

112TH CONGRESS  
1ST SESSION

# H. R. 3373

To stimulate collaboration with respect to, and provide for coordination and coherence of, the Nation's science, technology, engineering, and mathematics education initiatives, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 4, 2011

Mr. HONDA (for himself, Ms. BORDALLO, Mr. BUTTERFIELD, Mr. CARNAHAN, Mr. CICILLINE, Mr. CLEAVER, Mr. CONYERS, Mr. GRIJALVA, Mr. HINCHEY, Mr. McDERMOTT, Ms. MATSUI, Mr. MEEKS, Mrs. NAPOLITANO, Mr. POLIS, Mr. PRICE of North Carolina, Ms. RICHARDSON, Mr. ROTHMAN of New Jersey, Mr. RYAN of Ohio, Ms. SCHAKOWSKY, and Mr. SIRES) introduced the following bill; which was referred to the Committee on Education and the Workforce

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## A BILL

To stimulate collaboration with respect to, and provide for coordination and coherence of, the Nation's science, technology, engineering, and mathematics education initiatives, and for other purposes.

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

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the "STEM Education In-  
5 novation Act of 2011".

1 **SEC. 2. OFFICE OF SCIENCE, TECHNOLOGY, ENGINEERING,**  
2 **AND MATHEMATICS EDUCATION WITHIN THE**  
3 **DEPARTMENT OF EDUCATION.**

4 (a) ASSISTANT SECRETARY.—Section 202 of the De-  
5 partment of Education Organization Act (20 U.S.C. 3412)  
6 is amended in subsection (b)(1)—

7 (1) in subparagraph (E) by striking “and” at  
8 the end;

9 (2) by redesignating subparagraph (F) as (G);  
10 and

11 (3) by inserting after subparagraph (E) the fol-  
12 lowing:

13 “(F) an Assistant Secretary for Science,  
14 Technology, Engineering, and Mathematics  
15 Education (in this Act referred to as the ‘As-  
16 sistant Secretary for STEM Education’); and”.

17 (b) OFFICE.—Title II of the Department of Edu-  
18 cation Organization Act is amended by adding at the end  
19 the following:

20 **“SEC. 221. OFFICE OF SCIENCE, TECHNOLOGY, ENGINEER-**  
21 **ING, AND MATHEMATICS EDUCATION.**

22 “(a) IN GENERAL.—There shall be in the Depart-  
23 ment of Education an Office of Science, Technology, Engi-  
24 neering, and Mathematics Education (in this section re-  
25 ferred to as the ‘Office of STEM Education’), to be ad-

1 ministered by the Assistant Secretary for STEM Edu-  
2 cation appointed under section 202(b).

3 “(b) RESPONSIBILITIES.—The Assistant Secretary of  
4 STEM Education, acting through the Office, shall serve  
5 as the principal advisor to the Secretary on matters affect-  
6 ing science, technology, engineering, and math education,  
7 and shall administer such functions representing STEM  
8 education, including the coordination of STEM activities  
9 and programs across Federal agencies.

10 “(c) EVALUATION AND REPORT.—The Assistant Sec-  
11 retary for STEM Education shall conduct an independent  
12 evaluation, through grant or by contract, of the STEM  
13 education programs administered by the Department, at  
14 least every 5 years, which shall include—

15 “(1) conducting an assessment of STEM edu-  
16 cation activities within the Department by using the  
17 evaluations and reports of these programs to deter-  
18 mine these programs’ impact on—

19 “(A) the quantity of students taking ad-  
20 vanced placement in STEM areas and seeking  
21 STEM degrees;

22 “(B) student academic achievement in  
23 mathematics and science; and

24 “(C) the increased number of highly quali-  
25 fied STEM teachers; and

1           “(2) the preparation and submission of a report  
2           on the results of the evaluation described in para-  
3           graph (1) to the Committee on Health, Education,  
4           Labor, and Pensions and the Committee on Science  
5           of the Senate, the Committee on Education and the  
6           Workforce and the Committee on Science and Tech-  
7           nology of the House of Representatives, and the  
8           Committees on Appropriations of the Senate and the  
9           House of Representatives.

10          “(d) AUTHORIZATION OF APPROPRIATIONS.—There  
11         are authorized to be appropriated \$1,500,000 to carry out  
12         this section for fiscal year 2013 and such sums as may  
13         be necessary for each fiscal year thereafter.”.

14         **SEC. 3. EDUCATION INNOVATION PROJECT.**

15           Title II of the Department of Education Organization  
16         Act is further amended by adding at the end the following:

17         **“SEC. 221. EDUCATION INNOVATION PROJECT.**

18           “(a) ESTABLISHMENT.—There shall be in the De-  
19         partment an Education Innovation Project (referred to in  
20         this section as ‘EIP’).

21           “(b) PURPOSES.—EIP is established under this sec-  
22         tion for the purposes of pursuing breakthrough research  
23         and development in educational technology and providing  
24         the effective use of the technology to improve achievement  
25         for all students, by—

1           “(1) identifying and promoting revolutionary  
2           advances in fundamental and applied sciences and  
3           engineering that could be translated into new learn-  
4           ing technologies;

5           “(2) developing novel learning technologies, and  
6           the enabling processes and contexts for effective use  
7           of those technologies;

8           “(3) developing, testing, and evaluating the im-  
9           pact and efficacy of those technologies;

10          “(4) accelerating transformational technological  
11          advances in areas in which the private sector, by  
12          itself, is not likely to accelerate such advances be-  
13          cause of difficulties in implementation or adoption,  
14          or technical and market uncertainty;

15          “(5) coordinating activities with nongovern-  
16          mental entities to demonstrate technologies and re-  
17          search applications to facilitate technology transfer;  
18          and

19          “(6) encouraging educational research using  
20          new technologies and the data produced by the tech-  
21          nologies.

22          “(c) **AUTHORITIES OF SECRETARY.**—The Secretary  
23          is authorized to—

24                 “(1) appoint a Director, who shall be respon-  
25                 sible for carrying out the purposes of EIP, as de-

1 scribed in subsection (b), and such additional func-  
2 tions as the Secretary may prescribe;

3 “(2) establish processes for the development  
4 and execution of projects and the solicitation of enti-  
5 ties to carry out the projects in a manner that is—

6 “(A) tailored to the purposes of EIP and  
7 not constrained by other Department-wide ad-  
8 ministrative requirements that could detract  
9 from achieving program results; and

10 “(B) designed to heighten transparency,  
11 and public- and private-sector involvement, to  
12 ensure that investments are made in the most  
13 promising areas;

14 “(3) award grants, contracts, cooperative agree-  
15 ments, and cash prizes, and enter into other trans-  
16 actions (in accordance with such regulations as the  
17 Secretary may establish regarding other trans-  
18 actions);

19 “(4) make appointments of up to 20 scientific,  
20 engineering, professional, and other mission-related  
21 employees, for periods of up to 4 years (which ap-  
22 pointments may not be renewed) without regard to  
23 the provisions of title 5, United States Code, gov-  
24 erning appointments in the competitive service;

1           “(5)(A) prescribe the rates of basic pay for the  
2           personnel described in paragraph (4) at rates not in  
3           excess of the maximum rate of basic pay authorized  
4           for senior-level positions under section 5376 of title  
5           5, United States Code, notwithstanding any provi-  
6           sion of that title governing the rates of basic pay or  
7           classification of employees in the executive branch,  
8           but those personnel shall not receive any payment  
9           for service (such as an award, premium payment, in-  
10          centive payment or bonus, allowance, or other simi-  
11          lar payment) under any other provision of that title;  
12          and

13          “(B) pay any employee appointed pursuant to  
14          paragraph (4) payments in addition to that basic  
15          pay, except that the total amount of those payments  
16          for any calendar year shall not exceed the lesser  
17          of—

18                  “(i) \$25,000; or

19                  “(ii) the difference between the employee’s  
20          annual rate of basic pay under paragraph (4)  
21          and the annual rate for level I of the Executive  
22          Schedule under section 5312 of title 5, United  
23          States Code, based on the rates in effect at the  
24          end of the applicable calendar year (or, if the

1 employee separated during that year, on the  
2 date of separation);

3 “(6) obtain independent, periodic, rigorous eval-  
4 uations, as appropriate, of—

5 “(A) the effectiveness of the processes EIP  
6 is using to achieve its purposes; and

7 “(B) the effectiveness of individual projects  
8 assisted by EIP, using evidence standards de-  
9 veloped in consultation with the Institute of  
10 Education Sciences, and the suitability of ongo-  
11 ing projects assisted by EIP for further invest-  
12 ment or increased scale; and

13 “(7) disseminate, through the comprehensive  
14 centers established under section 203 of the Edu-  
15 cational Technical Assistance Act of 2002 (20  
16 U.S.C. 9602), the regional educational laboratories  
17 system established under section 174 of the Edu-  
18 cation Sciences Reform Act of 2002 (20 U.S.C.  
19 9564), or such other means as the Secretary deter-  
20 mines to be appropriate, information on effective  
21 practices and technologies developed with EIP sup-  
22 port.

23 “(d) EVALUATION FUNDS.—The Secretary may use  
24 funds made available for EIP to pay the cost of the eval-  
25 uations under subsection (c)(6).



1       “(e) FEDERAL ADVISORY COMMITTEE ACT.—Not-  
2 withstanding any other provision of law, any advisory com-  
3 mittee convened by the Secretary to provide advice with  
4 respect to this section shall be exempt from the require-  
5 ments of the Federal Advisory Committee Act (5 U.S.C.  
6 App.) and the definition of ‘employee’ in section 2105 of  
7 title 5, United States Code, shall not be considered to in-  
8 clude any appointee to such a committee.

9       “(f) NONDUPLICATION.—To the maximum extent  
10 practicable, the Secretary shall ensure that grants, con-  
11 tracts, cooperative agreements, cash prizes, or other as-  
12 sistance or arrangements awarded or entered into pursu-  
13 ant to this section that are designed to carry out the pur-  
14 poses of EIP do not duplicate activities under programs  
15 carried out under Federal law other than this section by  
16 the Department or other Federal agencies.”.

17 **SEC. 4. STATE CONSORTIUM ON SCIENCE, TECHNOLOGY,**  
18 **ENGINEERING, AND MATHEMATICS EDU-**  
19 **CATION.**

20       (a) IN GENERAL.—From amounts made available to  
21 carry out this section, the Secretary of Education, acting  
22 through the Office of STEM Education, shall award com-  
23 petitive grants to eligible consortia to enable each such  
24 eligible consortium to establish a State Consortium on  
25 Science, Technology, Engineering, and Mathematics Edu-

1 cation (which may be referred to in this section as a  
2 “State Consortium on STEM Education”).

3 (b) ELIGIBLE CONSORTIUM DEFINED.—In this sec-  
4 tion, the term “eligible consortium” means a State-based  
5 STEM council, network, group, or advisory board which  
6 includes the participation of State officials, educators, ad-  
7 ministrators, parents, business leaders, and representa-  
8 tives from the science and engineering communities who  
9 have formed to increase student achievement in the STEM  
10 areas in their State.

11 (c) PEER REVIEW AND SELECTION.—The Secretary  
12 shall—

13 (1) establish a peer-review process to assist in  
14 the review and approval of the grant proposals sub-  
15 mitted by eligible consortia under this section; and

16 (2) with the assistance of the peer-review proc-  
17 ess, approve grants from the grant proposals sub-  
18 mitted under this section not later than 120 days  
19 after the deadline for submission of such proposals  
20 established by the Secretary, unless the Secretary  
21 determines that the grant proposals submitted do  
22 not meet the requirements of this section.

23 (d) TOTAL AMOUNT OF GRANTS.—The total amount  
24 of grants made under this section in any fiscal year may  
25 not exceed \$20,000,000.

1           (e) USE OF GRANT FUNDS.—Each eligible consor-  
2     tium receiving a grant under this section shall use the  
3     grant funds awarded under this section to establish a  
4     State consortium on STEM education to carry out the fol-  
5     lowing:

6           (1) To support at least one full-time staff mem-  
7     ber for each State.

8           (2) To test, validate, share, and scale STEM  
9     education research, promising practices, and exem-  
10    plary programs among members of the consortium  
11    and with other State consortia on STEM education  
12    established under this section.

13          (3) To identify points of weakness and strength  
14    among State STEM education efforts, prioritize  
15    strategies for addressing problem areas, and commu-  
16    nicate State needs to the STEM Education Com-  
17    mittee within the OSTP and the Assistant Secretary  
18    for STEM Education.

19          (4) To assist in the implementation of rigorous  
20    common content standards in mathematics and  
21    science education for grades prekindergarten  
22    through grade 12, which reflect common elements  
23    between such disciplines and take into consider-  
24    ation—

1 (A) established international standards and  
2 21st century skills; and

3 (B) the needs of English language learners  
4 and special education students.

5 (5) To assist and support, the development and  
6 implementation of innovative STEM assessments  
7 based on common content standards in mathematics  
8 and science.

9 (6) To promote and develop curriculum tools  
10 and professional development for in-service STEM  
11 teachers that foster innovation and inventiveness.

12 (7) To develop STEM Career Awareness Pro-  
13 grams in collaboration with school guidance coun-  
14 selors that reflect the projected STEM workforce  
15 needs of the 21st century that may include men-  
16 toring programs and STEM professional outreach.

17 (8) To develop STEM-related workforce edu-  
18 cation and training programs to enhance the skills  
19 of workers to meet the needs of business and indus-  
20 try.

21 (f) MATCHING REQUIREMENT.—In order to receive  
22 a grant under this section, an eligible consortium shall  
23 agree to provide, either directly or through private con-  
24 tributions, non-Federal matching funds equal to not less  
25 than 30 percent of the amount of the grant.

1 (g) EVALUATION AND REPORT.—Each State Consor-  
2 tium on STEM Education established under this section  
3 shall—

4 (1) conduct periodic independent evaluations,  
5 by grant or by contract, of the State Consortium on  
6 STEM Education’s effectiveness at accomplishing  
7 the activities described in subsection (e), which shall  
8 include an assessment of the impact of such activi-  
9 ties on STEM teaching and learning; and

10 (2) prepare and submit a report on the results  
11 of each evaluation described in paragraph (1) to the  
12 Assistant Secretary of STEM Education.

13 (h) PROHIBITIONS.—In implementing this section,  
14 the Secretary may not—

15 (1) endorse, approve, or sanction any STEM  
16 curriculum designed for use in any elementary  
17 school or secondary school; or

18 (2) engage in oversight, technical assistance, or  
19 activities that will require the adoption of a specific  
20 STEM program or instructional materials by a  
21 State, local educational agency, or school.

22 (i) DEFINITIONS.—In this section:

23 (1) The terms “elementary school”, “local edu-  
24 cational agency”, and “secondary school” have the  
25 meanings given such terms in section 9101 of the

1 Elementary and Secondary Education Act of 1965  
2 (20 U.S.C. 7801).

3 (2) The term “Office of STEM Education”  
4 means the Office of Science, Technology, Engineer-  
5 ing, and Mathematics Education of the Department  
6 of Education.

7 (3) The term “OSTP” means the Office of  
8 Science and Technology Policy in the Executive Of-  
9 fice of the President.

10 (4) The term “Secretary” means the Secretary  
11 of Education.

12 (5) The term “State” means each of the several  
13 States of the United States, the District of Colum-  
14 bia, the Commonwealth of Puerto Rico, Guam, the  
15 Commonwealth of Northern Mariana Islands, Amer-  
16 ican Samoa, and the United States Virgin Islands.

17 (6) The term “STEM” means science, tech-  
18 nology, engineering, and mathematics.

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