

110TH CONGRESS
1ST SESSION

H. R. 362

AN ACT

To authorize science scholarships for educating mathematics
and science teachers, 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,*

1 **SECTION 1. TABLE OF CONTENTS.**

2 The table of contents for this Act is as follows:

- 3 Sec. 1. Table of contents.
- 4 Sec. 2. Findings.
- 5 Sec. 3. Definitions.

6 TITLE I—SCIENCE SCHOLARSHIPS

- 7 Sec. 101. Short title.
- 8 Sec. 102. Findings.
- 9 Sec. 103. Policy objective.
- 10 Sec. 104. Robert Noyce Teacher Scholarship Program.

11 TITLE II—MATHEMATICS AND SCIENCE EDUCATION
12 IMPROVEMENT

- 13 Sec. 201. Mathematics and science education partnerships amendments.
- 14 Sec. 202. Teacher institutes.
- 15 Sec. 203. Graduate degree program.
- 16 Sec. 204. Curricula.
- 17 Sec. 205. Science, Technology, Engineering, and Mathematics Talent Expansion Program.
- 18 Sec. 206. High-need local educational agency definition.
- 19 Sec. 207. Teacher leaders.
- 20 Sec. 208. Laboratory science pilot program.
- 21 Sec. 209. Study on laboratory equipment donations for schools.

22 **SEC. 2. FINDINGS.**

23 Congress finds the following:

24 (1) The National Science Foundation has made
25 significant and valuable contributions to the im-
26 provement of K–12 and undergraduate science, tech-
27 nology, engineering, and mathematics education
28 throughout its 56 year history.

29 (2) Under section 3 of the National Science
30 Foundation Act of 1950 (42 U.S.C. 1862), the Na-
31 tional Science Foundation is explicitly required to
32 strengthen science, mathematics, and engineering re-
33 search potential and education programs at all lev-
34 els.
35

1 **SEC. 3. DEFINITIONS.**

2 In this Act:

3 (1) The term “cost of attendance” has the
4 meaning given that term in section 472 of the High-
5 er Education Act of 1965 (20 U.S.C. 1087ll).

6 (2) The term “Director” means the Director of
7 the National Science Foundation.

8 (3) The term “institution of higher education”
9 has the meaning given that term in section 101(a)
10 of the Higher Education Act of 1965 (20 U.S.C.
11 1001(a)).

12 (4) The term “mathematics and science teach-
13 er” means a mathematics, science, or technology
14 teacher at the elementary school or secondary school
15 level.

16 **TITLE I—SCIENCE**
17 **SCHOLARSHIPS**

18 **SEC. 101. SHORT TITLE.**

19 This title may be cited as the “10,000 Teachers, 10
20 Million Minds Science and Math Scholarship Act”.

21 **SEC. 102. FINDINGS.**

22 Congress finds the following:

23 (1) The prosperity the United States enjoys
24 today is due in no small part to investments the Na-
25 tion has made in research and development over the
26 past 50 years.

1 (2) Corporate, government, and national sci-
2 entific and technical leaders have raised concerns
3 that current trends affecting the science and tech-
4 nology enterprise of the Nation could result in ero-
5 sion of this past success and jeopardize future pros-
6 perity.

7 (3) The National Academy of Sciences, the Na-
8 tional Academy of Engineering, and the Institute of
9 Medicine were tasked in a congressional request to
10 recommend actions that the Federal Government
11 could take to enhance the science and technology en-
12 terprise so that the United States can successfully
13 compete, prosper, and be secure in the global com-
14 munity of the 21st century.

15 (4) The Academies' highest priority rec-
16 ommendation in its report, "Rising Above the Gath-
17 ering Storm: Energizing and Employing America for
18 a Brighter Economic Future", is to improve K-12
19 mathematics and science education, and the Acad-
20 emies' first recommended action item is to institute
21 a major scholarship program to recruit and educate
22 annually 10,000 mathematics and science teachers.

23 **SEC. 103. POLICY OBJECTIVE.**

24 In carrying out the program under section 104, the
25 National Science Foundation shall seek to increase by up

1 to 10,000 per year the number of elementary and sec-
2 ondary mathematics and science teachers in the Nation’s
3 schools having both exemplary subject knowledge and ped-
4 agogical skills.

5 **SEC. 104. ROBERT NOYCE TEACHER SCHOLARSHIP PRO-**
6 **GRAM.**

7 (a) PROGRAM AMENDMENTS.—Section 10 of the Na-
8 tional Science Foundation Authorization Act of 2002 (42
9 U.S.C. 1862n–1) is amended—

10 (1) by inserting “**TEACHER**” after “**NOYCE**”
11 in the section heading;

12 (2) in subsection (a)(1)—

13 (A) by striking “to provide scholarships,
14 stipends, and programming designed”;

15 (B) by inserting “and to provide scholar-
16 ships and stipends to students participating in
17 the program” after “science teachers”; and

18 (C) by inserting “Teacher” after “Noyce”;

19 (3) in subsection (a)(3)(A)—

20 (A) by striking “encourage top college jun-
21 iors and seniors” and inserting “recruit and
22 prepare undergraduate students”; and

23 (B) by inserting “qualified as” after “to
24 become”;

25 (4) in subsection (a)(3)(A)(ii)—

1 (A) by striking “programs to help scholar-
2 ship recipients” and inserting “academic
3 courses and early field teaching experiences de-
4 signed to prepare students participating in the
5 program”;

6 (B) by striking “programs that will result
7 in” and inserting “such preparation as is nec-
8 essary to meet requirements for”; and

9 (C) by striking “licensing; and” and insert-
10 ing “licensing.”;

11 (5) in subsection (a)(3)(A)(iii)—

12 (A) by striking “scholarship recipients”
13 and inserting “students participating in the
14 program”;

15 (B) by striking “enable the recipients” and
16 inserting “enable the students”; and

17 (C) by striking “; or” and inserting “;
18 and”;

19 (6) in subsection (a)(3)(A) by inserting at the
20 end the following new clause:

21 “(iv) providing summer internships
22 for freshman students participating in the
23 program; or”;

24 (7) in subsection (a)(3)(B)—

1 (A) by striking “encourage” and inserting
2 “recruit and prepare”; and

3 (B) by inserting “qualified as” after “to
4 become”;

5 (8) by amending clause (ii) of subsection
6 (a)(3)(B) to read as follows:

7 “(ii) offering academic courses and
8 field teaching experiences designed to pre-
9 pare stipend recipients to teach in elemen-
10 tary schools and secondary schools, includ-
11 ing such preparation as is necessary to
12 meet requirements for teacher certification
13 or licensing; and”;

14 (9) in subsection (a) by inserting at the end the
15 following new paragraph:

16 “(4) ELIGIBILITY REQUIREMENT.—To be eligi-
17 ble for an award under this section, an institution
18 of higher education (or consortia of such institu-
19 tions) shall ensure that specific faculty members and
20 staff from the institution’s mathematics, science, or
21 engineering departments and specific education fac-
22 ulty are designated to carry out the development and
23 implementation of the program. An institution of
24 higher education may also include teacher leaders to
25 participate in developing the pedagogical content of

1 the program and to supervise students participating
2 in the program in their field teaching experiences.
3 No institution of higher education shall be eligible
4 for an award unless faculty from the institution's
5 mathematics, science, or engineering departments
6 are active participants in the program.

7 “(5) AWARDS.—In awarding grants under this
8 section, the Director shall endeavor to ensure that
9 the recipients are from a variety of types of institu-
10 tions of higher education. In support of this goal,
11 the Director shall broadly disseminate information
12 about when and how to apply for grants under this
13 section, including by conducting outreach to Histori-
14 cally Black Colleges and Universities that are part
15 B institutions as defined in section 322(2) of the
16 Higher Education Act of 1965 (20 U.S.C. 1061(2))
17 and minority institutions (as defined in section
18 365(3) of that Act (20 U.S.C. 1067k(3))).”;

19 (10) in subsection (b)(1)(A)—

20 (A) by striking “scholarship or stipend”;

21 (B) by inserting “and summer intern-
22 ships” after “number of scholarships”; and

23 (C) by inserting “the type of activities pro-
24 posed for the recruitment of students to the
25 program,” after “intends to award,”;

1 (11) in subsection (b)(1)(B)—

2 (A) by striking “scholarship or stipend”;

3 and

4 (B) by striking “; and” and inserting “,

5 which may include a description of any existing

6 programs at the applicant’s institution that are

7 targeted to the education of mathematics and

8 science teachers and the number of teachers

9 graduated annually from such programs;”;

10 (12) in subsection (b)(1), by striking subpara-

11 graph (C) and inserting the following:

12 “(C) a description of the academic courses

13 and field teaching experiences required under

14 subsection (a)(3)(A)(ii) and (B)(ii), including—

15 “(i) a description of the under-

16 graduate program that will enable a stu-

17 dent to graduate within 5 years with a

18 major in mathematics, science, or engineer-

19 ing and to obtain teacher certification or li-

20 censing;

21 “(ii) a description of the field teaching

22 experiences proposed; and

23 “(iii) evidence of agreements between

24 the applicant and the schools or school dis-

1 triets that are identified as the locations at
2 which field teaching experiences will occur;

3 “(D) a description of the programs re-
4 quired under subsection (a)(3)(A)(iii) and
5 (B)(iii), including activities to assist new teach-
6 ers in fulfilling their service requirements under
7 this section; and

8 “(E) an identification of the applicant’s
9 mathematics, science, or engineering faculty
10 and its education faculty who will carry out the
11 development and implementation of the pro-
12 gram as required under subsection (a)(4).”;

13 (13) in subsection (b)(2)—

14 (A) by redesignating subparagraphs (B),
15 (C), (D), and (E) as subparagraphs (C), (D),
16 (E) and (F), respectively;

17 (B) by inserting after subparagraph (A) a
18 new subparagraph as follows:

19 “(B) the extent to which the applicant’s
20 mathematics, science, or engineering faculty
21 and its education faculty have worked or will
22 work collaboratively to design new or revised
23 curricula that recognizes the specialized peda-
24 gogy required to teach mathematics, science,

1 and technology effectively in elementary and
2 secondary schools;” and

3 (C) by amending subparagraph (F), as so
4 redesignated by subparagraph (A) of this para-
5 graph, to read as follows:

6 “(F) the ability of the applicant to recruit
7 students who are individuals identified in sec-
8 tion 33 or 34 of the Science and Engineering
9 Equal Opportunities Act (42 U.S.C. 1885a or
10 1885b).”;

11 (14) in subsection (c)(1)(B), by striking “2
12 years” and inserting “3 years”;

13 (15) in subsection (c)(3)—

14 (A) by striking “\$7,500” and inserting
15 “\$10,000”; and

16 (B) by striking “2 years of scholarship
17 support” and inserting “3 years of scholarship
18 support, unless the Director establishes a policy
19 by which part-time students may receive addi-
20 tional years of support”;

21 (16) in subsection (c)(4)—

22 (A) by striking “6 years” and inserting “8
23 years”;

1 (B) by inserting “, with a maximum serv-
2 ice requirement of 6 years” after “was re-
3 ceived”; and

4 (C) by striking “Service required under
5 this paragraph shall be performed in a high-
6 need local educational agency.”;

7 (17) in subsection (c), by adding at the end a
8 new paragraph as follows:

9 “(5) EXCEPTION.—The period of service obliga-
10 tion under paragraph (4) is reduced by 1 year for
11 scholarship recipients whose service is performed in
12 a high-need local educational agency. The Director
13 shall establish and maintain a central clearinghouse
14 of information on teaching opportunities available in
15 high-need local educational agencies throughout the
16 United States, which shall be made available to indi-
17 viduals having a service obligation under this sec-
18 tion.”;

19 (18) in subsection (d)(1), by striking “to re-
20 ceive certification or licensing to teach” and insert-
21 ing “established under subsection (a)(3)(B)”;

22 (19) in subsection (d)(2), by inserting “and
23 professional achievement” after “academic merit”;

24 (20) in subsection (d)(3), by striking “1 year”
25 and inserting “16 months”;

1 (21) in subsection (d)(4)—

2 (A) by striking “6 years” and inserting “4
3 years”; and

4 (B) by striking “for each year a stipend
5 was received”;

6 (22) in subsection (e)—

7 (A) by inserting “or section 10A” after
8 “under this section”; and

9 (B) in paragraph (1) by inserting “or sec-
10 tion 10A” after “subsection (d)”;

11 (23) in subsection (f)(1), by inserting “or sec-
12 tion 10A” after “under this section”;

13 (24) in subsection (g)(2)(A)—

14 (A) by striking “Treasurer of the United
15 States,” and inserting “Treasurer of the United
16 States.”; and

17 (B) by striking “multiplied by 2.”;

18 (25) in subsection (h), by inserting “or section
19 10A” after “under this section”;

20 (26) in subsection (i)(3), by inserting “or had
21 a career in” after “is working in”;

22 (27) in subsection (i)—

23 (A) by striking “and” at the end of para-
24 graph (4);

1 (B) in paragraph (5), by inserting “or sec-
2 tion 10A” after “subsection (d)”;

3 (C) by striking the period at the end of
4 paragraph (5) and inserting “; and”; and

5 (D) by adding at the end the following:

6 “(6) the term ‘teacher leader’ means a mathe-
7 matics or science teacher who works to improve the
8 instruction of mathematics or science in kinder-
9 garten through grade 12 through—

10 “(A) participating in the development or
11 revision of science, mathematics, engineering, or
12 technology curricula;

13 “(B) serving as a mentor to mathematics
14 or science teachers;

15 “(C) coordinating and assisting teachers in
16 the use of hands-on inquiry materials, equip-
17 ment, and supplies, and when appropriate, su-
18 pervising acquisition and repair of such mate-
19 rials;

20 “(D) providing in-classroom teaching as-
21 sistance to mathematics or science teachers;
22 and

23 “(E) providing professional development,
24 for the purposes of training other teacher lead-
25 ers, to mathematics and science teachers.”; and

1 (28) by adding at the end the following:

2 “(j) MATHEMATICS AND SCIENCE SCHOLARSHIP
3 GIFT FUND.—In accordance with section 11(f) of the Na-
4 tional Science Foundation Act of 1950, the Director is au-
5 thorized to accept donations from the private sector to
6 support scholarships, stipends, or internships associated
7 with programs under this section.

8 “(k) ASSESSMENT OF TEACHER SERVICE AND RE-
9 TENTION.—Not later than 4 years after the date of enact-
10 ment of this subsection, the Director shall transmit to
11 Congress a report on the effectiveness of the program car-
12 ried out under this section. The report shall include the
13 proportion of individuals receiving scholarships or stipends
14 under the program who—

15 “(1) fulfill their service obligation required
16 under this section in a high-need local educational
17 agency;

18 “(2) elect to fulfill their service obligation in a
19 high-need local educational agency but fail to com-
20 plete it, as defined in subsection (g);

21 “(3) remain in the teaching profession beyond
22 their service obligation; and

23 “(4) remain in the teaching profession in a
24 high-need local educational agency beyond their serv-
25 ice obligation.

1 a partnership with one or more private sector nonprofit
2 organizations, local or State government organizations,
3 and businesses. The members of the partnership shall pro-
4 vide the teaching supplements described in subsection (f).

5 “(c) USE OF GRANTS.—Grants provided under this
6 section shall be used by institutions of higher education
7 or consortia to develop and implement a program to en-
8 courage science, mathematics, or engineering professionals
9 to become qualified as mathematics and science teachers,
10 through—

11 “(1) administering stipends in accordance with
12 this section;

13 “(2) offering academic courses and field teach-
14 ing experiences designed to prepare stipend recipi-
15 ents to teach in elementary and secondary schools,
16 including such preparation as is necessary to meet
17 the requirements for certification or licensing; and

18 “(3) offering programs to stipend recipients,
19 both during and after matriculation in the program
20 for which the stipend is received, to enable recipients
21 to become better mathematics and science teachers,
22 to fulfill the service requirements of this section, and
23 to exchange ideas with others in their fields.

24 “(d) SELECTION PROCESS.—

1 “(1) MERIT REVIEW.—Grants shall be provided
2 under this section on a competitive, merit-reviewed
3 basis.

4 “(2) APPLICATIONS.—An eligible institution of
5 higher education or consortium seeking funding
6 under this section shall submit an application to the
7 Director at such time, in such manner, and con-
8 taining such information as the Director may re-
9 quire. The application shall include, at a minimum—

10 “(A) a description of the program that the
11 applicant intends to operate, including the num-
12 ber of stipends the applicant intends to award,
13 the type of activities proposed for the recruit-
14 ment of students to the program, and the
15 amount of the teaching supplements to be pro-
16 vided in accordance with subsection (f);

17 “(B) a description of the selection process
18 that will be used in awarding stipends, includ-
19 ing a description of the rigorous, nationally rec-
20 ognized test that will be administered during
21 the selection process in order to determine
22 whether individuals applying for stipends have
23 advanced content knowledge of science or math-
24 ematics;

1 “(C) evidence that the applicant has the
2 capability to administer the program in accord-
3 ance with the provisions of this section, which
4 may include a description of any existing pro-
5 grams at the applicant’s institution that are
6 targeted to the education of mathematics and
7 science teachers and the number of teachers
8 graduated annually from such programs;

9 “(D) a description of the academic courses
10 and field teaching experiences described in sub-
11 section (c)(2), including—

12 “(i) a description of an educational
13 program that will enable a student to ob-
14 tain teacher certification or licensing with-
15 in 16 months; and

16 “(ii) evidence of agreements between
17 the applicant and the schools or school dis-
18 tricts that are identified as the locations at
19 which field teaching experiences will occur;

20 “(E) a description of the programs de-
21 scribed in subsection (c)(3), including activities
22 to assist new teachers in fulfilling their service
23 requirements under this section; and

1 “(F) evidence that the partnership will
2 provide the teaching supplements required
3 under subsection (f).

4 “(3) CRITERIA.—In evaluating the applications
5 submitted under paragraph (2), the Director shall
6 consider, at a minimum—

7 “(A) the ability of the applicant to effec-
8 tively carry out the program and to meet the
9 requirement of subsection (f);

10 “(B) the extent to which the applicant’s
11 mathematics, science, or engineering faculty
12 and its education faculty have worked or will
13 work collaboratively to design new or revised
14 curricula that recognizes the specialized peda-
15 gogy required to teach mathematics and science
16 effectively in elementary and secondary schools;

17 “(C) the extent to which the applicant is
18 committed to making the program a central or-
19 ganizational focus;

20 “(D) the degree to which the proposed pro-
21 gramming will enable stipend recipients to be-
22 come successful mathematics and science teach-
23 ers;

24 “(E) the number and quality of the stu-
25 dents that will be served by the program; and

1 “(F) the ability of the applicant to recruit
2 students who would otherwise not pursue a ca-
3 reer in teaching.

4 “(e) STIPENDS.—Individuals shall be selected to re-
5 ceive stipends under this section primarily on the basis
6 of their content knowledge of science or mathematics as
7 demonstrated by their performance on a test designated
8 in accordance with subsection (d)(2)(B). Among individ-
9 uals demonstrating equivalent content knowledge, consid-
10 eration may be given to financial need and to the goal
11 of promoting the participation of individuals identified in
12 section 33 or 34 of the Science and Engineering Equal
13 Opportunities Act (42 U.S.C. 1885a or 1885b).

14 “(f) TEACHING SUPPLEMENTS.—The members of a
15 partnership shall identify a source of non-Federal funding
16 to provide salary supplements to individuals who partici-
17 pate in the program under this section during the period
18 of their service obligation under subsection (h).

19 “(g) AMOUNT AND DURATION.—Stipends under this
20 section shall be not less than \$10,000 per year, except that
21 no individual shall receive for any year more than the cost
22 of attendance at that individual’s institution. Individuals
23 may receive a maximum of 16 months of stipend support.

24 “(h) SERVICE OBLIGATION.—If an individual re-
25 ceives a stipend under this section, that individual shall

1 be required to complete, within 6 years after completion
 2 of the educational program for which the stipend was
 3 awarded, 4 years of service as a mathematics or science
 4 teacher in a public secondary school.”.

5 (c) CONFORMING AMENDMENT.—Section 8(6) of the
 6 National Science Foundation Authorization Act of 2002
 7 is amended—

8 (1) in the paragraph heading by inserting
 9 “TEACHER” after “NOYCE”; and

10 (2) by inserting “Teacher” after “Noyce”.

11 **TITLE II—MATHEMATICS AND**
 12 **SCIENCE EDUCATION IM-**
 13 **PROVEMENT**

14 **SEC. 201. MATHEMATICS AND SCIENCE EDUCATION PART-**
 15 **NERSHIPS AMENDMENTS.**

16 Section 9 of the National Science Foundation Au-
 17 thorization Act of 2002 (42 U.S.C. 1862n) is amended—

18 (1) in subsection (a)(2)—

19 (A) by striking “(A)”;

20 (B) by striking subparagraph (B);

21 (C) by inserting “, through 1 or more of
 22 its departments in science, mathematics, or en-
 23 gineering,” after “institution of higher edu-
 24 cation”; and

1 (D) by striking “a State educational agen-
2 cy” and inserting “education faculty from the
3 participating institution or institutions of high-
4 er education, a State educational agency,”;

5 (2) in subsection (a)(3)(B)—

6 (A) by inserting “content-specific” before
7 “professional development programs”;

8 (B) by inserting “which are” before “de-
9 signed”; and

10 (C) by inserting “and which may include
11 teacher training activities to prepare mathe-
12 matics and science teachers to teach challenging
13 mathematics, science, and technology college-
14 preparatory courses, including Advanced Place-
15 ment and International Baccalaureate courses”
16 after “and science teachers”;

17 (3) in subsection (a)(3)(C)—

18 (A) by inserting “and laboratory experi-
19 ences” after “technology”; and

20 (B) by inserting “and laboratory” after
21 “provide technical”;

22 (4) in subsection (a)(3)(I) by inserting “includ-
23 ing model induction programs for teachers in their
24 first 2 years of teaching,” after “and science,”;

1 (5) in subsection (a)(3)(K) by striking “devel-
2 oping and offering mathematics or science enrich-
3 ment programs for students, including after-school
4 and summer programs;” and inserting “developing
5 educational programs and materials and conducting
6 mathematics, science, and technology enrichment
7 programs for students, including after-school pro-
8 grams and summer camps for students described in
9 subsection (b)(2)(G);”;

10 (6) in subsection (a) by inserting at the end the
11 following:

12 “(8) MASTER’S DEGREE PROGRAMS.—Activities
13 carried out in accordance with paragraph (3)(B)
14 shall include the development and offering of mas-
15 ter’s degree programs for in-service mathematics
16 and science teachers that will strengthen their sub-
17 ject area knowledge and pedagogical skills, as de-
18 scribed in section 203 of the Act enacting this para-
19 graph. Grants provided under this section may be
20 used to develop and implement courses of instruction
21 for the master’s degree programs, which may involve
22 online learning, and develop related educational ma-
23 terials.

24 “(9) MENTORS FOR TEACHERS AND STUDENTS
25 OF CHALLENGING COURSES.—Partnerships carrying

1 out activities to prepare mathematics and science
2 teachers to teach challenging mathematics, science,
3 and technology college-preparatory courses, includ-
4 ing Advanced Placement and International Baccalaureate
5 courses, in accordance with paragraph
6 (3)(B) shall encourage companies employing sci-
7 entists, mathematicians, or engineers to provide
8 mentors to teachers and students and provide for
9 the coordination of such mentoring activities.

10 “(10) INVENTIVENESS.—Activities carried out
11 in accordance with paragraph (3)(H) may include
12 the development and dissemination of curriculum
13 tools that will help foster inventiveness and innova-
14 tion.”;

15 (7) in subsection (b)(2) by redesignating sub-
16 paragraphs (E) and (F) as subparagraphs (F) and
17 (G), respectively, and inserting after subparagraph
18 (D) the following new subparagraph:

19 “(E) the extent to which the evaluation de-
20 scribed in paragraph (1)(E) will be independent
21 and based on objective measures;”;

22 (8) in subsection (b) by inserting at the end the
23 following:

24 “(4) MINIMUM AND MAXIMUM GRANT SIZE.—A
25 grant awarded under this section shall be not less

1 than \$75,000 or greater than \$2,000,000 for any
2 fiscal year.”;

3 (9) in subsection (c)—

4 (A) by striking paragraph (2);

5 (B) by redesignating paragraphs (3), (4),
6 and (5) as paragraphs (4), (5), and (6), respec-
7 tively; and

8 (C) by inserting after paragraph (1) the
9 following new paragraphs:

10 “(2) REPORT ON MODEL PROJECTS.—The Di-
11 rector shall determine which completed projects
12 funded through the program under this section
13 should be seen as models to be replicated on a more
14 expansive basis at the State or national levels. Not
15 later than 1 year after the date of enactment of this
16 paragraph, the Director shall transmit a report de-
17 scribing the results of this study to the Committee
18 on Science and Technology and the Committee on
19 Education and Labor of the House of Representa-
20 tives and to the Committee on Commerce, Science,
21 and Transportation and the Committee on Health,
22 Education, Labor, and Pensions of the Senate.

23 “(3) REPORT ON EVALUATIONS.—Not later
24 than 4 years after the date of enactment of this
25 paragraph, the Director shall transmit a report sum-

1 marizing the evaluations required under subsection
2 (b)(1)(E) of grants received under this program and
3 describing any changes to the program recommended
4 as a result of these evaluations to the Committee on
5 Science and Technology and the Committee on Edu-
6 cation and Labor of the House of Representatives
7 and to the Committee on Commerce, Science, and
8 Transportation and the Committee on Health, Edu-
9 cation, Labor, and Pensions of the Senate. Such re-
10 port shall be made widely available to the public.”;
11 and

12 (10) by adding at the end the following new
13 subsection:

14 “(d) DEFINITIONS.—In this section—

15 “(1) the term ‘mathematics and science teacher’
16 means a mathematics, science, or technology teacher
17 at the elementary school or secondary school level;
18 and

19 “(2) the term ‘science’, in the context of ele-
20 mentary and secondary education, includes tech-
21 nology and pre-engineering.”.

22 **SEC. 202. TEACHER INSTITUTES.**

23 (a) NATIONAL SCIENCE FOUNDATION INSTITUTES.—

24 (1) IN GENERAL.—The Director shall establish
25 a grant program to provide for summer or academic

1 year teacher institutes or workshops authorized by
2 section 9(a)(3)(B) of the National Science Founda-
3 tion Authorization Act of 2002 (42 U.S.C.
4 1862n(a)(3)(B)) and shall allow grantees under the
5 Teacher Institutes for the 21st Century program to
6 operate 1 to 2 week summer teacher institutes with
7 the goal of reaching the maximum number of in-
8 service mathematics and science teachers, particu-
9 larly elementary and middle school teachers, to im-
10 prove their content knowledge and pedagogical skills.

11 (2) PREPARATION TO TEACH CHALLENGING
12 COURSES.—The Director shall ensure that activities
13 supported for awards under paragraph (1) include
14 the development and implementation of teacher
15 training activities to prepare mathematics and
16 science teachers to teach challenging mathematics,
17 science, and technology college-preparatory courses,
18 including Advanced Placement and International
19 Baccalaureate courses.

20 (3) AWARDS.—In awarding grants under this
21 section, the Director shall give priority to applica-
22 tions that propose programs that will attract mathe-
23 matics and science teachers from local educational
24 agencies that—

1 (A) are receiving grants under title I of the
2 Elementary and Secondary Education Act of
3 1965 (20 U.S.C. 6301 et seq) as a result of
4 having within their jurisdictions concentrations
5 of children from low income families; and

6 (B) are experiencing a shortage of highly
7 qualified teachers, as defined in section 9101 of
8 the Elementary and Secondary Education Act
9 of 1965 (20 U.S.C. 7801), in the fields of
10 science, mathematics, or technology.

11 (4) AUTHORIZATION OF APPROPRIATIONS.—

12 There are authorized to be appropriated to the Na-
13 tional Science Foundation for the purposes of this
14 section, \$32,000,000 for fiscal year 2008,
15 \$35,200,000 for fiscal year 2009, \$38,700,000 for
16 fiscal year 2010, \$42,600,000 for fiscal year 2011,
17 and \$46,800,000 for fiscal year 2012.

18 (b) LABORATORY SCIENCE TEACHER PROFESSIONAL
19 DEVELOPMENT.—There are authorized to be appropriated
20 to the Secretary of Energy for the Laboratory Science
21 Teacher Professional Development program, \$3,000,000
22 for fiscal year 2008, \$8,000,000 for fiscal year 2009,
23 \$10,000,000 for fiscal year 2010, \$10,000,000 for fiscal
24 year 2011, and \$10,000,000 for fiscal year 2012.

1 **SEC. 203. GRADUATE DEGREE PROGRAM.**

2 (a) IN GENERAL.—The Director shall ensure that
3 master’s degree programs for in-service mathematics and
4 science teachers that will strengthen their subject area
5 knowledge and pedagogical skills are instituted in accord-
6 ance with section 9(a)(8) of the National Science Founda-
7 tion Authorization Act of 2002 (42 U.S.C. 1862n(a)(8)).
8 The degree programs shall be designed for current teach-
9 ers, who will enroll as part-time students, and to allow
10 participants to obtain master’s degrees within a period of
11 3 years.

12 (b) DISTRIBUTION OF AWARDS.—The Director shall,
13 in awarding grants to carry out subsection (a), consider
14 the distribution of awards among institutions of higher
15 education of different sizes and geographic locations.

16 (c) PROGRAM ACTIVITIES.—Activities supported
17 through master’s degree programs established under sub-
18 section (a) may include—

19 (1) development of courses of instruction and
20 related educational materials;

21 (2) stipends to defray the cost of attendance for
22 students in the degree program; and

23 (3) acquisition of computer and networking
24 equipment needed for online instruction under the
25 degree program.

1 (d) AUTHORIZATION OF APPROPRIATIONS.—There
2 are authorized to be appropriated to the National Science
3 Foundation for the purposes of this section \$46,000,000
4 for fiscal year 2008, \$50,600,000 for fiscal year 2009,
5 \$55,700,000 for fiscal year 2010, \$61,200,000 for fiscal
6 year 2011, and \$67,300,000 for fiscal year 2012.

7 **SEC. 204. CURRICULA.**

8 Nothing in this Act, or the amendments made by this
9 Act, shall be construed to limit the authority of State gov-
10 ernments or local school boards to determine the curricula
11 of their students.

12 **SEC. 205. SCIENCE, TECHNOLOGY, ENGINEERING, AND**
13 **MATHEMATICS TALENT EXPANSION PRO-**
14 **GRAM.**

15 (a) AMENDMENTS.—Section 8(7) of the National
16 Science Foundation Authorization Act of 2002 is amend-
17 ed—

18 (1) in subparagraph (A) by striking “competi-
19 tive, merit-based” and all that follows through “in
20 recent years.” and inserting “competitive, merit-re-
21 viewed multiyear grants for eligible applicants to im-
22 prove undergraduate education in science, mathe-
23 matics, engineering, and technology through—

24 “(i) the creation of programs to increase
25 the number of students studying toward and

1 completing associate's or bachelor's degrees in
2 science, technology, engineering, and mathe-
3 matics, particularly in fields that have faced de-
4 clining enrollment in recent years; and

5 “(ii) the creation of centers (in this para-
6 graph referred to as ‘Centers’) to develop un-
7 dergraduate curriculum, teaching methods for
8 undergraduate courses, and methods to better
9 train professors and teaching assistants who
10 teach undergraduate courses to increase the
11 number of students completing undergraduate
12 courses in science, technology, engineering, and
13 mathematics, including the number of non-
14 majors, and to improve student academic
15 achievement in those courses.

16 Grants made under clause (ii) shall be awarded
17 jointly through the Education and Human Re-
18 sources Directorate and at least 1 research direc-
19 torate of the Foundation.”;

20 (2) by amending subparagraph (B) to read as
21 follows:

22 “(B) In selecting projects under subparagraph
23 (A)(i), the Director shall strive to increase the num-
24 ber of students studying toward and completing bac-
25 calaureate degrees, concentrations, or certificates in

1 science, mathematics, engineering, or technology who
2 are—

3 “(i) individuals identified in section 33 or
4 34 of the Science and Engineering Equal Op-
5 portunities Act (42 U.S.C. 1885a or 1885b); or

6 “(ii) graduates of a secondary school that
7 is administered by a local educational agency
8 that is receiving grants under title I of the Ele-
9 mentary and Secondary Education Act of 1965
10 (20 U.S.C. 6301 et seq) as a result of having
11 within its jurisdiction concentrations of children
12 from low income families.”;

13 (3) in subparagraph (C)—

14 (A) by inserting “(i)” before “The types
15 of”;

16 (B) by redesignating clauses (i) through
17 (vi) as subclauses (I) through (VI), respectively;

18 (C) by striking “under this paragraph”
19 and inserting “under subparagraph (A)(i)”; and

20 (D) by adding at the end the following new
21 clause:

22 “(ii) The types of activities the Foundation may
23 support under subparagraph (A)(ii) include—

24 “(I) creating model curricula and labora-
25 tory programs;

1 “(II) developing and demonstrating re-
2 search-based instructional methods and tech-
3 nologies;

4 “(III) developing methods to train grad-
5 uate students and faculty to be more effective
6 teachers of undergraduates;

7 “(IV) conducting programs to disseminate
8 curricula, instructional methods, or training
9 methods to faculty at the grantee institutions
10 and at other institutions;

11 “(V) conducting assessments of the effec-
12 tiveness of the Center at accomplishing the
13 goals described in subparagraph (A)(ii); and

14 “(VI) conducting any other activities the
15 Director determines will accomplish the goals
16 described in subparagraph (A)(ii).”;

17 (4) in subparagraph (D)(i), by striking “under
18 this paragraph” and inserting “under subparagraph
19 (A)(i)”;

20 (5) in subparagraph (D)(ii), by striking “under
21 this paragraph” and inserting “under subparagraph
22 (A)(i)”;

23 (6) after subparagraph (D)(iii), by adding at
24 the end the following new clause:

1 “(iv) A grant under subparagraph (A)(ii) shall
2 be awarded for 5 years, and the Director may extend
3 such a grant for up to 2 additional 3 year periods.”;

4 (7) in subparagraph (E), by striking “under
5 this paragraph” both places it appears and inserting
6 “under subparagraph (A)(i)”;

7 (8) by redesignating subparagraph (F) as sub-
8 paragraph (J); and

9 (9) by inserting after subparagraph (E) the fol-
10 lowing new subparagraphs:

11 “(F) Grants awarded under subparagraph
12 (A)(ii) shall be carried out by a department or de-
13 partments of science, mathematics, or engineering at
14 institutions of higher education (or a consortia
15 thereof), which may partner with education faculty.
16 Applications for awards under subparagraph (A)(ii)
17 shall be submitted to the Director at such time, in
18 such manner, and containing such information as
19 the Director may require. At a minimum, the appli-
20 cation shall include—

21 “(i) a description of the activities to be
22 carried out by the Center;

23 “(ii) a plan for disseminating programs re-
24 lated to the activities carried out by the Center

1 to faculty at the grantee institution and at
2 other institutions;

3 “(iii) an estimate of the number of faculty,
4 graduate students (if any), and undergraduate
5 students who will be affected by the activities
6 carried out by the Center; and

7 “(iv) a plan for assessing the effectiveness
8 of the Center at accomplishing the goals de-
9 scribed in subparagraph (A)(ii).

10 “(G) In evaluating the applications submitted
11 under subparagraph (F), the Director shall consider,
12 at a minimum—

13 “(i) the ability of the applicant to effec-
14 tively carry out the proposed activities, includ-
15 ing the dissemination activities described in
16 subparagraph (C)(ii)(IV); and

17 “(ii) the extent to which the faculty, staff,
18 and administrators of the applicant institution
19 are committed to improving undergraduate
20 science, mathematics, and engineering edu-
21 cation.

22 “(H) In awarding grants under subparagraph
23 (A)(ii), the Director shall endeavor to ensure that a
24 wide variety of science, technology, engineering, and
25 mathematics fields and types of institutions of high-

1 er education, including 2-year colleges and minority-
2 serving institutions, are covered, and that—

3 “(i) at least 1 Center is housed at a Doc-
4 toral/Research University as defined by the
5 Carnegie Foundation for the Advancement of
6 Teaching; and

7 “(ii) at least 1 Center is focused on im-
8 proving undergraduate education in an inter-
9 disciplinary area.

10 “(I) The Director shall convene an annual
11 meeting of the awardees under this paragraph to
12 foster collaboration and to disseminate the results of
13 the Centers and the other activities funded under
14 this paragraph.”.

15 (b) REPORT ON DATA COLLECTION.—Not later than
16 180 days after the date of enactment of this Act, the Di-
17 rector shall transmit to Congress a report on how the Di-
18 rector is determining whether current grant recipients in
19 the Science, Technology, Engineering, and Mathematics
20 Talent Expansion Program are making satisfactory
21 progress as required by section 8(7)(D)(ii) of the National
22 Science Foundation Authorization Act of 2002 and what
23 funding actions have been taken as a result of the Direc-
24 tor’s determinations.

1 (c) AUTHORIZATION OF APPROPRIATIONS.—There
2 are authorized to be appropriated to the National Science
3 Foundation for the program described in paragraph (7)
4 of section 8 of the National Science Foundation Author-
5 ization Act of 2002—

6 (1) \$44,000,000 for fiscal year 2008, of which
7 \$4,000,000 shall be for the grants described in sub-
8 paragraph (A)(ii) of that paragraph;

9 (2) \$55,000,000 for fiscal year 2009, of which
10 \$10,000,000 shall be for the grants described in
11 subparagraph (A)(ii) of that paragraph;

12 (3) \$60,000,000 for fiscal year 2010, of which
13 \$10,000,000 shall be for the grants described in
14 subparagraph (A)(ii) of that paragraph;

15 (4) \$60,000,000 for fiscal year 2011, of which
16 \$10,000,000 shall be for the grants described in
17 subparagraph (A)(ii) of that paragraph; and

18 (5) \$60,000,000 for fiscal year 2012, of which
19 \$10,000,000 shall be for the grants described in
20 subparagraph (A)(ii) of that paragraph.

21 **SEC. 206. HIGH-NEED LOCAL EDUCATIONAL AGENCY DEFINITION.**
22

23 Section 4(8) of the National Science Foundation Au-
24 thorization Act of 2002 (42 U.S.C. 1862n note) is amend-
25 ed to read as follows:

1 “(8) HIGH-NEED LOCAL EDUCATIONAL AGEN-
2 CY.—The term ‘high-need local educational agency’
3 means a local educational agency that—

4 “(A) is receiving grants under title I of the
5 Elementary and Secondary Education Act of
6 1965 (20 U.S.C. 6301 et seq) as a result of
7 having within its jurisdiction concentrations of
8 children from low income families; and

9 “(B) is experiencing a shortage of highly
10 qualified teachers, as defined in section 9101 of
11 the Elementary and Secondary Education Act
12 of 1965 (20 U.S.C. 7801), in the fields of
13 science, mathematics, or engineering.”.

14 **SEC. 207. TEACHER LEADERS.**

15 The National Science Foundation Authorization Act
16 of 2002 is amended—

17 (1) in section 4(11)—

18 (A) by striking “MASTER TEACHER” and
19 inserting “TEACHER LEADER”;

20 (B) by striking “master teacher” and in-
21 serting “teacher leader”; and

22 (C) in subparagraph (E), by striking
23 “master teachers” and inserting “teacher lead-
24 ers”; and

25 (2) in section 9—

1 (A) in subsection (a)(3)(E), by striking
2 “master teachers” and inserting “teacher lead-
3 ers”; and

4 (B) in subsection (a)(4)—

5 (i) by striking “MASTER TEACHERS”
6 and inserting “TEACHER LEADERS”; and

7 (ii) by striking “master teachers”
8 each place it appears and inserting “teach-
9 er leaders”.

10 **SEC. 208. LABORATORY SCIENCE PILOT PROGRAM.**

11 (a) FINDINGS.—The Congress finds the following:

12 (1) To remain competitive in science and tech-
13 nology in the global economy, the United States
14 must increase the number of students graduating
15 from high school prepared to pursue postsecondary
16 education in science, technology, engineering, and
17 mathematics.

18 (2) There is broad agreement in the scientific
19 community that learning science requires direct in-
20 volvement by students in scientific inquiry and that
21 laboratory experience is so integral to the nature of
22 science that it must be included in every science pro-
23 gram for every science student.

24 (3) In America’s Lab Report, the National Re-
25 search Council concluded that the current quality of

1 laboratory experiences is poor for most students and
2 that educators and researchers do not agree on how
3 to define high school science laboratories or on their
4 purpose, hampering the accumulation of research on
5 how to improve labs.

6 (4) The National Research Council found that
7 schools with higher concentrations of non-Asian mi-
8 norities and schools with higher concentrations of
9 poor students are less likely to have adequate labora-
10 tory facilities than other schools.

11 (5) The Government Accountability Office re-
12 ported that 49.1 percent of schools where the minor-
13 ity student population is greater than 50.5 percent
14 reported not meeting functional requirements for
15 laboratory science well or at all.

16 (6) 40 percent of those college students who left
17 the science fields reported some problems related to
18 high school science preparation, including lack of
19 laboratory experience and no introduction to theo-
20 retical or to analytical modes of thought.

21 (7) It is in the national interest for the Federal
22 Government to invest in research and demonstration
23 projects to improve the teaching of laboratory
24 science in the Nation's high schools.

1 (b) GRANT PROGRAM.—Section 8(8) of the National
2 Science Foundation Authorization Act of 2002 is amend-
3 ed—

4 (1) by redesignating subparagraphs (A) through
5 (F) as clauses (i) through (vi), respectively;

6 (2) by inserting “(A)” before “A program of
7 competitive”; and

8 (3) by inserting at the end the following new
9 subparagraphs:

10 “(B) In accordance with subparagraph (A)(v),
11 the Director shall establish a research pilot program
12 designated as ‘Partnerships for Access to Labora-
13 tory Science’ to award grants to partnerships to im-
14 prove laboratories and provide instrumentation as
15 part of a comprehensive program to enhance the
16 quality of mathematics, science, engineering, and
17 technology instruction at the secondary school level.
18 Grants under this subparagraph may be used for—

19 “(i) purchase, rental, or leasing of equip-
20 ment, instrumentation, and other scientific edu-
21 cational materials;

22 “(ii) maintenance, renovation, and im-
23 provement of laboratory facilities;

24 “(iii) development of instructional pro-
25 grams designed to integrate the laboratory ex-

1 perience with classroom instruction and to be
2 consistent with State mathematics and science
3 academic achievement standards;

4 “(iv) training in laboratory safety for
5 school personnel;

6 “(v) design and implementation of hands-
7 on laboratory experiences to encourage the in-
8 terest of individuals identified in section 33 or
9 34 of the Science and Engineering Equal Op-
10 portunities Act (42 U.S.C. 1885a or 1885b) in
11 mathematics, science, engineering, and tech-
12 nology and help prepare such individuals to
13 pursue postsecondary studies in these fields;
14 and

15 “(vi) assessment of the activities funded
16 under this subparagraph.

17 “(C) Grants may be made under subparagraph
18 (B) only to a partnership—

19 “(i) for a project that includes significant
20 teacher training and professional development
21 components; or

22 “(ii) that establishes that appropriate
23 teacher training and professional development
24 is being addressed, or has been addressed,
25 through other means.

1 “(D) Grants awarded under subparagraph (B)
2 shall be to a partnership that—

3 “(i) includes an institution of higher edu-
4 cation or a community college;

5 “(ii) includes a high-need local educational
6 agency;

7 “(iii) includes a business or eligible non-
8 profit organization; and

9 “(iv) may include a State educational
10 agency, other public agency, National Labora-
11 tory, or community-based organization.

12 “(E) The Federal share of the cost of activities
13 carried out using amounts from a grant under sub-
14 paragraph (B) shall not exceed 50 percent.

15 “(F) The Director shall require grant recipients
16 to submit a report to the Director on the results of
17 the project supported by the grant.”.

18 (c) REPORT.—The Director shall evaluate the effec-
19 tiveness of activities carried out under the research pilot
20 projects funded by the grant program established pursu-
21 ant to the amendment made by subsection (b) in improv-
22 ing student performance in mathematics, science, engi-
23 neering, and technology. A report documenting the results
24 of that evaluation shall be submitted to the Committee on
25 Science and Technology of the House of Representatives

1 and the Committees on Commerce, Science, and Transpor-
2 tation and on Health, Education, Labor, and Pensions of
3 the Senate not later than 5 years after the date of enact-
4 ment of this Act. The report shall identify best practices
5 and materials developed and demonstrated by grant
6 awardees.

7 (d) AUTHORIZATION OF APPROPRIATIONS.—There
8 are authorized to be appropriated to the National Science
9 Foundation to carry out this section and the amendments
10 made by this section \$5,000,000 for fiscal year 2008, and
11 such sums as may be necessary for each of the 3 suc-
12 ceeding fiscal years.

13 **SEC. 209. STUDY ON LABORATORY EQUIPMENT DONATIONS**
14 **FOR SCHOOLS.**

15 Not later than 2 years after the date of enactment
16 of this Act, the Director shall transmit a report to the
17 Congress examining the extent to which institutions of
18 higher education are donating used laboratory equipment
19 to elementary and secondary schools. The Director, in con-
20 sultation with the Secretary of Education, shall survey in-
21 stitutions of higher education to determine—

22 (1) how often, how much, and what type of
23 equipment is donated;

24 (2) what criteria or guidelines the institutions
25 are using to determine what types of equipment can

1 be donated, what condition the equipment should be
2 in, and which schools receive the equipment;

3 (3) whether the institutions provide any support
4 to, or follow-up with the schools; and

5 (4) how appropriate donations can be encour-
6 aged.

Passed the House of Representatives April 24, 2007.

Attest:

Clerk.

110TH CONGRESS
1ST SESSION

H. R. 362

AN ACT

To authorize science scholarships for educating mathematics and science teachers, and for other purposes.