

Balance the Equation Rules and Guidelines

A Grand Challenge for Algebra 1

Applications due no later than **Friday, November 06, 2020**, at **Noon U.S. Pacific Time**

I. Overview

Grand Challenges is a family of initiatives fostering innovation that historically solve key problems in global health and development for those most in need. These initiatives use challenges to focus attention and effort on specific problems. They can be traced back to over a century ago when a mathematician named David Hilbert defined a set of unsolved problems to spark progress in the field of mathematics. Each initiative is an experiment in the use of challenges to focus innovation on having an effect.

Key Information About This Grand Challenge:

- A multi-question application through SurveyMonkey Apply portal (Open Wednesday, October 7, 2020 at 5:00AM PT to Friday, November 6, 2020 at Noon PT).
- Awards of US\$100,000 will be made initially in Phase 1: Planning and Prototyping. Any future rounds of funding will be determined by the Gates Foundation upon completion of the first round.
- This Grand Challenge is open to applications globally.
- Awardees will work with our learning partner, [American Institutes for Research \(AIR\)](#).

Tips for Applicants

- Your application must demonstrate an innovative approach that complies with all restrictions and guidelines. The foundation only funds projects responsive to the call (as outlined in the Balance the Equation Grand Challenge and website) as it has a number of other avenues of funding within currently accepted program paradigms.
- In addition to subject matter experts, your application will be reviewed by a panel with broad expertise and a track record in identifying innovations – these reviewers may not be deep domain experts in your field. You must describe your idea in clear language without the use of jargon unique to your field. (Not all reviewers have deep expertise in the topic; please consider this information when drafting your application.)
- The work proposed in your application must include a clear alignment to an area(s) of focus in a way that could provide sufficient evidence to warrant funding. Applications with vague descriptions or an inability to sufficiently incorporate priority students, Black, Latino, English learners, and/or students experiencing poverty in the United States, will not be funded.

II. Application Instructions

Schedule

The grant process is broken into **two Phases: Planning and Prototyping and Pilot Study.***

In both Phases, grantees will partner with AIR to plan for a pilot study by developing study plans that specify the mechanisms by which your solution is hypothesized to improve key priority student outcomes. This includes developing a list of learning questions, determining which measures and data sources are needed to address the learning questions, and identifying Title 1 schools in which to conduct the pilot study. Grantees selected for Phase 2 will continue to partner with AIR and participating sites to collect data and conduct the pilot study during the 2021-2022 and/or 2022-2023 school year.

Phase 1: Planning and Prototyping 4 months

10-15 US\$100,000 awards in funding for planning and prototyping

- Application Opens: October 7th, 2020 at 5:00AM U.S. Pacific Time
- Application Closes: November 6th, 2020 at Noon U.S. Pacific Time
- Applications Reviewed: November-December 2020
- Applicants Informed: December 2020–January 2021
- Awardees Announced: February 2021
- Collaborate on study plan with AIR: February–May 2021

Grantees from Phase 1 can then apply for:

Phase 2: Pilot Study 13-24 months

8-10 awards up to US\$1 million in funding for prototyping and implementation

- Application Opens: April 26th, 2021
- Application Closes: May 14th, 2021
- Applications Reviewed: May–June 2021
- Applicants Informed: July 2021
- Awardees Announced: August 2021
- Pilot studies conducted with AIR, in partnership with grantees and participating sites— Three rounds, beginning: Fall 2021, Winter/Spring 2022 (January 2022 start date) and Fall 2022

***Note, any changes to these dates will be posted on the Grand Challenges website.**

How to Apply

Any changes to the Rules and Guidelines will be posted on the Challenge’s page of the Grand Challenges website (gcgh.grandchallenges.org), including any changes to the dates listed above.

Subject to the foundation's [Website Terms of Use and Privacy and Information Policy](#), the foundation may share information you provide to us (either orally or in writing) with third parties, including external reviewers, key partners and co-funders.

An applicant may submit only one application as the lead organization. Submit your best idea. You may submit multiple ideas in partnership with collaborators, but an organization may lead the submission of only one application. **Applications must be submitted through our [online portal](#) by responding to the questions within SurveyMonkey Apply. Applications submitted via email will not be considered.** If you are an existing user, you can log in to your existing account. new users must create an account. The submission system will allow you to save your work as you progress, return to it, and then submit when you are ready up until the challenge closes on **Thursday, November 06, 2020 at Noon U.S. Pacific Time.**

Application Format

Applications will be housed and completed within the SurveyMonkey Apply portal. Only responses and uploads provided there will be reviewed. No materials submitted via email are required.

Applications must be submitted prior to the submission deadline of Friday, November 06, 2020 at Noon U.S. Pacific Time.

During the application process you will be required to confirm that you have read and understand the [Website Terms of Use and Privacy and Information Policy](#) and these Rules and Guidelines, and acknowledge that any information that you provide to us (either orally or in writing) will be subject to and handled in accordance with such provisions.

Eligibility Criteria

This Grand Challenge is open to organizations globally; including non-profit organizations, and for-profit companies. Organizations based outside the United States are eligible to apply but will need to be able to pilot their solution in the United States during Phase 2: Pilot Study.

Upon registration, applicants must provide information about the tax status of their organization as different terms and conditions may apply. You should confirm your organization's tax status with the appropriate advisor or entity within your organization such as your grants or contracts department, finance, or office of sponsored research. The foundation may request additional information regarding your tax status. For information about tax statuses, you may check with your own advisors and review information provided [here](#).

III. Review Process

The review of applications is a critical element of the Grand Challenges initiative - its goal is to filter and harness creative ideas. For each challenge call, we advertise a set of challenges carefully defined to elicit innovative responses to critical barriers in global health, education, and development.

Handling of Applications

The foundation has put in place policies and procedures, exclusive to the Grand Challenges initiative, intended to restrict public dissemination of application materials. These policies and procedures include, when possible, having external reviewers sign confidentiality agreements (NDAs) and requiring that reviewers destroy or return to the foundation all copies of information acquired or created during the course of performing a review.

Additionally, the foundation is required by the IRS to publish a list of its grants. The foundation also provides general descriptions of its grants on its web sites, in press releases, and in other marketing materials. Subject to this [Privacy Policy](#), the foundation may also share information you provide to us (either orally or in writing) with third parties, including external reviewers, consultants, contingent workers, key partners, and co-funders. These Rules and Guidelines are subject to these [Terms of Use](#).

Review of Applications

Due to the large number of applications anticipated, applicants with solutions that are not selected for this award will receive a notification of decline without specific feedback. Nonetheless, applicants are encouraged to submit ideas in future years.

The review process for this Grand Challenge is executed in four steps:

1. The first step consists of screening submissions to evaluate whether applications address the key needs of Priority Students as it relates to an area of focus. We screen for responses that are completely unrelated or specifically excluded in the solution description. In addition, we exclude applications considered incremental advances, responses similar to work in which the foundation is already investing, or avenues of inquiry we deem ill-suited to the Grand Challenge initiative. Applicants with a solution removed from consideration during the screening process will be notified that their applications were declined but will not typically receive specific feedback.
2. In the second step, responsive applications are reviewed. The reviews are chaired by a foundation program lead and are conducted by reviewers both outside and within the foundation. Applications will be reviewed by internal Gates Foundation staff as well as external subject matter experts and thought leaders within the realm of math relevance, content, language, assessment, professional learning, instructional practices, and the deep expertise centered around the needs of our priority students. (Not all reviewers have deep expertise in the topic; please consider this information when drafting your application.) Unlike most grant initiatives, individual reviewers

are empowered to make funding decisions about a portion of the portfolio, without consensus on selections. The criteria considered in these reviews are:

- **Responsiveness to the Areas of Focus:** Does the application address the Areas of Focus as it relates to Priority Students? Please note the types of ideas/solutions above that will not be funded.
 - **Innovative Approach:** Does the concept address the defined problem in an uncommon way or provide a creative approach to the problem outlined? Does the application describe how the project varies from current approaches, or offers new premises or hypotheses to test?
 - **Collaborative Priority Student Involvement:** Does the concept include a clear plan for engaging Priority Students? Does the concept contain a feedback loop to iterate and evaluate positive impact?
 - **Partnership with AIR:** Does the concept show a clear understanding that they are expected to develop a measurement and evaluation plan with our partner?
 - **Likelihood of Success:** Does the application include a clear and realistic rationale for success in the 2021-2022 or 2022-2023 school year?
 - **Curriculum Alignment:** Does the concept align or cohere with a high-quality Algebra 1 curriculum appropriate for an 8th or 9th grade student?
 - **Blended Learning Environment (COVID-19):** Does the concept include technology and/approaches that address physical and virtual learning environments? Does the concept include technologies that have already scaled?
 - **Emphasis on Targeted Universalism:** Does the concept help extend our belief that by setting universal goals pursued by targeted processes, we can achieve goals for all groups concerned?
3. The third step is the validation and final selection. This is done by an Executive Committee at the foundation, chaired by a foundation leader in education. Final selection for Phase 1: Planning and Prototyping grants will be made from the applications selected by reviewers (see above #2 for more detail on reviewers).
4. The fourth and final step is a due diligence review to ensure that applicants are appropriate recipients of foundation funds. Applicants will be contacted as part of the due diligence review.

Information needed as part of a due diligence review may include:

- The organization's legal name and doing business as (if applicable)
- The organization's last two years' audited (if available, otherwise, unaudited) financial statements
- The organization's current year operating budget and future year budget projections (income and expenses)
- The organization's tax status and Employer Identification Number (if based in the U.S.)
- The completion of a due diligence questionnaire

Management of Conflict of Interest

To identify and avoid conflicts of interest among application reviewers, such reviewers will not be permitted to review applications from organizations with which the reviewer has self-identified conflicts of interest.

IV. Key Elements of this Grand Challenge Topic

The provisions have been developed specifically for this Grand Challenge initiative and **are not negotiable**. You are advised to ensure that your institution can accept the provisions of the relevant Agreement at the time of application submission. If your solution is selected, you will have only a few weeks after notification of the award in which to have the appropriate institutional officer sign the Agreement and return it to the foundation.

1. Projects have a term of 4 months (for Phase 1: Planning and Prototyping) beginning on the project start date. The amount awarded is up to US\$100,000.
2. Project funds may not be used to reimburse expenses incurred prior to the project start date.
3. The applicant must return a fully executed agreement to the foundation no later than the date and time indicated by the Grants and Contracts Services team to receive this Grand Challenge award. Funds will be disbursed upon the foundation's receipt of a fully executed agreement.
4. Grant funds may be used for the following costs: personnel, necessary travel, supplies, contracted services, subgrants, and consultants. Partial or full support for equipment may be requested subject to the circumstances described below. Please provide budget estimates according to these categories. The foundation provides a limited amount of indirect costs based on the nature of the applicant organization.
5. Project funds may not be used to enroll human subjects in any research project subject to Institutional Review Board (IRB) or Independent Ethics Committee (IEC) approval until such approval has been obtained for each site.
6. Awardees must agree to conduct and manage the project and the products, services, processes, technologies, materials, software, data, other innovations, and intellectual property resulting from the project (including modifications, improvements, and further developments to "Background Technology") in a manner that ensures "Global Access." See the Global Access Section of the Sample Agreements for more information about these obligations.
7. Awardees must agree to abide by the foundation's [Open Access Policy](#) which requires all peer-reviewed published research, and underlying data sets resulting from foundation funded research

to be immediately available upon publication. As noted in the [Open Access Policy](#), the foundation is responsible for individual article processing charges and fees to the extent required to comply with the foundation's [Open Access Policy](#). These fees should not be included in project budgets. Open access management and fees will be managed via Chronos, a new service for foundation-funded research. Chronos simplifies and manages the process of publishing under the foundation's Open Access Policy terms. Primary contacts will receive a Chronos account activation email 6 weeks after the agreement start date.

The Agreement and specific provisions that apply to a project depend on the tax status of the applicant. **We strongly encourage you to share these provisions and the [Sample Terms and Conditions](#) frequently included in the foundation's Grant Agreements with the appropriate person or group within your organization such as your grants and contracts department, legal department, finance, or office of sponsored research at the time you submit your application to ensure that your organization can agree to the relevant provisions.** More information on the foundation's Global Access and Humanitarian License policies can be found on the Gates Foundation's website (gatesfoundation.org) and are linked below.

- [Grant Agreement Sample Terms and Conditions](#)
- [Global Access Policy](#)
- [Humanitarian License Frequently Asked Questions](#)

V. Eligibility and Notifications

A. Allowable Costs

Grant funds may be used for the following costs: personnel, necessary travel, supplies, contracted services, sub-grants, and consultants. Partial or full support for equipment may be requested subject to the circumstances described below. Please provide budget estimates according to these categories. The foundation provides a limited amount of indirect costs based on the nature of the applicant organization.

B. Privacy Notice

To help foundation staff in their evaluation and analysis of projects, all documents, communications and associated materials submitted to the foundation (collectively, "Submission Materials") will become the property of the foundation and may be subject to external review by independent subject matter experts in addition to analysis by foundation employees, contingent workers and/or consultants. Please consider carefully the information included in the Submission Materials. If you have any doubt about whether to disclose confidential or proprietary information, the foundation recommends you consult with your legal counsel. You may wish to consider whether such information is critical for evaluating the submission, and whether more general, non-confidential information may be adequate as an alternative for these purposes. We respect confidential information we receive. Nonetheless, notwithstanding your characterization of any information as being confidential, the foundation may disclose all information contained in Submission Materials to the extent it determines is necessary to evaluate them and the manner and scope of potential funding and as may be required by law.

C. Disclaimer

Neither these Rules & Guidelines nor the associated challenge calls constitute an offer to contract or award grant funds. The foundation assumes no responsibility for the applicants' cost to respond to these calls.

D. Release and Verification

In exchange for the opportunity to be considered for a grant, contract or program-related investment (PRI) (per the relevant challenge call), the applicant agrees that the foundation may, in its sole discretion: (1) amend or cancel any challenge calls, in whole or in part, at any time; (2) extend the deadline for submitting responses; (3) determine whether a response does or does not substantially comply with the requirements of the challenge call and/or these Rules & Guidelines; (4) waive any minor irregularity, informality or nonconformance with the provisions or procedures of the challenge call and/or these Rules & Guidelines; (5) issue multiple awards; (6) share responses generated by the challenge call and/or these Rules & Guidelines with foundation staff, consultants, contingent workers, subject matter experts, and potential co-funders; and (7) copy the responses.

Applicant agrees not to bring a legal challenge of any kind against the foundation relating to the foundation's selection and award of any grant, contract, or award arising from these Rules & Guidelines and the associated challenge calls.

E. Warranty

By providing any Submission Materials, the sender(s) and applicant warrant to the foundation that they have the right to provide the information submitted and that such information is accurate. Any material misrepresentation, including omissions, may disqualify Submission Materials from consideration for a grant, contract or PRI award. Applicants with questions concerning the contents of their Submission Materials may contact the foundation at: grandchallenges@gatesfoundation.org.

F. Intellectual Property (IP)

Since the output of this program may lead to innovative technologies, techniques and/or products that will result in improved health and development-related products for those in greatest need in the developing world, the successful development of these high priority products may require substantial involvement and support of private sector industries as sub-contractors, and may also involve collaborations with multiple organizations, including academic and/or non-profit research institutions. It is the intent of this program to support the formation of appropriate public-private partnerships that are essential to meet urgent global health and global development needs. IP rights and the management of IP rights are likely to play an important role in achieving the goals of this program. To this end, the foundation requires that, even at the LOI application stage, all applicants seriously consider their willingness to submit a full proposal in compliance with the foundation's proposal guidelines, a portion of which asks for certain information and intentions regarding intellectual property and global access concerns. Specifically, the foundation requires that you agree to use good faith efforts to conduct and manage the research, technologies, information and innovations involved in the Project in a manner that enables (a) the knowledge and information gained during the Project to be promptly and broadly

disseminated, and (b) the intended product(s) to be made available and accessible at an affordable price to people most in need in the developing countries of the world. The foundation refers to this as “Global Access.” As part of the foundation’s review and evaluation of each full proposal, due diligence will be conducted with respect to each participant’s ability and commitment to manage intellectual property in a manner consistent with the stated scientific and charitable goals of the foundation. Due diligence activities may include inquiry into an applicant’s: (1) Freedom to operate (FTO) and ability to freely use and acquire needed background technology; and (2) Commitment to promote the utilization, commercialization and availability of inventions for public benefit in, or the benefit of, developing countries. In order to facilitate this due diligence process applicants are encouraged to provide information with respect to the items above in their Submission Materials.

Applicants are also expected to make new information and materials known to the research and/or medical communities in a timely manner through publications, web announcements, progress reports to the foundation, and other appropriate mechanisms. These concepts may be discussed at some length with the applicants invited to submit full proposals and will be addressed (to the extent appropriate) within each final grant agreement. The Global Access Strategy, developed in connection with each grant awarded to each applicant who submits a successful proposal, will also include provisions defining these concepts.

G. Compliance with Laws and Other Requirements

Compliance with Laws: In carrying out the individual project, you will comply with all applicable laws, regulations, and rules and will not infringe, misappropriate, or violate the intellectual property, privacy, or publicity rights of any third party.

Compliance with Requirements: You will conduct, control, manage, and monitor the individual project in compliance with all applicable ethical, legal, regulatory, and safety requirements, including applicable international, national, local, and institutional standards (“Requirements”). You will obtain and maintain all necessary approvals, consents, and reviews before conducting the applicable activity. As a part of your annual progress report to the foundation, you must report whether the individual project activities were conducted in compliance with all Requirements.

If the project involves: (a) any protected information (including personally identifiable, protected health, or third-party confidential), You will not disclose this information to the foundation without obtaining the foundation’s prior written approval and all necessary consents to disclose such information; (b) children or vulnerable subjects, you will obtain any necessary consents and approvals unique to these subjects; and/or(c) any trial involving human subjects, you will adhere to current Good Clinical Practice as defined by the International Council on Harmonisation (ICH) E-6 Standards (or local regulations if more stringent) and will obtain applicable trial insurance. Any activities by the foundation in reviewing documents and providing input or funding does not modify your responsibility for determining and complying with all Requirements for the project.

Indemnification: If the project involves clinical trials, trials involving human subjects, post-approval studies, field trials involving genetically modified organisms, experimental medicine, or the provision of medical/health services (“Indemnified Activities”), you will indemnify, defend, and hold harmless the foundation and its trustees, employees, and agents (“Indemnified Parties”) from and against any and all demands, claims, actions, suits, losses, damages (including property damage, bodily injury, and wrongful death), arbitration and legal proceedings, judgments, settlements, or costs or expenses (including reasonable attorneys’ fees and expenses) (collectively, “Claims”) arising out of or relating to the acts or omissions, actual or alleged, of you or your employees, subgrantees, subcontractors, contingent workers, agents, and affiliates with respect to the Indemnified Activities. You agree that any activities by the foundation in connection with the project, such as its review or proposal of suggested modifications to the project, will not modify or waive the foundation’s rights under this paragraph. An Indemnified Party may, at its own expense, employ separate counsel to monitor and participate in the defense of any Claim. Your indemnification obligations are limited to the extent permitted or precluded under applicable federal, state or local laws, including federal or state tort claims acts, the Federal Anti-Deficiency Act, state governmental immunity acts, or state constitutions. Nothing in this agreement will constitute an express or implied waiver of your governmental and sovereign immunities, if any.

Insurance: You will maintain insurance coverage sufficient to cover the activities, risks, and potential omissions of the project in accordance with generally accepted industry standards and as required by law. You will ensure your subgrantees and subcontractors maintain insurance coverage consistent with this section.

VI. Reporting

If awarded a grant, reporting expectations during the grant period will include:

1. Develop a plan for a pilot study.

The Gates Foundation has partnered with AIR to further develop and study the extent to which grantees ideas or solutions improve key priority student outcomes, including experience in math classrooms, positive identity as mathematicians, and math growth and proficiency. Grand Challenge awardees will work with AIR to develop a plan to study and, where appropriate, further develop their idea or solution. The plan will include the learning questions to be answered, the measurement tools that will be used to answer them, and a schedule for data collection and reporting. Data collection activities may include teacher and student interviews or focus groups, teacher and student surveys, student work samples, and test scores. To answer broader research questions across the portfolio of Grand Challenge awardees, several of the data collection activities will be common across awardees’ plans.

2. Submit a proposal to apply for Phase 2: Pilot Study (up to US\$1M to carry out the pilot study during the 2021-2022 or 2022-2023 school year).

3. Submit a final report.

All Grand Challenge awardees must prepare and submit a final report. Awardees must submit the report electronically by the date described in the Reporting section of the Agreements. The report should be a cumulative, stand-alone document that describes the work performed with the project funds during the project term. The programmatic section of the report must include any technical data gathered, models developed, and summary conclusions. The financial section of the report should include an account of the manner in which you spent the project funds.

Additionally, Grand Challenge awardees will be required to participate in the online outputs and outcomes reporting system operated by Researchfish, the vendor selected by the foundation for this purpose, during the term of the award and for four years after the award term. The foundation will provide the awardees with guidance after the award regarding the timing and scope of required reporting through the Researchfish platform.

VII. Terms of Use, Privacy Notice and Information Security

This document and your application are subject to the Terms of Use and Privacy & Information Security Policy which are located at <https://gcgh.grandchallenges.org/privacy-policy-and-terms-use>.

Representation: By providing any Submission Materials, the sender represents to the Bill & Melinda Gates Foundation that he/she (i) has the authority to bind the named Applicant to the terms set forth above, without amendment, (ii) agrees to be bound by such terms; and (iii) has the right to provide the information submitted.

VIII. Inquiries

Please direct all questions about this initiative, selection criteria, or application instructions by e-mail to the following address: GrandChallenges@gatesfoundation.org