

113TH CONGRESS
1ST SESSION

S. _____

To assist coordination among science, technology, engineering, and mathematics efforts in the States, to strengthen the capacity of elementary schools, middle schools, and secondary schools to prepare students in science, technology, engineering, and mathematics, and for other purposes.

IN THE SENATE OF THE UNITED STATES

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

A BILL

To assist coordination among science, technology, engineering, and mathematics efforts in the States, to strengthen the capacity of elementary schools, middle schools, and secondary schools to prepare students in science, technology, engineering, and mathematics, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “STEM Support for
5 Teachers in Education and Mentoring (STEM) Act” or
6 the “STEM² Act”.

1 **SEC. 2. STEM EDUCATION PLANNING AND TRAINING.**

2 (a) IN GENERAL.—Title II of the Elementary and
3 Secondary Education Act of 1965 (20 U.S.C. 6601 et
4 seq.) is amended by adding at the end the following:

5 **“PART E—STEM EDUCATION PLANNING AND**
6 **TRAINING**

7 **“SEC. 2501. DEFINITIONS.**

8 “In this part:

9 “(1) INDIAN TRIBE; TRIBAL ORGANIZATION.—

10 The terms ‘Indian tribe’ and ‘tribal organization’
11 have the meanings given those terms in section 4 of
12 the Indian Self-Determination and Education Assist-
13 ance Act.

14 “(2) STEM.—The term ‘STEM’ means science,
15 technology, engineering, and mathematics.

16 **“SEC. 2502. PLANNING GRANTS.**

17 “(a) PURPOSE.—The purpose of this section is to ad-
18 dress the lack of coordination among STEM education ef-
19 forts in the States.

20 “(b) DEFINITION OF ELIGIBLE ENTITY.—In this sec-
21 tion, the term ‘eligible entity’ means a State, Indian tribe,
22 tribal organization, nonprofit organization, or institution
23 of higher education that identifies a coalition of related
24 entities to participate in the grant application process
25 under this section and subsequent STEM network activi-
26 ties funded with a grant awarded under this section.

1 “(c) GRANTS AUTHORIZED.—

2 “(1) IN GENERAL.—From amounts made avail-
3 able to carry out this section, the Secretary shall
4 carry out a program of awarding, on a competitive
5 basis, planning grants to eligible entities to enable
6 the eligible entities to—

7 “(A) develop effective State or tribal
8 STEM networks for communication and col-
9 laboration that include school teachers, institu-
10 tions of higher education, nonprofit organiza-
11 tions, businesses, Federal, State, and local gov-
12 ernments, and any other relevant entities; and

13 “(B) through such State STEM networks,
14 identify future STEM skills needed for STEM
15 and non-STEM occupations.

16 “(2) PROPORTIONALITY.—In awarding grants
17 under this section, the Secretary shall, to the extent
18 practicable, ensure a distribution of grant funds fo-
19 cused on high-need and high-poverty eligible entities.

20 “(d) APPLICATION.—An eligible entity desiring a
21 grant under this section shall submit an application to the
22 Secretary at such time, in such manner, and containing
23 such information as the Secretary may require.

24 “(e) REPORTS.—

1 “(1) REPORTS TO THE SECRETARY.—An eligi-
2 ble entity receiving a grant under this section shall
3 submit to the Secretary an annual report describing
4 the progress made on the grant.

5 “(2) REPORTS TO CONGRESS.—Not later than
6 3 years after the date of enactment of the STEM
7 Support for Teachers in Education and Mentoring
8 (STEM) Act, and every 3 years thereafter, the Sec-
9 retary shall submit a report to Congress regarding
10 the program supported under this section.

11 **“SEC. 2503. TRAINING PROGRAM GRANTS.**

12 “(a) PURPOSE.—The purpose of this section is to
13 strengthen the capacity of preservice and existing teach-
14 ers, elementary schools, middle schools, and secondary
15 schools to use proven methods, including inquiry or
16 project-based learning, to inspire and prepare students for
17 STEM careers and build STEM literacy.

18 “(b) DEFINITION OF ELIGIBLE ENTITY.—In this sec-
19 tion, the term ‘eligible entity’ means a State, Indian tribe,
20 tribal organization, local educational agency, institution of
21 higher education, or nonprofit organization.

22 “(c) GRANTS AUTHORIZED.—

23 “(1) IN GENERAL.—From amounts made avail-
24 able to carry out this section, the Secretary shall
25 carry out a program of awarding grants, on a com-

1 petitive basis, to eligible entities to enable the eligi-
2 ble entities to develop, carry out, and evaluate train-
3 ing programs for STEM education—

4 “(A) in elementary schools, middle schools,
5 and secondary schools for existing teachers; and

6 “(B) in postsecondary schools for
7 preservice teachers.

8 “(2) PROPORTIONALITY.—In awarding grants
9 under this section, the Secretary shall, to the extent
10 practicable, ensure an equitable distribution—

11 “(A) between eligible entities serving urban
12 areas and eligible entities serving rural areas;
13 and

14 “(B) of grant funds focused on high-need
15 and high-poverty eligible entities.

16 “(d) APPLICATION.—An eligible entity desiring a
17 grant under this section shall submit an application to the
18 Secretary at such time, in such manner, and containing
19 such information as the Secretary may require. Such ap-
20 plication shall include—

21 “(1) a description of how the eligible entity will
22 monitor and evaluate the effectiveness of the train-
23 ing program, including how the eligible entity plans
24 to measure the impact of the training on—

1 “(A) teachers who attended the training
2 after the teachers return to the classroom; or

3 “(B) preservice teachers; and

4 “(2) any other information the Secretary deter-
5 mines appropriate.

6 “(e) USE OF FUNDS.—An eligible entity receiving a
7 grant under this section shall use grant funds to carry
8 out a training program, using best practice models (in-
9 cluding inquiry and project-based models) and through
10 summer institutes or other professional development en-
11 richment programs, that provides professional develop-
12 ment regarding STEM education to existing and
13 preservice STEM teachers (including STEM teachers who
14 are master teachers or have otherwise demonstrated mas-
15 tery of STEM teaching) and administrators who are em-
16 ployed as teachers and administrators, respectively, as of
17 the time of the program.

18 “(f) REPORTS.—

19 “(1) REPORTS TO THE SECRETARY.—An eligi-
20 ble entity receiving a grant under this section shall
21 submit to the Secretary an annual report that de-
22 scribes the progress made on the grant and includes
23 the results from the evaluation described in the ap-
24 plication under subsection (d).

1 “(2) REPORTS TO CONGRESS.—Not later than
2 3 years after the date of enactment of this part, and
3 every 3 years thereafter, the Secretary shall submit
4 a report to Congress regarding the program sup-
5 ported under this section.

6 **“SEC. 2504. ACADEMIC STANDARDS GRANTS.**

7 “(a) PURPOSE.—The purpose of this section is to
8 strengthen the capacity of States to implement new math-
9 ematics and science academic standards.

10 “(b) DEFINITION OF ELIGIBLE ENTITY.—In this sec-
11 tion, the term ‘eligible entity’ means a State, Indian tribe,
12 tribal organization, local educational agency, public char-
13 ter school, institution of higher education, or nonprofit or-
14 ganization.

15 “(c) GRANTS AUTHORIZED.—

16 “(1) IN GENERAL.—From amounts made avail-
17 able to carry out this section, the Secretary shall
18 award grants, on a competitive basis, to eligible enti-
19 ties to enable the eligible entities to support cur-
20 riculum development, assessments, or related activi-
21 ties that would enable States to adopt new mathe-
22 matics and science academic standards.

23 “(2) PROPORTIONALITY.—In awarding grants
24 under this section, the Secretary shall, to the extent

1 practicable, ensure a distribution of grant funds fo-
2 cused on high-need and high-poverty eligible entities.

3 “(d) APPLICATION.—An eligible entity desiring a
4 grant under this section shall submit an application to the
5 Secretary at such time, in such manner, and containing
6 such information as the Secretary may require. Such ap-
7 plication shall include—

8 “(1) a description of how the eligible entity will
9 monitor and evaluate the effectiveness of curriculum
10 development, assessments, or related activities that
11 would enable States to adopt new mathematics and
12 science academic standards; and

13 “(2) any other information the Secretary deter-
14 mines appropriate.

15 “(e) USE OF FUNDS.—An eligible entity receiving a
16 grant under this section shall use grant funds to carry
17 out curriculum development, assessments, or related ac-
18 tivities that would enable States to adopt new mathe-
19 matics and science academic standards and provide profes-
20 sional development regarding STEM education standards
21 and national tests for administrators who are employed
22 as teachers and administrators, respectively, as of the time
23 of the program.

24 “(f) REPORTS TO THE SECRETARY.—An eligible enti-
25 ty receiving a grant under this section shall submit to the

1 Secretary an annual report that describes the progress
2 made on the grant and includes the results from the eval-
3 uation described in the application under subsection (d).

4 **“SEC. 2505. NATIONAL PANEL.**

5 “(a) IN GENERAL.—The Secretary shall establish a
6 national panel to review, evaluate, and identify—

7 “(1) rigorous kindergarten through grade 12
8 STEM curricula models, including computer or web-
9 based simulation education programs, kinesthetic
10 learning, and inquiry- or project-based learning tech-
11 niques; and

12 “(2) best practices with respect to STEM cur-
13 ricula.

14 “(b) MEMBERS.—The Secretary shall determine the
15 membership of the national panel described in subsection
16 (a), which shall be comprised of individuals who have the
17 wisdom and experience to identify and recommend the
18 most effective STEM curricula models, such as—

19 “(1) representatives of technology industries
20 and business;

21 “(2) teachers and school administrators;

22 “(3) representatives of nonprofit organizations
23 and community organizations;

24 “(4) faculty members of institutions of higher
25 education;

1 “(5) research specialists and curricula special-
2 ists;

3 “(6) at least 1 rural education expert;

4 “(7) at least 1 high school or college student to
5 provide a youth perspective; and

6 “(8) other individuals, as determined appro-
7 priate by the Secretary.

8 “(c) REPORTS.—The panel shall prepare reports and
9 recommendations regarding the panel’s findings as re-
10 quested by the Secretary.

11 **“SEC. 2506. AUTHORIZATION OF APPROPRIATIONS.**

12 “‘There is authorized to be appropriated to carry out
13 this part such sums as may be necessary for fiscal year
14 2014 and each of the 5 succeeding fiscal years.’”.

15 (b) TABLE OF CONTENTS.—The table of contents in
16 section 2 of the Elementary and Secondary Education Act
17 of 1965 is amended by inserting after the item relating
18 to section 2441 the following:

 “PART E—STEM EDUCATION PLANNING AND TRAINING

 “Sec. 2501. Definitions.

 “Sec. 2502. Planning grants.

 “Sec. 2503. Training program grants.

 “Sec. 2504. Academic standards grants.

 “Sec. 2505. National panel.

 “Sec. 2506. Authorization of appropriations.”.