H. R. ______

To direct the National Science Foundation to support STEM education research focused on early childhood.

IN THE HOUSE OF REPRESENTATIVES

M___. __________ introduced the following bill; which was referred to the Committee on ________________

A BILL

To direct the National Science Foundation to support STEM education research focused on early childhood.

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 "Building Blocks of
5 STEM Act".
6 SEC. 2. FINDINGS.
7 Congress finds the following:
(1) The National Science Foundation is a large investor in STEM education and plays a key role in setting research and policy agendas.

(2) While studies have found that children who engage in scientific activities from an early age develop positive attitudes toward science and are more likely to pursue STEM expertise and careers later on, the majority of current research focuses on increasing STEM opportunities for middle school-aged children and older.

(3) Women remain widely underrepresented in the STEM workforce, and this gender disparity extends down through all levels of education.

SEC. 3. SUPPORTING EARLY CHILDHOOD STEM EDUCATION RESEARCH.

In awarding grants under the Discovery Research PreK–12 program, the Director of the National Science Foundation shall consider the age distribution of a STEM education research and development project to improve the focus of research and development on early childhood education.
SEC. 4. SUPPORTING FEMALE STUDENTS IN PREKINDERGARTEN THROUGH ELEMENTARY SCHOOL IN STEM EDUCATION.

Section 305(d) of the American Innovation and Competitiveness Act (42 U.S.C. 1862s–5(d)) is amended by adding at the end the following:

"(3) RESEARCH.—As a component of improving participation of women in STEM fields, research funded by a grant under this subsection may include research on—

"(A) the role of teacher training and professional development, including effective incentive structures to encourage teachers to participate in such training and professional development, in encouraging or discouraging female students in prekindergarten through elementary school from participating in STEM activities;

"(B) the role of teachers in shaping perceptions of STEM in female students in prekindergarten through elementary school and discouraging such students from participating in STEM activities;

"(C) the role of other facets of the learning environment on the willingness of female students in prekindergarten through elementary school to participate in STEM activities, includ-
ing learning materials and textbooks, classroom
decorations, seating arrangements, use of media
and technology, classroom culture, and gender
composition of students during group work;

"(D) the role of parents and other care-
givers in encouraging or discouraging female
students in prekindergarten through elementary
school from participating in STEM activities;

"(E) the types of STEM activities that en-
courage greater participation by female stu-
dents in prekindergarten through elementary
school;

"(F) the role of mentorship and best prac-
tices in finding and utilizing mentors;

"(G) the role of informal and out-of-school
STEM learning opportunities on the perception
of and participation in STEM activities of fe-
male students in prekindergarten through ele-
mentary school; and

"(H) any other area the Director deter-
mines will carry out the goal described in para-
graph (1).". 
SEC. 5. SUPPORTING FEMALE STUDENTS IN PREKINDER-
GARTEN THROUGH ELEMENTARY SCHOOL IN
COMPUTER SCIENCE EDUCATION.

Section 310(b) of the American Innovation and Com-
petitiveness Act (42 U.S.C. 1862s–7(b)) is amended by
adding at the end the following:

"(3) USES OF FUNDS.—The tools and models
described in paragraph (2)(C) may include—

"(A) offering training and professional de-
velopment programs, including summer or aca-
demic year institutes or workshops, designed to
strengthen the capabilities of prekindergarten
and elementary school teachers and to familiar-
ize such teachers with the role of gender bias
in the classroom;

"(B) offering innovative pre-service and in-
service programs that instruct teachers on gen-
der-inclusive practices for teaching computing
concepts;

"(C) developing distance learning pro-
grams for teachers or students, including devel-
oping curricular materials, play-based com-
puting activities, and other resources for the in-
service professional development of teachers
that are made available to teachers through the
Internet;
“(D) developing or adapting prekindergarten and elementary school computer science curricular materials that incorporate contemporary research on the science of learning, particularly with respect to gender inclusion;

“(E) developing and offering gender-inclusive computer science enrichment programs for students, including after-school and summer programs;

“(F) providing mentors for female students in prekindergarten through elementary school in person and through the Internet to support such students in participating in computer science activities;

“(G) engaging female students in prekindergarten through elementary school and their guardians about the difficulties faced by such students to maintain an interest in participating in computer science activities;

“(H) acquainting female students in prekindergarten through elementary school with careers in computer science and encouraging such students to consider careers in such field;

“(I) developing tools to evaluate activities conducted under this subsection; and
"(J) any other tools or models the Director determines will accomplish the aim described in paragraph (2)(C)."