/ University Mentors						
HHS	NIH	Team-Based Design in Biomedical Engineering Education (R25)	D	I	D	D	D	I	Direct classroom instruction (Both), STEM learning program (IP), Research aimed at improving STEM education (Organizations)	Discretionary Grants (Organizations), Other (Clinical immersion experiences)	Four-year College/ University	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors	NC	NC	NC	NC	NC	N/A
HHS	NIH	Transition to Aging Research for Predoctoral Students (F99/K00 Clinical Trial Not Allowed)	D	I	D	U	I	U	Training or Professional development (IP)	Discretionary Grants (Organizations)	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners	11	C/NR	N/A	NC	C/NR	N/A
HHS	NIH	UMD-NCI Partnership for Integrative Cancer Research	I	I	D	D	D	I	N/A	Cooperative Agreements (Both), Scholarships (IP), Internships (IP)	Four-year College/ University, U.S. Federal Government	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors	17	NC	NC	NC	NC	Link
HHS	NIH	Undergraduate Research Education Program (UP) to Enhance Diversity in the Environmental Health Sciences	I	D	D	I	I	I	Internships or Traineeships (IP), Mentoring (IP)	Discretionary Grants (Organizations)	Four-year College/ University	Four-year College/ University Learners	65	C/NR	C/NR	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
HHS	NIH	Undergraduate Research Training Initiative for Student Enhancement (U-RISE)[205]	U	D	D	U	U	U	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	C/NR	C/NR	NC	NC	N/A	N/A
HHS	NIH	Undergraduate Scholarship Program	I	I	D	U	U	U	N/A	Scholarships (IP), Federal Pay (IP)	Four-year College/ University	Four-year College/ University Learners	N/A	N/A	C/NR	C/NR	NC	N/A
HHS	NIH	Undergraduate Summer Research Education in Kidney, Urologic, and Hematologic Diseases; solicited via two funding announcements: RFA-DK-13-005 and RFA-DK-18-006	D	I	D	I	D	I	STEM learning program (IP), Mentoring (IP), Training or Professional development (IP), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (IP)	Discretionary Grants	N/A	Four-year College/ University Learners	NC	C/NR	C/NR	C/NR	NC	N/A
NASA	OSTEM	Minority University Research and	I	D	D	D	I	U	Fellowships (Organizations), Internships or	Cooperative Agreements (Organizations), Prizes (IP),	Two-year College/ Community College,	Pre-K–12 Learners, Two-year/ Community College Learners, Four-year	55,439	C/NR	C/NR	C/NR	Location (e.g., city,	Link

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[205] In Appendix 4, this program is encompassed within the Research Initiative for Scientific Enhancement (RISE) and the Ruth L. Kirschtein National Research Service Award Institutional Research Training Grants (T32, T35).

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Education Project (MUREP)							Traineeships (Both), STEM learning program (Organizations), Outreach (Organizations), Training or Professional development (Organizations), Institutional support for infrastructure (Organizations),	Scholarships (Organizations), Internships (IP)	Four-year College/ University	College/ University Learners, Four-year College/ University Instructors, Leaders or Administrators of Post-secondary Institutions,					town, census block)	
NASA	OSTEM	National Space Grant College and Fellowship Project (Space Grant)	D	D	D	I	I	I	N/A	Cooperative Agreements (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution, Indian/Native American Tribal Government, U.S. Federal Government, Nonprofit Organization, Consortia (Academic and/or Nonprofit)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Four-year College/ University Learners, Four-year College/ University Instructors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators	608.631	C/NR	C/NR	C/NR	Location (e.g., city, town, census block)	Link
NASA	OSTEM	Next Gen STEM (NGS)	D	D	I	D	D	I	Instructional material development (Organizations), Online education	Discretionary Grants (Organizations), Cooperative Agreements (Organizations)	Informal Educational/Research Institution, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools,	457,752	C/NR	C/NR	C/NR	Location (e.g., city, town,	Link

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									resource sites (Both), STEM learning program (Organizations), Outreach (Organizations), Training or Professional development (Both), Teacher in-service activities (Both), Other authentic STEM experiences (Unique virtual and in-person engagements with NASA personnel and centers)			Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities					census block)	
NASA	SMD	Global Learning and Observations to Benefit the Environment (GLOBE) Program	D	D	D	D	D	D	Instructional material development (Both), Online education resource sites (Both), STEM learning program (Organizations), Outreach (Both), Mentoring (IP), Training or Professional development (Both), Institutional support for leaderships (Organizations),	Contracts (Both), Cooperative Agreements (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, U.S. Federal Government, Nonprofit Organization, For-profit Organization, International Organization, Consortia (Academic and/or Nonprofit), Not Collected/Unknown	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/University Learners, Four-year College/ University Instructors, Leaders or Administrators of Post-secondary Institutions,	558,458	NC	NC	NC	Location (e.g., city, town, census block)	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Teacher pre-service activities (IP), Research aimed at improving STEM education (Both), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Both)			Informal STEM Learners, Informal STEM Educators						
NASA	SMD	Robotics Alliance Project (RAP)	D	I	D	D	D	I	Instructional material development (Organizations), Online education resource sites (IP), Internships or Traineeships (IP), STEM learning program (IP), Mentoring (IP), Training or Professional development (IP), Loan forgiveness, Institutional support for infrastructure (Organizations), Institutional support for leaderships (IP)	Discretionary Grants (Organizations), Cooperative Agreements (Organizations), Federal Pay (IP)	Pre-K–12 School or Local Educational Authority, Informal Educational/Research Institution, U.S. Federal Government, Nonprofit Organization, International Organization, Federally Funded Research and Development Center (FFRDC)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Mentors, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	16,500	10,000	N/A	NC	Zip Code	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
NASA	SMD	Science Activation Program	D	D	I	D	D	I	N/A	Cooperative Agreements (Organizations)	Two-year College/ Community College, Four-year College/ University, Informal Educational/Research Institution, U.S. Federal Government, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	52,299,740	NC	NC	NC	C/NR	N/A
NASA	STMD	NASA's TechRise Student Challenge	D	D	D	U	D	I	Instructional material development (Both), Online education resource sites (Both), Outreach (Both), Mentoring	Prizes (Organizations)	Pre-K–12 School or Local Educational Authority	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Principals, Leaders, Administrators of Pre-K–12 Schools, Informal STEM Educators	5,270	N/A	NC	NC	Zip Code	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									(Organizations), Teacher in-service activities (IP), Other authentic STEM experiences (Grades 6-12 Student Challenge and Suborbital Flight Opportunity)									
NSF		NSF's Eddie Bernice Johnson Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) Initiative	I	D	D	D	U	I	Instructional material development (Both), Online education resource sites (Both), Fellowships (IP), Internships or Traineeships (IP), STEM learning program (IP), Outreach (IP), Mentoring (IP), Training or Professional development (Both), Institutional support for leaderships (IP), Teacher in-service activities (IP), Research aimed at improving STEM education (Both), Research aimed at improving opportunities and	Discretionary Grants (Organizations), Contracts (Organizations), Cooperative Agreements (Organizations), Internships (IP)	Pre-K–12 School or Local Educational Authority, Two-year College/Community College, Four-year College/University, Informal Educational/Research Institution, Indian/Native American Tribal Government, U.S. Federal Government, Nonprofit Organization, State and Local Government, Consortia (Academic and/or Nonprofit), Federally Funded Research and Development Center (FFRDC)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal	N/A	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									supporting the full participation of talent in STEM fields and careers (Both)			STEM learning opportunities						
NSF		Research Experiences for Teachers (RET) in Engineering and Computer Science[206]	D	D	D	I	I	D	Direct classroom instruction (Both), Instructional material development (Both), Online education resource sites (Both), STEM learning program (Both), Outreach (Both), Tutoring (Both), Mentoring (Both), Training or Professional development (Both), Teacher pre-service activities (Both), Teacher in-service activities (Both), Research aimed at improving STEM education (Both)	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Program Developers or Organizers that provide informal STEM learning opportunities	C/NR	N/A	NC	NC	NC	N/A
NSF		Research Experiences for	D	I	I	U	U	U	Instructional material	Discretionary Grants (Organizations), Other	Pre-K–12 School or Local Educational	Pre-K–12 Classroom Teachers	N/A	N/A	NC	NC	NC	N/A

[206] In Appendix 4, this program is combined with Research Experiences for Teachers Sites in Biological Sciences, NSF 21-584 into one entry titled "Research Experiences for Teachers (RET).

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Teachers Sites in Biological Sciences, NSF 21-584[207]							development (IP), Training or Professional development (IP), Teacher in-service activities (IP), Other authentic STEM experiences (Authentic biological research)	(Immersive engagement in research)	Authority, Four-year College/ University, Informal Educational/ Research Institution, Nonprofit Organization							
NSF		Research Experiences for Undergraduates (REU)	U	I	D	D	I	I	N/A, Other (Provides grants -- not direct services -- in support of authentic STEM experiences)	Discretionary Grants (Organizations), Cooperative Agreements (Organizations)	Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution, U.S. Federal Government, Nonprofit Organization, For-profit Organization, Consortia (Academic and/or Nonprofit), Federally Funded Research and Development Center (FFRDC)	Two-year/ Community College Learners, Four-year College/ University Learners	8,425	C/NR	C/NR	C/NR	NC	N/A
NSF	BIO	Research and Mentoring for Postbaccalaureate in Biological	D	I	D	U	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners	N/A	N/A	NC	NC	NC	N/A

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[207] In Appendix 4, this program is combined with Research Experiences for Teachers in Engineering and Computer Science into one entry titled "Research Experiences for Teachers (RET).

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Sciences, NSF 23-514																
NSF	CISE	Training-based Workforce Development for Advanced Cyberinfrastructure (CyberTraining)	D	I	D	D	D	D	Direct classroom instruction, Instructional material development, Online education resource sites, STEM learning program, Training or Professional development	Discretionary Grants	Four-year College/ University, Informal Educational/ Research Institution, Nonprofit Organization	Researchers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors, Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
NSF	EDU	Advanced Technological Education	D	D	D	D	D	D	Direct classroom instruction (Organizations), Instructional material development (Organizations), Online education resource sites (Organizations), Fellowships (Organizations), Internships or Traineeships (Organizations), STEM learning program (Organizations), Outreach (Organizations), Tutoring	Discretionary Grants (Organizations), Prizes (Organizations), Internships (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Indian/ Native American Tribal Government, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	34,000 students	C/NR	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									(Organizations), Mentoring (Organizations), Training or Professional development (Organizations), Institutional support for leaderships (Organizations), Teacher pre-service activities (Organizations), Teacher in-service activities (Organizations), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations), Other authentic STEM experiences (Undergraduate Research Experiences)									

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
NSF	EDU	Advancing Informal STEM Learning (AISL)	I	D	I	D	I	I	N/A	Discretionary Grants (Organizations), Cooperative Agreements (Organizations)	Four-year College/ University, Informal Educational/Research Institution, Indian/ Native American Tribal Government, Nonprofit Organization, For-profit Organization, Consortia (Academic and/or Nonprofit)	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	280	C/NR	C/NR	C/NR	NC	N/A
NSF	EDU	Alliances for Graduate Education and the Professoriate Program	U	D	I	D	U	U	Training or Professional development (Both)	Discretionary Grants (Organizations)	Four-year College/ University, Nonprofit Organization, Federally Funded Research and Development Center (FFRDC)	Researchers, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	N/A	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
NSF	EDU	Cybercorps: Scholarship for Service (SFS)	I	D	D	D	D	D	Direct classroom instruction (Organizations), Instructional material development (Organizations), Online education resource sites (Organizations), Internships or Traineeships (Organizations), STEM learning program (Organizations), Outreach (Both), Tutoring (Organizations), Mentoring (Organizations), Training or Professional development (Organizations), Institutional support for infrastructure (Organizations), Institutional support for leaderships (Organizations), Teacher in-service activities (Organizations),	Discretionary Grants (Organizations), Contracts (Organizations), Other (reimbursable interagency-agreement (IAA); The awards provide training and scholarships to participants)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Indian/Native American Tribal Government, U.S. Federal Government, Nonprofit Organization, State and Local Government, Consortia (Academic and/or Nonprofit), Federally Funded Research and Development Center (FFRDC), N/A	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators	806	C/NR	C/NR	C/NR	C/NR	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations), Other authentic STEM experiences (Organizations), Other (The awards provide training and scholarships to participants)									
NSF	EDU	Discovery Research Pre-K–12	D	I	D	I	D	D	N/A	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/Research Institution, Indian/ Native American Tribal Government, U.S. Federal Government, Nonprofit Organization, For-profit Organization,	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Four-year College/ University Instructors, Program Developers or Organizers that provide informal STEM learning opportunities	N/A	N/A	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
											International Organization							
NSF	EDU	EDU Core Research (ECR) Program	I	I	I	I	I	I	N/A	Discretionary Grants (Organizations), Cooperative Agreements (Organizations), Scholarships (Both)	Two-year College/ Community College, Four-year College/ University, Informal Educational/Research Institution, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	N/A	C/NR	C/NR	NC	NC	N/A
NSF	EDU	Excellence Awards in Science and Engineering (EASE)	D	D	D	D	I	U	Direct classroom instruction (Both), Internships or Traineeships (Both), STEM learning	Contracts (Organizations), Prizes (Both), Honorifics (Both)	Pre-K–12 School or Local Educational Authority, Four-year College/ University, Informal	Pre-K–12 Classroom Teachers, Four-year College/ University Learners, Four-year College/ University	123	123	91.3% W; 4.6% A; 4.6% B/AA; 2.6%	88%	Location (e.g., city, town,	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									program (Both), Outreach (Both), Tutoring (Both), Mentoring (Both), Training or Professional development (Both)		Educational/Research Institution, Nonprofit Organization	Instructors, Four-year College/ University Mentors, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities			NA/AN; 6.1% H/L; 1% NH/PI; 4.1% MR/E		census block)	
NSF	EDU	Graduate Research Fellowship Program (GRFP)	U	D	D	U	D	D	Fellowships (IP), Training or Professional development (IP)	Contracts (Organizations), Honorifics (IP), Scholarships (IP), Internships (IP)	Four-year College/ University, N/A	Four-year College/ University Learners, Four-year College/University Mentors	C/NR	C/NR	C/NR	C/NR	C/NR	N/A
NSF	EDU	Historically Black Colleges and Universities Undergraduate Program	I	D	I	I	I	I	Direct classroom instruction (Both), Instructional material development (Both), Internships or Traineeships (Both), Mentoring (Both), Training or Professional development (Both), Institutional support for infrastructure (Both), Institutional support for leaderships (Both), Research aimed at improving STEM education (Both), Research aimed at	Discretionary Grants (Organizations), Prizes (Organizations)	Four-year College/ University, Informal Educational/Research Institution, Nonprofit Organization	Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College /University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Program Developers or Organizers that provide	N/A	N/A	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									improving opportunities and supporting the full participation of talent in STEM fields and careers (Both), Other authentic STEM experiences (Both)			informal STEM learning opportunities						
NSF	EDU	Improving Undergraduate STEM Education: Directorate for STEM Education (IUSE: EDU)	D	D	D	I	D	I		Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University, Nonprofit Organization	Pre-K–12 Classroom Teachers, Researchers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	N/A	N/A	NC	NC	NC	N/A
NSF	EDU	Improving Undergraduate STEM Education: Hispanic Serving Institutions	I	D	D	I	I	I	Direct classroom instruction (Organizations), Instructional material development (Organizations), Fellowships (Organizations),	Discretionary Grants (Organizations), Federal Pay (Organizations)	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/University	52	N/A	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Internships or Traineeships (Organizations), STEM learning program (Organizations), Outreach (Organizations), Tutoring (Organizations), Mentoring (Organizations), Training or Professional development (Organizations), Institutional support for infrastructure (Organizations), Institutional support for leaderships (Organizations), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations)			Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions						

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
NSF	EDU	Innovative Technology Experiences for Students and Teachers (ITEST)	D	D	D	D	I	I	Instructional material development (Organizations), Online education resource sites (Organizations), STEM learning program (Organizations), Training or Professional development (Organizations), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations)	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities	N/A	N/A	NC	NC	NC	N/A
NSF	EDU	Louis Stokes Alliances for Minority Participation	D	D	D	D	D	D	Direct classroom instruction (IP), Fellowships (IP), Internships or Traineeships (IP), STEM learning program (IP),	Discretionary Grants (Both), Honorifics (Organizations), Scholarships (IP), Internships (IP)	Two-year College/ Community College, Four-year College/ University, Nonprofit Organization	Researchers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year	N/A	N/A	NC	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									Outreach (IP), Tutoring (IP), Mentoring (IP), Training or Professional development (IP), Institutional support for leaderships (Organizations), Teacher in-service activities (Both), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Both)			College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities						
NSF	EDU	NSF Research Traineeships (NRT)	I	D	D	D	D	D	Direct classroom instruction (Organizations), Instructional material development (Organizations), Online education resource sites (Organizations), Internships or Traineeships	Discretionary Grants (Organizations), Contracts (Organizations), Internships (Organizations), Other (The awards provide training and traineeships to participants)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/University, Informal Educational/ Research Institution, Indian/ Native American Tribal Government, U.S. Federal Government,	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University	C/NR	C/NR	C/NR	C/NR	C/NR	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									(Organizations), Outreach (Both), Tutoring (Organizations), Mentoring (Organizations), Training or Professional development (Organizations), Institutional support for infrastructure (Organizations), Teacher in-service activities (Organizations), Research aimed at improving STEM education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations), Other authentic STEM experiences (problem-based learning, experiential learning), Other (The awards provide training and		Nonprofit Organization, For-profit Organization, International Organization, State and Local Government, Consortia (Academic and/or Nonprofit), N/A	Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners						

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									traineeships to participants)									
NSF	EDU	Robert Noyce Teacher Scholarship Program	D	D	D	D	U	D	N/A	Discretionary Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/ Community College Learners, Two-year/ Community College Instructors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors	C/NR	NC	NC	NC	NC	N/A
NSF	EDU	Scholarships in Science, Technology, Engineering and Math (S-STEM) core program	D	D	D	I	I	D	Direct classroom instruction (Both), Instructional material development (Both), Internships or Traineeships (IP), STEM learning program (Both), Tutoring (IP), Mentoring (IP), Training or Professional development (Both), Research aimed at improving STEM	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University	Researchers, Two-year/ Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions	615	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									education (Organizations), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations), Other authentic STEM experiences (Undergraduate Research Experiences)									
NSF	EDU	Tribal Colleges and Universities Program (TCUP)	I	D	D	D	I	I	Training or Professional development (IP), Institutional support for infrastructure (Organizations), Teacher in-service activities (IP), Other authentic STEM experiences (Field research, lab research, original design)	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University	Two-year/ Community College Instructors, Four-year College/ University Instructors	N/A	N/A	NC	NC	NC	N/A
NSF	EDU & CISE	CS for All: Research and RPPs	D	D	D	I	D	D	N/A	Formula Grants (Organizations)	Pre-K–12 School or Local Educational Authority, Four-year College/ University, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools	NC	N/A	NC	C/NR	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
NSF	ENG	Research Experience and Mentoring (REM)	D	D	D	D	D	D	Mentoring (IP), Training or Professional development (IP)	Other (Supplements to existing awards)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution	Pre-K–12 Classroom Teachers, Researchers, Two-year/ Community College Learners, Two-year/Community College Instructors, Four-year College/ University Learners, Four-year College/ University Mentors, Informal STEM Learners	C/NR	N/A	NC	NC	NC	N/A
NSF	OISE	International Research Experience for Students	D	D	D	I	I	I	Mentoring (IP), Training or Professional development (IP)	N/A	Four-year College/University	Four-year College/University Learners, Four-year College/University Instructors, Four-year College/University Mentors	N/A	N/A	NC	NC	NC	N/A
SI		STEM Informal Education and Instruction	D	D	D	D	D	D	Direct classroom instruction (Both), Instructional material development (Both), Online education resource sites (Both), Fellowships (IP), Internships or Traineeships (IP), STEM learning program (Both), Outreach (Both), Training or Professional	Scholarships (IP), Internships (IP), Federal Pay (IP), Other (The Smithsonian is not a grant making institution, but the federal investment in STEM education leverages the Smithsonian's ability to also develop additional STEM education programming funded with additional non-federal support.)	Pre-K–12 School or Local Educational Authority, Two-year College/ Community College, Four-year College/ University, Informal Educational/Research Institution, Indian/ Native American Tribal Government, Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers, Researchers, Principals, Leaders, Administrators of Pre-K–12 Schools, Two-year/Community College Learners, Two-year/ Community College Instructors, Two-year/ Community College Mentors, Four-year College/ University Learners, Four-year College/ University	26,640,935	N/A	NC	NC	NC	Link

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
									development (Both), Institutional support for leaderships (Both), Teacher in-service activities (Both), Research aimed at improving STEM education (Both), Research aimed at improving opportunities and supporting the full participation of talent in STEM fields and careers (Organizations)			Instructors, Four-year College/ University Mentors, Leaders or Administrators of Post-secondary Institutions, Informal STEM Learners, Informal STEM Educators, Program Developers or Organizers that provide informal STEM learning opportunities						
USDA	NIFA	1890 Facilities Grant Program	I	I	I	I	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University, Nonprofit Organization, State and Local Government	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
USDA	NIFA	1890 Institutions Capacity Building Grants Program: Extension	I	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/University	Four-year College/ University Mentors, Informal STEM Learners	NC	NC	NC	NC	NC	N/A
USDA	NIFA	1890 Institutions Capacity Building Grants Program: Teaching	D	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/University	Four-year College/University Learners, Four-year College/ University Instructors	NC	NC	NC	NC	NC	N/A
USDA	NIFA	4-H Science and 4-H Youth	D	I	I	I	D	D	N/A	Discretionary Grants (Organizations)	N/A	Pre-K–12 Learners, Program Developers or	NC	C/NR	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
		Development Program										Organizers that provide informal STEM learning opportunities						
USDA	NIFA	Agriculture in the Classroom	D	I	D	I	I	I	N/A	Discretionary Grants (Organizations)	Nonprofit Organization	Pre-K–12 Learners, Pre-K–12 Classroom Teachers	NC	NC	NC	NC	NC	N/A
USDA	NIFA	Alaska Native-Serving and Native Hawaiian-Serving Institutions Education Competitive Grants Program	N/A	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
USDA	NIFA	Distance Education Grants Program for Institutions of Higher Education in Insular Areas	N/A	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
USDA	NIFA	Federally Recognized Tribes Extension	D	D	D	D	D	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
USDA	NIFA	Graduate Fellowships (National Needs)	D	D	D	I	I	I	N/A	Scholarships (Organizations)	Four-year College/ University	Four-year College/ University Learners	NC	C/NR	C/NR	C/NR	C/NR	N/A
USDA	NIFA	Higher Education Challenge (HEC) Grants Program	D	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
USDA	NIFA	Higher Education Multicultural Scholars Program (MSP)	D	D	D	I	I	I	N/A	Discretionary Grants (Organizations), Scholarships (IP)	Two-year College/ Community College, Four-year College/ University, Informal Educational/ Research Institution	Four-year College/ University Learners	NC	NC	C/NR	C/NR	C/NR	N/A
USDA	NIFA	Hispanic serving Institutions Education Grants Program	N/A	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
USDA	NIFA	NIFA Fellowship Grants Program (AFRI Predoctoral and Postdoctoral Fellowships)	D	I	D	I	I	I	N/A	Scholarships (IP)	Four-year College/ University, Nonprofit Organization	Four-year College/ University Learners	NC	C/NR	C/NR	C/NR	C/NR	N/A
USDA	NIFA	Scholarships for Students at 1890 Institutions	D	D	D	I	I	I	N/A	Scholarships (IP)	Four-year College/ University	Four-year College/ University Learners	NC	C/NR	C/NR	C/NR	C/NR	N/A
USDA	NIFA	Tribal Equity Grants Program	D	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Four-year College/ University	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A
USDA	NIFA	Women and Minorities in Science, Technology, Engineering, and Mathematics Fields Program	D	D	D	I	I	I	N/A	Discretionary Grants (Organizations)	Two-year College/ Community College, Four-year College/ University, Informal Educational/Research Institution, U.S. Federal Government, Nonprofit Organization	Leaders or Administrators of Post-secondary Institutions	NC	NC	NC	NC	NC	N/A

Agency	Sub-Agency/ Sub-Organization	Name of Investment	Goal: STEM Literacy	Goal: Diversity, equity, inclusion	Goal: STEM workforce/future	Pathway: Strategic partnerships	Pathway: Disciplines Converge	Pathway: Comp literacy	Types of Services	Types of Funding	Types of Organizations Served/Funded	Types of Participants (Direct and/or Indirect)	Total # of Participants in FY2022	Total # of Participants in FY2022 with Demographic Info	% of Participants by Race/ Ethnicity	% Female Participants	Participant Locality collected by:	Weblink to Evaluation if Released in FY2022
VA	VBA	Rogers STEM Scholarship	I	I	D	I	U	I	Direct classroom instruction (IP), Online education resource sites (IP), Training or Professional development (Both)	Other (Scholarship (funding through legislative action))	Four-year College/ University	Four-year College/ University Learners	C/NR	NC	NC	NC	NC	N/A
VA	VBA	Veteran Employment Through Technology Education Courses (VET TEC)	I	I	D	D	I	D	Outreach (Both)	Other (Housing and tuition and fee payments)		Informal STEM Learners	C/NR	NC	NC	C/NR	NC	N/A