113TH CONGRESS
2D SESSION

S. _____

To support afterschool and out-of-school-time science, technology, engineering, and mathematics programs, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mrs. SHAHEEN introduced the following bill; which was read twice and referred to the Committee on _____

A BILL

To support afterschool and out-of-school-time science, technology, engineering, and mathematics programs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Supporting Afterschool STEM Act''.

SEC. 2. FINDINGS.

Congress finds the following:

(1) Numerous authoritative studies document that the proficiency of students in the United States in science, technology, engineering, and mathematics

(''STEM'') will have a major impact on the Nation's future economic competitiveness and on the preeminence of the United States in scientific inquiry and technological innovation.

(2) Results from the National Assessment of Educational Progress, the Trends in International Mathematics and Science Study, the Programme in International Science Assessment, and other sources show that students in the United States are not demonstrating sufficient achievement in the STEM subjects and are not keeping pace with students in other countries.

(3) Research demonstrates the importance of afterschool programs in engaging students in STEM fields and building STEM-relevant skills and proficiencies, especially for girls, students from populations traditionally underrepresented in STEM fields, and students from low socioeconomic circumstances.

(4) A National Research Council consensus study confirmed the importance of learning that occurs in out-of-school-time settings such as afterschool programs and science centers, and proposed a set of ''strands of science learning'' framework

that articulated capabilities fostered by informal learning environments.

(5) According to a 2013 study entitled ''Defining Youth Outcomes for STEM Learning in Afterschool'', the afterschool field is confident in its ability to help young people develop interest in STEM and STEM learning activities, develop capacities to productively engage in such activities, and come to value them. The afterschool field is also confident that it can impact skills such as problem-solving abilities, demonstrating STEM skills, career awareness, and 21st century skills, such as team work, that are important to the workforce and national economic goals.

(6) The Federal Government should use its resources as effectively as possible to increase opportunities for students to be exposed to STEM subjects outside of the school day and to build a balanced kindergarten through grade 12 STEM education portfolio that fosters learning in school as well as in out-of-school-time programs.

(7) Afterschool programs have long partnered with other youth-serving and community organizations to meet the needs of students. Cross-sector collaborations between afterschool programs, schools,

science centers, institutions of higher education, businesses, and other entities are yielding great benefits for engaging young people in STEM fields.

(8) As interest and momentum grows around STEM programming in afterschool, more and better partnerships across Federal agencies become increasingly important to leverage resources and offer high-quality, hands-on STEM experiences for youth.

SEC. 3. PURPOSES.

The purposes of this Act are—

(1) to enhance America's economic competitiveness by strengthening STEM education through fostering interest and success in STEM subjects among certain student populations in kindergarten through grade 12;

(2) to engage Federal agencies and foster interagency collaboration in STEM education afterschool program investments;

(3) to recognize the important role that afterschool programs offered by nonprofit and community-based organizations, science centers, museums, libraries, and other such entities, play in STEM education and to support their efforts;

(4) to involve institutions of higher education as partners in such efforts and foster increased collaboration; and

(5) to inspire young people to study and work in STEM subjects.

SEC. 4. DEFINITIONS.

In this Act:

(1) AFTERSCHOOL OR STEM NETWORK.—The term ''afterschool or STEM network'' means a coalition that fosters partnerships and provides support to afterschool program providers and STEM education providers to develop and sustain quality education programming for children and youth in afterschool programs and STEM education programs.

(2) AFTERSCHOOL PROGRAM.—The term ''afterschool program'' means a structured program offered for elementary school, middle school, or secondary school students when school is not in session, such as before or after school, on the weekend, or during the summer.

(3) DIRECTOR.—The term ''Director'' means the Director of the National Science Foundation.

(4) ELEMENTARY SCHOOL.—The term ''elementary school'' has the meaning given the term in sec-

tion 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

(5) MIDDLE SCHOOL.—The term ''middle school'' means a nonprofit institutional day or residential school, including a public charter school, that provides middle grades education, as determined under State law.

(6) SECONDARY SCHOOL.—The term ''secondary school'' has the meaning given the term in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 7801).

(7) INSTITUTION OF HIGHER EDUCATION.—The term ''institution of higher education'' has the meaning given the term in section 102 of the Higher Education Act of 1965 (20 U.S.C. 1002).

(8) STEM.—The term ''STEM'' means science, technology, engineering, or mathematics, and includes the fields of computer science and robotics.

SEC. 5. AFTERSCHOOL STEM SUPPORT GRANT PROGRAM.

(a) GOALS OF PROGRAM.—The goals of the afterschool STEM grant program carried out under this Act are—

(1) to support the development and delivery of high-quality STEM education to populations underrepresented in STEM fields;

(2) to leverage the expertise and infrastructure available to afterschool programs that include STEM content through afterschool or STEM networks;

(3) to leverage existing Federal STEM education investments, as of the date of enactment of this Act, in order to encourage STEM-focused grant recipients to lend their time and expertise to afterschool programs that include STEM content; and

(4) to provide hands-on learning and exposure to STEM research facilities and businesses through in-person or virtual distance-learning experiences.

(b) PROGRAM AUTHORIZED.—

(1) IN GENERAL.—From amounts appropriated to carry out this part and not reserved under paragraph (4), the Director shall award grants, on a competitive basis, to afterschool or STEM networks—

(A) to support afterschool programs that include STEM content through the activities described in subsection (e); and

(B) to carry out the goals described in subsection (a).

(2) DURATION.—Each grant awarded under this Act shall be for a period of not more than 3 years.

(3) AMOUNTS.—The Director shall ensure that each grant awarded under this Act is in an amount that is sufficient to carry out the goals described in subsection (a).

(4) RESERVATION.—From the amounts appropriated for this grant, the Director shall reserve 20 percent of such funds to develop and support new afterschool or STEM networks in States or areas where such networks do not exist.

(c) APPLICATION.—

(1) IN GENERAL.—An afterschool or STEM network desiring a grant under subsection (b)(1) shall submit an application at such time, in such manner, and containing such information that the Director may require.

(2) CONTENTS.—The application described in paragraph (1) shall, at a minimum, include—

(A) a description of the status of afterschool STEM programming in the State or area in which the afterschool or STEM network is located, including—

(i) the number of afterschool programs in the State or area;

(ii) the number of such afterschool programs focused on STEM subjects and activities;

(iii) the number of students served by existing afterschool programs, as of the date of the application, in the State or area;

(iv) the number of students served by existing afterschool programs that include STEM content in the State or area;

(v) the unmet demand for afterschool programs in the State or area; and

(vi) the unmet demand for afterschool programs focused on STEM subjects and activities in the State or area;

(B) an analysis of existing and needed resources that identifies areas and populations most in need of opportunities for high-quality afterschool programs that include STEM content;

(C) a description of the current and past work carried out by the afterschool or STEM network to support the needs of afterschool pro-

gram providers in the State or area served by the network;

(D) a detailed plan that describes initiatives that shall be undertaken to—

(i) support and grow afterschool programs that include STEM content; and

(ii) leverage existing Federal investments in afterschool programs and STEM education, as of the date of the application;

(E) a description of financial and other commitments that support expanded afterschool STEM programming in the State or area served by the network; and

(F) a description of any confirmed or potential partners that will work with the afterschool or STEM network to carry out the activities under the grant.

(d) PRIORITY.—In awarding grants under subsection (b)(1), the Director shall give priority to applications from afterschool or STEM networks that—

(1) demonstrate a clear understanding of the afterschool programs and settings, and the status of afterschool programs that include STEM content, in the State or area to be served by the grant;

(2) have established working relationships with afterschool program and STEM education stakeholders in the State or area;

(3) are working to advance the availability of high-quality afterschool programs that include STEM content for under-served populations and populations underrepresented in STEM fields, including girls, African-Americans, and Latinos; and

(4) are leveraging Federal or other public investments in STEM education or afterschool programming.

(e) USES OF FUNDS.—An afterschool or STEM network that receives a grant under subsection (b)(1) may use grant funds to carry out any of the following activities:

(1) Develop quality standards for STEM programming in afterschool programs and provide technical assistance to afterschool programs to implement such standards.

(2) Work with State education stakeholders to define and promote appropriate measurable outcomes for afterschool programs that include STEM content.

(3) Provide technical assistance to afterschool programs to start or grow their afterschool STEM

efforts and define appropriate learning outcomes for such efforts.

(4) Coordinate professional development for afterschool program educators by—

(A) identifying training programs that are available, as of the time of the identification, for afterschool program educators;

(B) working with partners to allow joint professional development with teachers at elementary schools, middle schools, and secondary schools, as appropriate; and

(C) partnering with teacher training programs to utilize afterschool programs for practicum experiences, employment placements, and other opportunities.

(5) Help afterschool program providers form strategic partnerships as needed to advance STEM learning in afterschool programs, including partnerships with elementary schools, middle schools, secondary schools, institutions of higher education (including community colleges and programs and schools of education), businesses, research facilities, national laboratories, and other appropriate entities.

(6) Create and disseminate tool kits to afterschool programs wanting to form partnerships and

incorporate STEM professionals as mentors and role models that—

(A) provide technical assistance and guidance, including assistance in connecting afterschool program providers with STEM researchers and professionals who may be able to assist in STEM-focused activities; and

(B) include—

(i) examples of strong afterschool programs that have incorporated such partnerships to serve as models;

(ii) a list of potential partners that could assist in STEM-focused activities;

(iii) identified Federally-supported STEM education programs and research in the State or area served by the grant; and

(iv) guidance on how to engage STEM professionals, mentors, and role models in the program.

(7) Provide technical assistance to federally funded STEM researchers and professionals who wish to engage with afterschool programs that, at a minimum, includes—

(A) examples of partnerships between afterschool programs and institutions rich in STEM resources;

(B) a resource that provides a description of the afterschool program setting, the opportunities for engagement in afterschool programs, and the constraints of which the researchers or professionals need to be aware;

(C) how to find an afterschool program provider with which the researcher or professional would like to engage;

(D) how to ensure an effective and productive partnership with the afterschool provider through mutually beneficial engagement, and engage in a productive conversation with the afterschool provider to determine if the partnership will be productive;

(E) how to craft a mutually beneficial engagement and partnership; and

(F) guidance on how to measure appropriate outcomes for afterschool programs and afterschool programs that include STEM content.

(8) Any other activity, as proposed in the application and determined appropriate by the Director.

(f) REPORT.—Each afterschool or STEM network receiving a grant under subsection (b)(1) shall submit an annual report to the Director regarding the progress of the grant.

SEC. 6. FEDERAL PARTNERSHIP WITH AFTERSCHOOL PROGRAMS.

Beginning not later than 180 days after the date of enactment of this Act, the Director shall provide information, to each recipient of a STEM research grant under the authority of the Director, on opportunities to engage with students in out-of-school-time programs, such as through mentorships. Such information shall include—

(1) a listing of all afterschool or STEM program networks in the region of the recipient;

(2) a toolkit that provides guidance to federally-funded STEM researchers on how to engage and partner with afterschool STEM program providers and lend their time and expertise in afterschool programs that include STEM content;

(3) information regarding how to create opportunities to have students visit laboratories; and

(4) guidance regarding how to create age-appropriate research projects for students.

SEC. 7. REPORT.

By not later than 180 days after the date of enactment of this Act, the Director shall prepare and submit to Congress a report on Federal STEM investments in afterschool programs and the best practices for afterschool programs incorporating STEM subjects into their programs.