

107TH CONGRESS
1ST SESSION

H. R. 117

To improve the quality and scope of science and mathematics education.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 3, 2001

Mr. HOLT introduced the following bill; which was referred to the Committee on Education and the Workforce, and in addition to the Committee on Ways and Means, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To improve the quality and scope of science and mathematics education.

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 “National Improvement
5 in Mathematics and Science Teaching Act of 2001”.

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

8 (1) The impact of mathematics, science, and
9 technology on our lives is greater than ever before.

1 We have seen an explosion in the use of computer
2 technologies; scientists are manipulating basic bio-
3 logical processes, and our economy is swelling with
4 the birth of thousands of new dot-com companies.

5 (2) In the next 5 years, high-tech employment
6 will grow more than twice as fast as employment as
7 a whole. Yet, many companies are unable to find
8 skilled American workers. It is estimated that the
9 shortage of high-tech professionals currently costs
10 the United States economy \$105,000,000,000 a
11 year.

12 (3) As a nation, the students of the United
13 States are not performing as well as we would like.
14 According to tests by the National Assessment of
15 Educational Progress, nearly 36 percent of 4th
16 graders, 38 percent of 8th graders, and 31 percent
17 of 12th graders perform below the basic level in
18 mathematics. Moreover, approximately 30 percent of
19 4th graders and nearly 40 percent of 8th and 12th
20 graders failed to reach the basic level in science.

21 (4) Students in many other countries signifi-
22 cantly outperform United States students in science
23 and mathematics. In fact, our high school students
24 performed among the lowest of the 21 countries par-
25 ticipating in the Third International Mathematics

1 and Science Study (TIMSS). In mathematics, our
2 students were outperformed by 14 of the countries
3 in the study and outperformed only 2 countries. In
4 science, our students tested lower than 11 of the
5 countries and once again outperformed only 2 of the
6 countries in the study.

7 (5) The Federal Coordinating Council for
8 Science, Engineering, and Technology estimated that
9 the Federal Government spent \$2,200,000,000 in
10 1993 on education programs specifically targeted for
11 science, mathematics, engineering, and technology
12 while total Federal education spending was
13 \$24,000,000,000—only 9 percent of the total Fed-
14 eral spending on education.

15 (6) According to statistics by the National Cen-
16 ter for Education Statistics, 11 percent of teachers
17 have no license to teach, 16 percent have emergency
18 licenses, and 10 percent have probationary licenses.
19 Nearly 21 percent of high school teachers teach out
20 of field (have neither a major nor minor in their
21 main teaching subject). For mathematics, nearly 28
22 percent of high school mathematics teachers do not
23 have a major or minor in mathematics. For science,
24 18 percent of the teachers do not have a major or
25 minor in science.

1 (7) A significant achievement gap exists with
2 minorities. Indeed, the gap that separates minority
3 students from white students is larger today than it
4 was in 1990. By the conclusion of 8th grade nearly
5 half of African American and Latino students score
6 below the basic level in mathematics.

7 (8) Science and mathematics education can pro-
8 vide humanity with the knowledge to develop effec-
9 tive solutions to its global and local problems.

10 **SEC. 3. IMPROVEMENT OF SCIENCE AND MATHEMATICS**
11 **EDUCATION.**

12 The Elementary and Secondary Education Act of
13 1965 (20 U.S.C. 6301 et seq.) is amended by adding at
14 the end the following:

15 **“TITLE XV—IMPROVEMENT OF**
16 **SCIENCE AND MATHEMATICS**
17 **EDUCATION**

18 **“PART A—RECRUITMENT OF QUALITY TEACHERS**
19 **IN SCIENCE AND MATHEMATICS EDUCATION**

20 **“SEC. 15101. STATEMENT OF PURPOSE.**

21 “The purpose of this part is to assist States in re-
22 cruiting quality mathematics and science public education
23 teachers.

1 **“SEC. 15102. STATE ASSISTANCE GRANT PROGRAM.**

2 “(a) IN GENERAL.—The Secretary shall award
3 grants, subject to the availability of appropriations, to
4 States to improve the quality of our science and mathe-
5 matics teachers in public schools and to recruit new, quali-
6 fied public school teachers into those fields.

7 “(b) ELIGIBILITY.—In order to receive funding,
8 under this part, a State shall submit an application in ac-
9 cordance with section 15103.

10 **“SEC. 15103. APPLICATION.**

11 “The State shall submit the application to the Sec-
12 retary at such time, in such manner, and containing such
13 information as the Secretary may reasonably require.
14 Each application under this section shall include, at a min-
15 imum, the following:

16 “(1) A description of how the State will comply
17 with the requirements of this part.

18 “(2) A description of the plan to be used by the
19 State to improve the quality of science, technology,
20 and mathematics teachers and to recruit new, quali-
21 fied teachers in science, technology, and mathe-
22 matics education.

23 “(3) A description of how the State will partner
24 with industry or with institutions of higher edu-
25 cation to achieve the goals of its plan to improve the
26 quality of science, technology, and mathematics

1 teachers and to recruit new, qualified teachers in
2 mathematics, science, and technology, education.

3 **“SEC. 15104. APPLICATION SUBMISSION.**

4 “A State application submitted to the Secretary
5 under this section shall be approved by the Secretary un-
6 less the Secretary makes a written determination, within
7 90 days after receiving the application, that the applica-
8 tion violates provisions of this part.

9 **“SEC. 15105. ALLOCATION.**

10 From the funds made available under section 15108,
11 the Secretary shall allot to each State an amount which
12 bears the same ratio to the amount of such made available
13 as the school-age population of the State bears to the
14 school-age population of all States.

15 **“SEC. 15106. MATCHING FUND BY STATE.**

16 “In order to receive funding under this part, a State
17 shall provide assurances that it will provide non-Federal
18 funds of not less than 50 percent of the cost of providing
19 a program under this part.

20 **“SEC. 15107. AUTHORIZED USES OF FUNDS.**

21 “Grant funds made available under this part may be
22 used by the State for—

23 “(1) establishing a loan forgiveness program for
24 teachers who major in mathematics or science and

1 commit to teach the subject for at least 5 consecu-
2 tive years in a public school within the State;

3 “(2) establishing a program to provide a salary
4 increase for mathematics and science teachers who
5 pass an advanced competency test as determined by
6 the State;

7 “(3) providing signing bonuses or other finan-
8 cial incentives, for mathematics and science teachers
9 who are fully qualified to teach in these academic
10 subject areas in locations in which there is a short-
11 age of such fully qualified teachers within a school
12 or the local educational agency;

13 “(4) establishing a high standards program to
14 recruit professionals from mathematics, science, or
15 technology fields and provide such professionals with
16 alternative routes to teacher certification;

17 “(5) establishing a program to provide in-
18 creased opportunities for minorities, individuals with
19 disabilities, and other individuals underrepresented
20 in the mathematics and science teaching profession;
21 and

22 “(6) programs and activities that are designed
23 to improve the quality of teaching in mathematics
24 and science, such as—

1 “(A) testing of elementary and secondary
2 school mathematics and science teachers in the
3 subject areas taught by such teachers;

4 “(B) creating a career ladder, with appro-
5 priate financial incentives, and intellectual ad-
6 vancement for mathematics and science teach-
7 ers; and

8 “(C) strengthening the clinical experience
9 for students preparing to be mathematics and
10 science teachers.

11 **“SEC. 15108. AUTHORIZATION OF APPROPRIATIONS.**

12 “There are authorized to be appropriated
13 \$1,000,000,000 for fiscal year 2002 and such sums as
14 may be necessary for each of the 4 succeeding fiscal years
15 to carry out the provisions of this part.

16 **“PART B—PROFESSIONAL DEVELOPMENT OF**
17 **MATHEMATICS AND SCIENCE TEACHERS**

18 **“SEC. 15201. STATEMENT OF PURPOSE.**

19 “‘The purpose of this part is to assist the States in
20 improving the professional development opportunities for
21 mathematics and science teachers in public schools.

22 **“SEC. 15202. PROFESSIONAL DEVELOPMENT GRANT PRO-**
23 **GRAM.**

24 “(a) IN GENERAL.—The Secretary shall award
25 grants, subject to the availability of appropriations, to

1 States to improve the quality of our mathematics and
2 science teachers in public schools by expanding and devel-
3 oping professional development opportunities in mathe-
4 matics and science.

5 “(b) ELIGIBILITY.—In order to receive funding under
6 this part, a State shall submit an application in accord-
7 ance with section 15203.

8 **“SEC. 15203. APPLICATION.**

9 “The State shall submit the application to the Sec-
10 retary at such time, in such manner, and containing such
11 information as the Secretary may reasonably require.
12 Each application under this section shall include, at a min-
13 imum, the following:

14 “(1) A description of how the State will comply
15 with the requirements of this part.

16 “(2) A description of the plan to be used by the
17 State to improve the quality of mathematics and
18 science teaching.

19 “(3) A description of how the State will partner
20 with industry or with institutions of higher edu-
21 cation to achieve the goals of its plan to improve the
22 quality of science, technology, and mathematics
23 teaching and to recruit new, qualified teachers in
24 mathematics, science, and technology education.

1 **“SEC. 15204. APPLICATION SUBMISSION.**

2 “A State application submitted to the Secretary
3 under this section shall be approved by the Secretary un-
4 less the Secretary makes a written determination, within
5 90 days after receiving the application, that the applica-
6 tion violates provisions of this part.

7 **“SEC. 15205. ALLOCATION.**

8 From the funds made available under section 15208,
9 the Secretary shall allot to each State an amount which
10 bears the same ratio to the amount of such made available
11 as the school-age population of the State bears to the
12 school-age population of all States.

13 **“SEC. 15206. MATCHING FUND BY STATE.**

14 “In order to receive funding under this part, a State
15 shall provide assurances that it will provide non-Federal
16 funds of not less than 50 percent of the cost of providing
17 a program under this part.

18 **“SEC. 15207. AUTHORIZED USES OF FUNDS.**

19 “Grant funds made available under this part may be
20 used by the State for—

21 “(1) establishing innovative professional devel-
22 opment programs (which may be through partner-
23 ships, including partnerships with institutions of
24 higher education), including programs that train
25 mathematics and science teachers to use technology
26 to improve teaching and learning;

1 “(2) developing and using proven, cost-effective
2 strategies for the implementation of professional de-
3 velopment activities for mathematics and science
4 teachers, such as through the use of technology and
5 distance learning;

6 “(3) professional development programs that
7 provide instruction for mathematics and science
8 teachers in teaching children with different learning
9 styles, particularly children with disabilities and chil-
10 dren with special learning needs (including those
11 who are gifted and talented);

12 “(4) establishing partnerships with industry to
13 create summer fellowships for mathematics and
14 science teachers to work in these fields during the
15 summer months;

16 “(5) establishing partnerships with institutions
17 of higher learning to develop summer programs for
18 mathematics and science teachers to expand and im-
19 prove upon their knowledge of these subjects; and

20 “(6) establishing master teacher initiatives in
21 mathematics and science education.

22 **“SEC. 15208. AUTHORIZATION OF APPROPRIATIONS.**

23 “There are authorized to be appropriated
24 \$1,000,000,000 for fiscal year 2002 and such sums as

1 may be necessary for each of the 4 succeeding fiscal years
2 to carry out the provisions of this part.

3 **“PART C—JOHN GLENN ACADEMIES**

4 **“SEC. 15301. STATEMENT OF PURPOSE.**

5 “The purpose of this part is to establish 15 John
6 Glenn Academies, 1 in each of the 10 Federal regions des-
7 ignated by the Department of Education, with 5 more
8 strategically located, as determined by the Secretary, to
9 facilitate summer workshops for mathematics and science
10 education teachers and to provide intensive, year-long fel-
11 lowships for 3,000 individuals to prepare them to meet
12 State certification requirements for teaching mathematics
13 or science in grades 7 through 12.

14 **“SEC. 15302. PROGRAM AUTHORIZED.**

15 “The Secretary, in cooperation with the Director of
16 the National Science Foundation, shall provide assistance
17 for the creation and support of regional centers for the
18 improvement of teaching in mathematics and science edu-
19 cation (hereinafter in this title referred to as ‘John Glenn
20 Academies’).

21 **“SEC. 15303. ESTABLISHMENT AND SELECTION.**

22 “(a) PROGRAM ADMINISTRATION.—

23 “(1) PROPOSED RULES.—The Secretary, after
24 consultation with the Director of the National
25 Science Foundation, shall publish in the Federal

1 Register, not later than 90 days after the date of the
2 enactment of the National Improvement in Mathe-
3 matics and Science Teaching Act of 2001, proposed
4 rules for the program to establish John Glenn Acad-
5 emies, including—

6 “(A) a description of the program, includ-
7 ing the summer workshops and John Glenn
8 Academy Fellowships;

9 “(B) the procedure to be followed by appli-
10 cants; and

11 “(C) the criteria for determining qualified
12 applicants.

13 “(2) FINAL RULES.—The Secretary shall pub-
14 lish final rules in the Federal Register for the pro-
15 gram under this part after the expiration of a 30-
16 day comment period on such proposed rules.

17 “(b) SELECTION.—

18 “(1) APPLICATIONS REQUIRED.—

19 “(A) IN GENERAL.—Any undergraduate
20 institution of higher education, consortia of
21 such institutions, nonprofit organizations, or
22 groups thereof may submit an application to re-
23 ceive funding to establish a John Glenn Acad-
24 emy under this part in accordance with the pro-
25 cedures established by the Secretary, in con-

1 sultation with the Director of the National
2 Science Foundation.

3 “(B) ASSURANCES.—In order to receive
4 funding under this part, an applicant shall pro-
5 vide adequate assurances that it will contribute
6 not less than 25 percent of the proposed Acad-
7 emy’s capital and annual operating and mainte-
8 nance costs.

9 “(2) SELECTION.—The Secretary, in conjunc-
10 tion with the Director of the National Science Foun-
11 dation, shall subject each application to competitive,
12 merit review. In making a decision regarding wheth-
13 er to approve such application and provide funding
14 under this part, the Secretary shall consider, at a
15 minimum—

16 “(A) the merits of the application, particu-
17 larly those portions of the application regarding
18 the ability to adapt teacher training in mathe-
19 matics and science education to the needs of
20 particular regions;

21 “(B) the quality of service to be provided;

22 “(C) the makeup of the groups or institu-
23 tions applying for such funding;

24 “(D) the geographical diversity and extent
25 of the area to be served; and

1 “(E) the percentage of funding and
2 amount of in-kind commitment from other
3 sources.

4 “(3) EVALUATION.—Each John Glenn Academy
5 which receives financial assistance under this part
6 shall be evaluated during its third year of operation
7 by an evaluation panel appointed by the Secretary.
8 Each evaluation panel shall measure each Academy’s
9 performance against the objectives specified in this
10 section. The panel shall recommend to the Secretary
11 whether funding should be renewed based on such
12 evaluation.

13 **“SEC. 15304. FUNCTIONS OF ACADEMIES.**

14 “(a) ESTABLISHMENT.—John Glenn Academies may
15 be developed by an institution of higher education in ac-
16 cordance with this part, and shall be comprised of a con-
17 sortium of at least 1 institution of higher education, 1
18 community college, neighboring school districts, business
19 partners, members of the Eisenhower Math and Science
20 Consortia, and may include the participation of nonprofit
21 entities, organizations, or groups thereof.

22 “(b) OBJECTIVES OF ACADEMIES.—The objective of
23 the John Glenn Academies is to enhance the teaching of
24 mathematics and science education through—

1 “(1) advising elementary and secondary school
2 administrators, school boards, and teachers regard-
3 ing professional development opportunities for math-
4 ematics and science teachers;

5 “(2) participation of individuals from the pri-
6 vate sector, institutions of higher education, State
7 and local governments, and other Federal agencies;

8 “(3) dissemination of information about profes-
9 sional development programs for mathematics and
10 science teachers;

11 “(4) summer workshops for mathematics and
12 science teachers as described in subpart 1; and

13 “(5) intensive training of John Glenn Academy
14 Fellows, as described in subpart 2, in effective teach-
15 ing methods in mathematics or science.

16 “(c) ACTIVITIES OF ACADEMIES.—The activities of
17 the John Glenn Academies shall include the following:

18 “(1) INFORMATION SHARING.—The transfer
19 and dissemination of research findings and expertise
20 of participants of John Glenn Academies to local
21 school authorities, including school administrators,
22 school boards, and teachers on mathematics and
23 science education professional development.

1 “(2) TRAINING.—The ongoing training of
2 mathematics and science teachers in public elemen-
3 tary and secondary schools.

4 “(3) WORKSHOPS.—Summer workshops as de-
5 scribed in subpart 1.

6 “(4) ADDITIONAL TRAINING.—The training of
7 John Glenn fellows as described in subpart 2.

8 “(5) SUPPORT SERVICES.—Support services to
9 teachers, administrators, and school board members
10 as agreed upon by John Glenn Academies represent-
11 atives and local school authorities.

12 “(6) SKILL STANDARDS.—The advising of
13 teachers, administrators, and school board members
14 on current skill standards employed by private in-
15 dustry.

16 **“SEC. 15305. AUTHORIZATION OF APPROPRIATIONS.**

17 “There are authorized to be appropriated such sums
18 as may be necessary for fiscal year 2002 and for each of
19 the 4 succeeding fiscal years to carry out the provisions
20 of this part.

21 **“Subpart 1—John Glenn Academy Summer**

22 **Workshops**

23 **“SEC. 15311. PROGRAM AUTHORIZED.**

24 “From amounts made available to carry out this sub-
25 part, the Secretary is authorized to make grants to the

1 15 John Glenn Academies for summer workshops de-
2 scribed in section 15312.

3 **“SEC. 15312. ALLOWABLE ACTIVITIES.**

4 “Each recipient of funds under section 15311 shall
5 use the funds for the following:

6 “(1) The establishment and operation of mathe-
7 matics and science summer workshops within the
8 John Glenn Academies that provide professional de-
9 velopment to elementary and secondary school teach-
10 ers. Such workshops shall be content-based, based
11 on school year curricula, and focus only secondarily
12 on pedagogy.

13 “(2) To provide teachers with travel expense re-
14 imbursement, a stipend, or classroom materials re-
15 lated to attending such a workshop.

16 “(3) The establishment of a mechanism to pro-
17 vide supplemental assistance and followup training
18 during the school year for summer workshop grad-
19 uates.

20 **“SEC. 15313. REQUIREMENTS FOR JOHN GLENN ACADEMY**
21 **SUMMER WORKSHOPS.**

22 “The summer workshops—

23 “(1) shall use curricula that are object-cen-
24 tered, experiment-oriented, content-based, and
25 grounded in current research;

1 “(2) shall be conducted during a period of a
2 minimum of 2 weeks;

3 “(3) shall provide for direct interaction between
4 students and faculty; and

5 “(4) shall provide for followup training in the
6 classroom during the academic year for a period of
7 a minimum of 3 days, which shall not be required
8 to be consecutive, except that—

9 “(A) if the summer workshop is for a pe-
10 riod of only 2 weeks, the followup training shall
11 be for a period of more than 3 days; and

12 “(B) for teachers in rural school districts,
13 followup training through the Internet may be
14 used.

15 **“SEC. 15314. CREDIT FOR PARTICIPATION.**

16 “Participation in a John Glenn Academy Summer
17 Workshop supported under this subpart shall earn credit
18 toward—

19 “(1) State continuing education requirements
20 for teachers; or

21 “(2) a postbaccalaureate degree program at an
22 institution of higher education.

23 **“SEC. 15315. APPROPRIATIONS.**

24 “There are authorized to be appropriated
25 \$1,214,000,000 for fiscal year 2002 and such sums as

1 may be necessary for the 4 succeeding fiscal years to carry
2 out the provisions of this subpart.

3 **“Subpart 2—The John Glenn Fellowship Program**

4 **“SEC. 15321. PROGRAM AUTHORIZED.**

5 “From amounts made available to carry out this sub-
6 part, the Secretary is authorized to make grants to the
7 15 John Glenn Academies for a fellowship program de-
8 signed to train 3,000 mid-career professionals in the effec-
9 tive teaching of mathematics or science in grades 7
10 through 12 of public elementary and secondary schools.

11 **“SEC. 15322. ALLOWABLE ACTIVITIES.**

12 “Each recipient of funds under section 15321 shall
13 use the funds for the following:

14 “(1) The establishment and operation of an in-
15 tensive, year-long fellowship program in mathematics
16 or science within the John Glenn Academies that
17 provide training and development to become mathe-
18 matics or science teachers in grades 7 through 12 of
19 public elementary and secondary schools. Such fel-
20 lowships shall be content-based and be designed in
21 a way to get the fellowship graduate certification by
22 the State for teaching.

23 “(2) To provide fellowship recipients with a sti-
24 pend of \$30,000, living arrangements for the year,
25 and classroom materials related to such a program.

1 “(3) The establishment of a mechanism to pro-
2 vide supplemental assistance and followup training
3 during the school year for John Glenn Academy Fel-
4 lowship graduates.

5 **“SEC. 15323. REQUIREMENTS FOR JOHN GLENN ACADEMY**
6 **FELLOWSHIPS.**

7 “The John Glenn Fellowship program—

8 “(1) shall be conducted during a period of a
9 minimum of 1 year;

10 “(2) shall provide for direct interaction between
11 John Glenn Fellows and current mathematics and
12 science teachers;

13 “(3) shall include school-based internships and
14 supervised teaching; and

15 “(4) shall provide for followup training in the
16 classroom during the next 2 academic years for a pe-
17 riod of a minimum of 2 weeks.

18 **“SEC. 15324. DISTRICT HIRING OF GLENN FELLOWS.**

19 “A school district that hires a John Glenn fellow who
20 has successfully completed the John Glenn Academy Fel-
21 lowship program supported under this subpart shall re-
22 ceive \$10,000 in Federal funds to assist in the hiring of
23 such fellow for a period of 3 academic years.

1 **“SEC. 15325. APPROPRIATIONS.**

2 “There are authorized to be appropriated
3 \$120,000,000 for fiscal year 2002 and such sums as may
4 be necessary for each of the 4 succeeding fiscal years to
5 carry out the provisions of this subpart.

6 **“PART D—NATIONAL CLEARINGHOUSE OF BEST**
7 **PRACTICES**

8 **“SEC. 15401. PROGRAM AUTHORIZED.**

9 “The Secretary shall establish and operate a National
10 Clearinghouse of Best Practices to coordinate successful
11 and proven professional development opportunities for
12 teachers, collect and disseminate curricular materials, and
13 undertake other activities to encourage teacher interest
14 and involvement in professional development, particularly
15 for mathematics and science teachers of grades 7 through
16 12.

17 **“SEC. 15402. APPROPRIATIONS.**

18 “There are authorized to be appropriated \$5,000,000
19 for fiscal year 2002 and such sums as may be necessary
20 for each of the 4 succeeding 4 years to carry out the provi-
21 sions of this part.

22 **“PART E—PROGRAM TO IMPROVE SCIENCE AND**
23 **MATHEMATICS EDUCATION**

24 **“SEC. 15501. STATEMENT OF PURPOSE.**

25 “The purpose of this part is to improve the quality
26 and focus placed on mathematics and science education,

1 to help all students increase achievement in these subjects,
2 and to encourage more students to enter into the fields
3 of mathematics, science, and technology.

4 **“SEC. 15502. STATE IMPROVEMENT GRANTS.**

5 “The Secretary shall award grants, subject to the
6 availability of appropriations, to States submitting an ap-
7 plication in accordance with section 15505 to reform and
8 improve the quality of mathematics and science education
9 and to encourage more students to focus their studies on
10 these areas of education.

11 **“SEC. 15503. ALLOCATION.**

12 From the funds made available under section 15510,
13 the Secretary shall allot to each State an amount which
14 bears the same ratio to the amount of such made available
15 as the school-age population of the State bears to the
16 school-age population of all States.

17 **“SEC. 15504. MATCHING FUND BY STATE.**

18 “In order to receive funding under this part, a State
19 shall provide assurances that it will provide non-Federal
20 funds of not less than 50 percent of the cost of providing
21 a program under this part.

22 **“SEC. 15505. APPLICATION.**

23 “The State shall submit the application to the Sec-
24 retary at such time, in such manner, and containing such
25 information as the Secretary may reasonably require.

1 Each application under this section shall include, at a min-
2 imum, the following:

3 “(1) A description of how the State will comply
4 with the requirements of this part.

5 “(2) A description of the plan to be used by the
6 State to improve the quality and achievement of its
7 students in mathematics and science education.

8 “(3) An assurance that the State will require
9 each local educational agency and school receiving
10 funds under this part to publicly report their annual
11 progress on improving mathematics, science, and
12 technology education. If the local educational agency
13 or school is already required to file a ‘report card’
14 or assessment report, the information can be in-
15 cluded with that information.

16 “(4) A description of how the State will hold
17 local educational agencies and schools accountable
18 for making annual gains in mathematics and science
19 education.

20 “(5) A description of how the State will partner
21 with industry and with institutions of higher edu-
22 cation to achieve the goals of its plan to improve
23 mathematics and science education.

1 **“SEC. 15506. APPLICATION SUBMISSION.**

2 “A State application submitted to the Secretary
3 under this part shall be approved by the Secretary unless
4 the Secretary makes a written determination, not later
5 than 90 days after receiving the application, that the ap-
6 plication violates the provisions of this part.

7 **“SEC. 15507. AUTHORIZED USES OF FUNDS.**

8 “Grant funds made available under this part may be
9 used by the State for—

10 “(1) setting high standards for mathematics,
11 science, and technology education, such as the
12 standards established in Project 2061 by the Amer-
13 ican Association for the Advancement of Science;

14 “(2) establishing advanced placement classes in
15 mathematics, science, and technology;

16 “(3) developing after-school activities designed
17 to encourage interest in mathematics, science, and
18 technology;

19 “(4) developing summer programs for students
20 designed to encourage interest in and to develop and
21 improve upon skills in mathematics, science, and
22 technology;

23 “(5) developing internship programs for stu-
24 dents with local businesses or educational institu-
25 tions in the areas of mathematics, science, and tech-
26 nology;

1 “(6) establishing a State public high school of
2 mathematics, science, and technology for gifted stu-
3 dents from the State; and

4 “(7) providing scholarships or interest-free
5 loans for students majoring in mathematics, science,
6 or technology in institutions of higher education in
7 the State.

8 **“SEC. 15508. ACCOUNTABILITY.**

9 “A State shall report yearly to the Secretary regard-
10 ing the use of grant funds, the progress made in meeting
11 their objectives as stipulated in their application for funds,
12 and whether students’ performance in mathematics,
13 science, and technology has increased as measured by as-
14 sessment techniques recognized in the field of education
15 and accepted by the Secretary.

16 **“SEC. 15509. ACADEMIC ACHIEVEMENT AWARDS PROGRAM.**

17 “(a) AWARDS PROGRAM.—Each State receiving a
18 grant under this part may establish a program to make
19 academic achievement awards to recognize and financially
20 reward public schools served under this part that have sig-
21 nificantly raised the achievement of students in mathe-
22 matics and science education.

23 “(b) ACHIEVEMENT AWARDS FUNDS.—For the pur-
24 pose of carrying out this section, each State receiving a
25 grant under this part may reserve not more than 30 per-

1 cent of such funding for academic achievement awards.
2 The amount reserved must be expended not later than 3
3 years after receipt. If the amount reserved is not expended
4 within 3 years, such funds shall be used for activities de-
5 scribed in section 15507.

6 **“SEC. 15510. APPROPRIATIONS.**

7 “There are authorized to be appropriated
8 \$1,000,000,000 for fiscal years 2002 and such sums as
9 may be necessary for each of the 4 succeeding fiscal years
10 to carry out the provisions of this part.

11 **“PART F—EQUITY IN MATHEMATICS AND**
12 **SCIENCE EDUCATION**

13 **“SEC. 15601. STATEMENT OF PURPOSE.**

14 “The purpose of this part is to narrow any achieve-
15 ment gap that exists between Caucasian and minority stu-
16 dents and between boys and girls in mathematics, science,
17 and technology education.

18 **“Subpart 1—Achievement Equity Grants**

19 **“SEC. 15611. PROGRAM AUTHORIZED.**

20 “(a) IN GENERAL.—The Secretary is authorized to
21 provide grants to local educational agencies to provide
22 subgrants to elementary and secondary schools—

23 “(1) to increase the achievement of minority
24 students in mathematics and science;

1 “(2) to encourage the ongoing interest of mi-
2 nority students in mathematics, science, and tech-
3 nology; and

4 “(3) to prepare minority students to pursue un-
5 dergraduate and graduate degrees and careers in
6 mathematics, science, or technology.

7 “(b) ELIGIBILITY.—To be eligible to receive a grant
8 under this subpart, a local educational agency shall submit
9 an application to the Secretary at such time, in such form,
10 and containing such information as the Secretary may rea-
11 sonably require.

12 **“SEC. 15612. CONTENTS OF APPLICATION.**

13 “The application referred to in section 15611 shall
14 contain, at a minimum, the following:

15 “(1) A specific program description, including
16 the content of the program and the research and
17 models used to design the program.

18 “(2) A description of the collaboration between
19 elementary and secondary schools to fulfill goals of
20 the program.

21 “(3) An explanation regarding the recruitment
22 and selection of participants.

23 “(4) A description of the instructional and mo-
24 tivational activities planned to be used.

25 “(5) An evaluation plan.

1 **“SEC. 15613. SELECTION.**

2 “The Secretary shall subject each application to com-
3 petitive, merit review. In making a decision regarding
4 whether to approve such application and provide funding
5 under this subpart, the Secretary shall consider at a
6 minimum—

7 “(1) the merits of the application;

8 “(2) the quality of service to be provided;

9 “(3) the programs to be administered with such
10 funding; and

11 “(4) the achievement scores of the students in
12 that particular area to be serviced.

13 **“SEC. 15614. ELEMENTARY SCHOOL PROGRAM.**

14 “(a) IN GENERAL.—Local educational agencies shall
15 select elementary schools to provide services that—

16 “(1) encourage minority students in grades 4
17 and higher to enjoy and pursue studies in mathe-
18 matics, science, and technology;

19 “(2) acquaint minority students in grades 4
20 and higher with careers in mathematics, science, and
21 technology; and

22 “(3) educate the parents of minority students
23 in grades 4 and higher about the difficulties faced
24 by such students to maintain an interest and desire
25 to achieve in mathematics, science, and technology

1 and enlist the help of the parents in overcoming
2 these difficulties.

3 “(b) USES OF FUNDS.—An elementary school that
4 receives a subgrant under this subpart may use such funds
5 for the following:

6 “(1) Tutoring in mathematics, science, and
7 technology.

8 “(2) Mentoring relationships, both in-person
9 and through the Internet.

10 “(3) Payment of the costs of attending events
11 and academic programs in mathematics, science, and
12 technology.

13 “(4) After-school activities designed to encour-
14 age the interest of minorities in grades 4 and higher
15 in mathematics, science, and technology.

16 “(5) Summer programs designed to encourage
17 interest in and develop skills in mathematics,
18 science, and technology.

19 “(6) Purchasing software designed for minority
20 students or designed to encourage the interest of
21 such students in mathematics, science, and tech-
22 nology.

23 “(7) Field trips to locations that educate and
24 encourage minority students’ interest in mathe-
25 matics, science, and technology or that acquaint mi-

1 norities with careers in mathematics, science, and
2 technology.

3 “(8) Purchasing and disseminating information
4 to parents of minority students in grades 4 and
5 higher that will help parents to encourage their
6 child’s interest in mathematics, science, and tech-
7 nology.

8 **“SEC. 15615. SECONDARY SCHOOL PROGRAM.**

9 “(a) IN GENERAL.—Local educational agencies shall
10 select secondary schools to provide services that—

11 “(1) encourage minority students in grades 9
12 and higher to major in mathematics, science, and
13 technology in a postsecondary institution;

14 “(2) provide academic advice and assistance in
15 high school course selection;

16 “(3) encourage minority students in grades 9
17 and higher to plan for careers in mathematics,
18 science, and technology; and

19 “(4) educate the parents of minority students
20 in grades 9 and higher about the difficulties faced
21 by such students to maintain an interest and desire
22 to achieve in mathematics, science, and technology
23 and enlist the help of the parents in overcoming
24 these difficulties.

1 “(b) USES OF FUNDS.—A secondary school that re-
2 ceives a subgrant under this subpart may use such funds
3 for the following:

4 “(1) Tutoring in mathematics, science, and
5 technology.

6 “(2) Mentoring relationships, both in-person
7 and through the Internet.

8 “(3) Paying the costs of attending events and
9 academic programs in mathematics, science, and
10 technology.

11 “(4) Establishing internships in mathematics,
12 science, or technology either in local industry or at
13 an institution of higher education.

14 “(5) After-school activities designed to encour-
15 age the interest of minority students in grades 9 and
16 higher in mathematics, science, and technology, in-
17 cluding the cost of the portion of a staff salary to
18 supervise such activities.

19 “(6) Summer programs designed to encourage
20 interest in and develop skills in mathematics,
21 science, and technology.

22 “(7) Purchasing software designed for minority
23 students, or designed to encourage the interest of
24 such students in mathematics, science, and tech-
25 nology.

1 “(8) Field trips to locations that educate and
2 encourage the interest of minority students in math-
3 ematics, science, and technology or that acquaint
4 such students with careers in mathematics, science,
5 and technology.

6 “(9) Visits to institutions of higher education to
7 acquaint minority students with college-level pro-
8 grams in mathematics, science, or technology, and to
9 meet with educators and minority college students
10 who will encourage minority high school students to
11 pursue degrees in mathematics, science, or tech-
12 nology.

13 **“SEC. 15616. APPROPRIATIONS.**

14 “‘There are authorized to be appropriated
15 \$500,000,000 for fiscal year 2002 and such sums as may
16 be necessary for each of the 4 succeeding fiscal years to
17 carry out the provisions of this subpart.

18 **“Subpart 2—Gender Equity Grants**

19 **“SEC. 15621. PROGRAM AUTHORIZED.**

20 “(a) ESTABLISHMENT.—The Secretary shall estab-
21 lish a grant program, subject to the availability of appro-
22 priations, to narrow the achievement gap that currently
23 exists between boys and girls in mathematics, science, and
24 technology education.

1 “(b) PROGRAM AUTHORIZED.—The Secretary is au-
2 thORIZED to provide grants to local educational agencies to
3 provide subgrants to public elementary and secondary
4 schools to encourage the ongoing interest of girls in math-
5 ematics, science, and technology and to prepare girls to
6 pursue undergraduate and graduate degrees and careers
7 in mathematics, science, or technology.

8 “(c) ELIGIBILITY.—To be eligible to receive a grant
9 under this subpart, a local educational agency shall submit
10 an application to the Secretary at such time, in such form,
11 and containing such information as the Secretary may rea-
12 sonably require.

13 **“SEC. 15622. CONTENTS OF APPLICATION.**

14 “The application referred to in section 15621 shall
15 contain, at a minimum, the following:

16 “(1) A specific program description, including
17 the content of the program and the research and
18 models used to design the program.

19 “(2) A description of the collaboration between
20 elementary and secondary schools to fulfill goals of
21 the program.

22 “(3) An explanation regarding the recruitment
23 and selection of participants.

24 “(4) A description of the instructional and mo-
25 tivational activities planned to be used.

1 “(5) An evaluation plan.

2 **“SEC. 15623. SELECTION.**

3 “The Secretary shall subject each application to com-
4 petitive, merit review. In making a decision regarding
5 whether to approve such application and provide funding
6 under this subpart, the Secretary shall consider at a
7 minimum—

8 “(1) the merits of the application;

9 “(2) the quality of service to be provided;

10 “(3) the programs to be administered with such
11 funding; and

12 “(4) the achievement scores of the students in
13 that particular service area.

14 **“SEC. 15624. ELEMENTARY SCHOOL PROGRAM.**

15 “(a) IN GENERAL.—Local educational agencies shall
16 select elementary schools to provide services that—

17 “(1) encourage girls in grades 4 and higher to
18 enjoy and pursue studies in mathematics, science,
19 and technology;

20 “(2) acquaint girls in grades 4 and higher with
21 careers in mathematics, science, and technology; and

22 “(3) educate the parents of girls in grades 4
23 and higher about the difficulties faced by girls to
24 maintain an interest and desire to achieve in mathe-

1 matics, science, and technology and enlist the help
2 of the parents in overcoming these difficulties.

3 “(b) USES OF FUNDS.—An elementary school that
4 receives a subgrant under this subpart may use such funds
5 for the following:

6 “(1) Tutoring in reading, mathematics, science,
7 and technology.

8 “(2) Mentoring relationships, both in-person
9 and through the Internet.

10 “(3) After-school activities designed to encour-
11 age the interest of girls in grades 4 and higher in
12 mathematics, science, and technology.

13 “(4) Summer programs designed to encourage
14 interest in and develop skills in mathematics,
15 science, and technology.

16 “(5) Purchasing software designed for girls, or
17 designed to encourage girls’ interest in mathematics,
18 science, and technology.

19 “(6) Field trips to locations that educate and
20 encourage girls’ interest in mathematics, science,
21 and technology or that acquaint girls with careers in
22 mathematics, science, and technology.

23 “(7) Purchasing and disseminating information
24 to parents of girls in grades 4 and higher that will

1 help parents to encourage their daughters' interest
2 in mathematics, science, and technology.

3 **“SEC. 15625. SECONDARY SCHOOL PROGRAM.**

4 “(a) IN GENERAL.—Local educational agencies shall
5 select secondary schools to provide services that—

6 “(1) encourage girls in grades 9 and higher to
7 major in mathematics, science, and technology in a
8 postsecondary institution;

9 “(2) provide academic advice and assistance in
10 high school course selection;

11 “(3) encourage girls in grades 9 and higher to
12 plan for careers in mathematics, science, or tech-
13 nology; and

14 “(4) educate the parents of girls in grades 9
15 and higher about the difficulties faced by girls to
16 maintain an interest and desire to achieve in mathe-
17 matics, science, and technology and enlist the help
18 of the parents in overcoming these difficulties.

19 “(b) USES OF FUNDS.—A secondary school that re-
20 ceives a subgrant under this subpart may use such funds
21 for the following:

22 “(1) Tutoring in mathematics, science, and
23 technology.

24 “(2) Mentoring relationships, both in-person
25 and through the Internet.

1 “(3) Paying 50 percent of the cost of an intern-
2 ship in mathematics, science, or technology.

3 “(4) After-school activities designed to encour-
4 age the interest of girls in grades 9 and higher in
5 mathematics, science, and technology, including the
6 cost of that portion of a staff salary to supervise
7 these activities.

8 “(5) Summer programs designed to encourage
9 interest in and develop skills in mathematics,
10 science, and technology.

11 “(6) Purchasing software designed for girls, or
12 designed to encourage girls’ interest in mathematics,
13 science, and technology.

14 “(7) Field trips to locations that educate and
15 encourage girls’ interest in mathematics, science,
16 and technology or that acquaint girls with careers in
17 mathematics, science, and technology.

18 “(8) Visits to institutions of higher education to
19 acquaint girls with college-level programs in mathe-
20 matics, science, or technology, and to meet with edu-
21 cators and female college students who will encour-
22 age them to pursue degrees in mathematics, science,
23 or technology.

1 **“SEC. 15626. APPROPRIATIONS.**

2 “There are authorized to be appropriated
3 \$500,000,000 for fiscal year 2002 and such sums as may
4 be necessary for each of the 4 succeeding fiscal years to
5 carry out the provisions of this subpart.”.

6 **SEC. 4. CREDIT FOR BUSINESSES THAT EMPLOY SCIENCE,
7 MATHEMATICS, AND TECHNOLOGY TEACH-
8 ERS IN SUMMER FELLOWSHIPS THAT ARE RE-
9 LATED TO THEIR FIELDS OF TEACHING.**

10 (a) IN GENERAL.—Subpart D of part IV of sub-
11 chapter A of chapter 1 of the Internal Revenue Code of
12 1986 (relating to business related credits) is amended by
13 adding at the end the following new section:

14 **“SEC. 45E. EMPLOYMENT OF SCIENCE, MATHEMATICS, AND
15 TECHNOLOGY TEACHERS IN SUMMER FEL-
16 LOWSHIPS THAT ARE RELATED TO THEIR
17 FIELDS OF TEACHING.**

18 “(a) IN GENERAL.—For purposes of section 38, the
19 summer fellowship credit determined under this section for
20 the taxable year is an amount equal to the qualified sum-
21 mer fellowship expenses of the taxpayer for such taxable
22 year.

23 “(b) MAXIMUM CREDIT.—The credit determined
24 under this section for any taxable with respect to qualified
25 summer fellowship expenses attributable to an eligible
26 teacher shall not exceed \$10,000.

1 “(c) QUALIFIED SUMMER FELLOWSHIP EX-
2 PENSES.—For purposes of this section—

3 “(1) IN GENERAL.—The term ‘qualified sum-
4 mer fellowship expenses’ means any amount paid or
5 incurred to carry out a qualified summer fellowship
6 program of the taxpayer but only to the extent that
7 such amount is attributable to the participation in
8 such program of any eligible teacher, including
9 amounts paid to such a teacher as a stipend while
10 participating in such program.

11 “(2) QUALIFIED SUMMER FELLOWSHIP PRO-
12 GRAM.—The term ‘qualified summer fellowship pro-
13 gram’ means any program—

14 “(A) which is established jointly by—

15 “(i) a taxpayer engaged in a trade or
16 business within an area of science, mathe-
17 matics, or technology, and

18 “(ii) an institution of higher education
19 or a John Glenn Academy (within the
20 meaning of part C of title 15 of the Ele-
21 mentary and Secondary Education Act of
22 1965),

23 “(B) under which eligible teachers receive
24 for at least 6 weeks—

1 “(i) training to enhance their teaching
2 skills in the areas of science, mathematics,
3 or technology, or

4 “(ii) otherwise improve their knowl-
5 edge in such areas, and

6 “(C) which incorporates ways to apply the
7 fellowship experience to the classroom.

8 “(3) ELIGIBLE TEACHER.—The term ‘eligible
9 teacher’ means any individual—

10 “(A) who is a teacher in grades K–12 at
11 a public educational organization described in
12 section 170(b)(1)(A)(ii) which is located in the
13 United States, and

14 “(B) whose teaching responsibilities at
15 such school include, or are likely to include, any
16 course in the areas of science, mathematics, or
17 technology.

18 “(d) DENIAL OF DOUBLE BENEFIT.—No deduction
19 shall be allowed under this chapter for any amount allowed
20 as a credit under this section.”.

21 (b) CONFORMING AMENDMENTS.—

22 (1) Section 38(b) of such Code is amended—

23 (A) by striking “plus” at the end of para-
24 graph (12),

1 (B) by striking the period at the end of
2 paragraph (13), and inserting “, plus”, and

3 (C) by adding at the end the following new
4 paragraph:

5 “(14) the summer fellowship credit determined
6 under section 45E.”.

7 (2) Subsection (d) of section 39 of such Code
8 (relating to carryback and carryforward of unused
9 credits) is amended by adding at the end the fol-
10 lowing new paragraph:

11 “(10) NO CARRYBACK OF SECTION 45E CREDIT
12 BEFORE ENACTMENT OF CREDIT.—No portion of the
13 unused business credit for any taxable year which is
14 attributable to the credit determined under section
15 45E may be carried back to a taxable year beginning
16 before the date of the enactment of this para-
17 graph.”.

18 (3) The table of sections for subpart D of part
19 IV of subchapter A of chapter 1 of such Code is
20 amended by adding at the end the following new
21 item:

“Sec. 45E. Employment of science, mathematics, and technology
teachers in summer fellowships that are related to
their fields of teaching.”.

22 (c) EFFECTIVE DATE.—The amendments made by
23 this section shall apply to taxable years beginning after
24 the date of the enactment of this Act.

1 **SEC. 5. FAIR MARKET VALUE DEDUCTION FOR CHARITABLE CONTRIBUTIONS OF SCIENCE, MATHEMATICS, OR TECHNOLOGY EQUIPMENT TO PUBLIC ELEMENTARY AND SECONDARY SCHOOLS.**

2
3
4
5
6 (a) IN GENERAL.—Subsection (e) of section 170 of
7 the Internal Revenue Code of 1986 (relating to certain
8 contributions of ordinary income and capital gain prop-
9 erty) is amended by adding at the end the following new
10 paragraph:

11 “(7) SPECIAL RULE FOR CONTRIBUTIONS OF
12 SCIENCE, MATHEMATICS, OR TECHNOLOGY EQUIP-
13 MENT FOR PUBLIC ELEMENTARY OR SECONDARY
14 SCHOOL PURPOSES.—

15 “(A) IN GENERAL.—Paragraph (1) shall
16 not apply to a qualified public elementary or
17 secondary educational contribution.

18 “(B) QUALIFIED PUBLIC ELEMENTARY OR
19 SECONDARY EDUCATIONAL CONTRIBUTION.—
20 For purposes of this paragraph, the term
21 ‘qualified public elementary or secondary edu-
22 cational contribution’ means a charitable con-
23 tribution by a corporation of any science, math-
24 ematics or technology equipment, but only if—

1 “(i) the contribution is to a public
2 educational organization described in sub-
3 section (b)(1)(A)(ii),

4 “(ii) the contribution is made not
5 later than 2 years after the date the tax-
6 payer acquired the property (or in the case
7 of property constructed by the taxpayer,
8 the date the construction of the property is
9 substantially completed),

10 “(iii) the original use of the property
11 is by the donee,

12 “(iv) substantially all of the use of the
13 property by the donee is for use within the
14 United States for educational purposes in
15 any of the grades K–12 that are related to
16 the purpose or function of the donee,

17 “(v) the property is not transferred by
18 the donee in exchange for money, other
19 property, or services, except for shipping,
20 installation and transfer costs,

21 “(vi) the property will fit productively
22 into the donee’s education plan, and

23 “(vii) the donee’s use and disposition
24 of the property will be in accordance with
25 the provisions of clauses (iv) and (v).

1 “(C) SPECIAL RULE RELATING TO CON-
2 STRUCTION OF PROPERTY.—For the purposes
3 of this paragraph, the rules of paragraph (4)(C)
4 shall apply.

5 “(D) DEFINITIONS.—For the purposes of
6 this paragraph—

7 “(i) SCIENCE, MATHEMATICS OR
8 TECHNOLOGY EQUIPMENT.—The term
9 ‘science, mathematics or technology equip-
10 ment’ means—

11 “(I) any equipment to be used in
12 the teaching of science, mathematics,
13 or technology course, and

14 “(II) any other technology equip-
15 ment.

16 “(ii) CORPORATION.—The term ‘cor-
17 poration’ has the meaning given to such
18 term by paragraph (4)(D).”

19 (b) EFFECTIVE DATE.—The amendment made by
20 this section shall apply to contributions made after the
21 date of the enactment of this Act.

○