# U.S. NATIONAL INNOVATOR CHALLENGE™



## STUDENT HANDBOOK

### A How-To Guide

**HEWITT** *Learning*

# Getting Started

THE NATIONAL INNOVATOR CHALLENGE (NIC) is an annual challenge designed to provide K-12 students from across the United States a pathway to the Global Innovation Challenge. It is a place for innovators to share, compete, and be celebrated for their brilliant Ideas, Apps, and Prototypes.

## ELIGIBILITY REQUIREMENTS

- Must be a grade K-12 (or the equivalent) student, residing in the U.S. (for teams, one member must reside in the U.S.)
- Must register as an individual, or team (up to three students), but not both
- Must have an original Idea, App or Prototype to submit

## Idea Challenge

Participants have completed a solution (design & execution plan) addressing a real-world problem. They have finished identifying, understanding, ideating, designing, and recording the whole process in an logbook or journal. There could be a drawing, mockup, or static model showing the parts, but it does not actually work. There could also be a functional project, organization, or process plan. The solution is conceptual.

## App Challenge

Participants have created and coded an app or software program solving a real-world problem, recording the whole process in a logbook or journal. They have a functioning program that is capable of operation to some degree, even though it may not work perfectly.

## Prototype Challenge

Participants have completed a physical invention prototype solving a real-world problem, recording the whole process in a logbook or journal. They have a functioning model that is capable of operation to some degree, even though it may not work perfectly. It does not have to be the correct size or made of the correct materials.

# How to Enter the Challenge

Students will develop an idea, app, or prototype that solves a problem. They will develop, test, and pitch their original project as part of the National Innovator Challenge (NIC).

**01**

Submissions are accepted in the following categories: Idea, App and Prototype. This is how each category is defined:

- Idea — The innovation is a detailed design of a future App, Prototype, Program or Organization, created with words, pictures, calculations, plans on paper or electronically. There may be a physical display model, but the model has no functionality. Examples:
  - Design of a device to feed the dog.
  - Design of a program to distribute unused food.
- App — The innovation consists of an application or software program strictly on a microcontroller, computer, tablet, phone, or other electronic device, that does not extend beyond the device. Examples:
  - Software program to operate the device to feed the dog.
  - Software to keep track of the quality, quantity, and location of unused food.
- Prototype — The innovation is a tangible device or product that has been constructed and has some, if not all, of the functions and capabilities that it might need to be actually used in the real world. It is allowable to not be made of the correct materials; it may not be the correct size, and it may certainly not work as well as it should, but it does have the ability to perform at least some of the functions it is intended to do. Examples:
  - "Working" model of a device to feed the dog.
  - Device to transport food to the people who need it.

**02**

Each submission will require the following pieces:

- Pitch Video - details and guidance on page 5
- Logbook/Journal - details and guidance on page 5
- Registration Fee - there is a $30 nonrefundable fee for each member of the team
- Participant's information - includes name, gender, grade, city, parent name(s), and email for each member of the team
- Project information - includes the name of your idea, app, or prototype, a corresponding description, the problem it solves, how your idea, app, or prototype works
- Image - detailed photo of the prototype, screenshot of the app code, diagram or outline of the idea
- Presentation slides - a presentation not longer than 6 slides using PowerPoint, Keynote, or Google Slides and saved as PDF or .pptx

**03**

Submissions will be assessed by a panel of volunteer advisors using the rubric on page 6. Each submission will receive feedback including ways they can improve. The top submissions will be invited to a live event via Zoom where students will present their projects to other competitors and adult advisors. The top innovators at the live event will earn an invitation to the Global Innovation Challenge (hereafter referred to as GIC).

# To-Do List
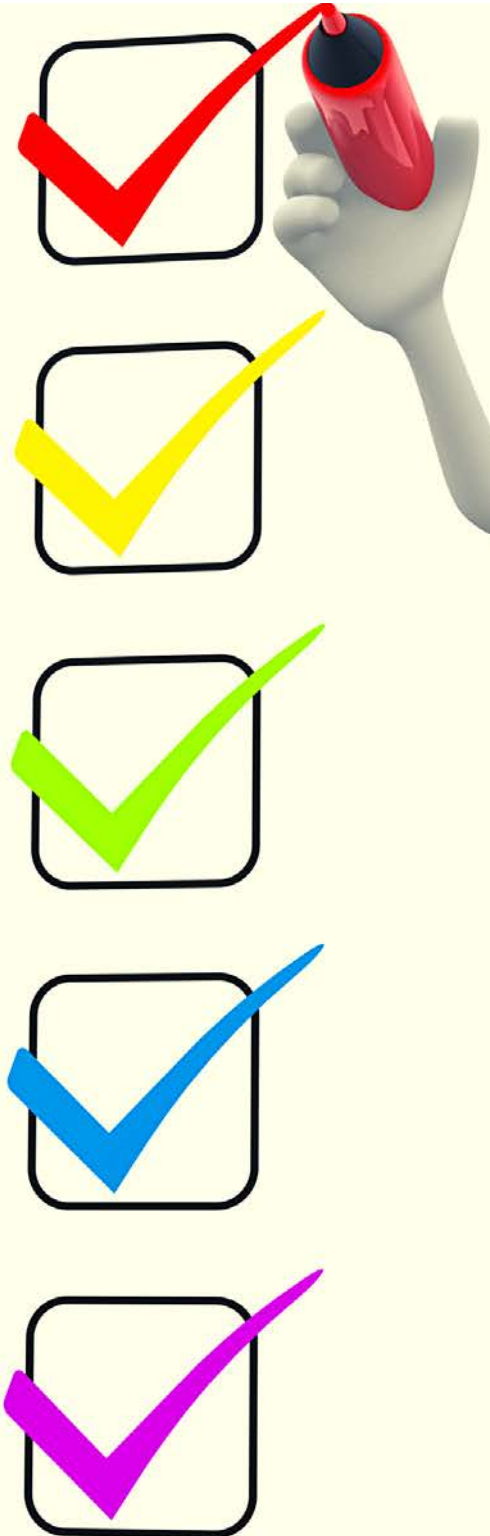
- **DEVELOP YOUR IDEA, APP, OR PROTOTYPE:**
  - Keep a logbook or journal documenting your journey
  - Brainstorm and then decide on a problem you would like to solve
  - Conduct research
  - Outline your idea, create your app, or build a prototype
  - Design a potential solution to your problem - test and retest your solution(s)

- **PREPARE TO MARKET YOUR IDEA, APP, OR PROTOTYPE**
  - Research prospective markets for your idea, app, or prototype
  - Determine why users would want your idea, app, or prototype
  - Name your solution
  - Create a 2-3 minute pitch video showcasing your project

- **REGISTER FOR THE NATIONAL INNOVATOR CHALLENGE**
  - Create a 6 slide presentation detailing your innovative process as well as your idea, app, or prototype
  - Create an image for your idea, app, or prototype:
    - Idea: a blueprint, diagram, illustration, or outline of idea saved as a PDF
    - App: screenshot(s) of a portion of your code as well as screenshot(s) of your user interface
    - Prototype: picture(s) that show the critical pieces
  - Sign up at: http://nationalinnovatorchallenge.org/
    - Submit a registration for each teammate
    - Note: the team will be in a advisory panel based on the age of the oldest member of the team
  - Pay the non-refundable $30 registration fee (per participating student) and upload the required pieces
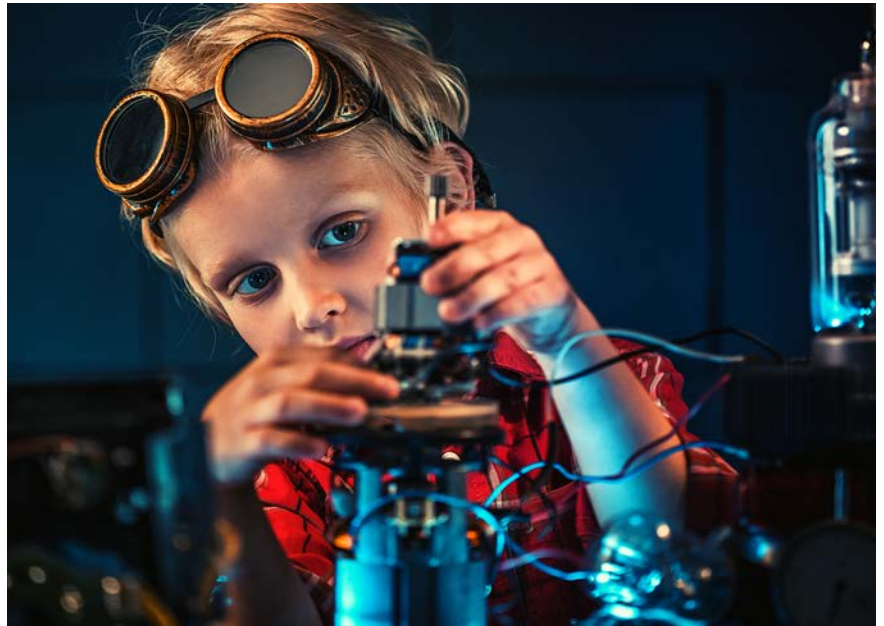
# How to Plan

## ➔ Logbook/Journal Tips

The innovator/programmer/inventor logbook or journal needs to document every aspect of the student's journey:

- How did you identify the problem you would solve?
- What research was completed?
- How did you come up with your idea?
- Describe your design process.
- How did you test your ideas and refine your solutions?
- Who did you ask for help?
- What resources did you use? How much money did you spend?

Each step in the process needs to be clearly identified:

- Identifying the Problem
- Understanding the Goal
- Identifying a Solution
- Designing a Solution
- Building a Device
- Testing & Evaluating the Device
- Communicating the Results

## ➔ Pitch Video Tips

- Your video should have a strong opening, closing and should keep your audience interested throughout.
- Make sure you share with your audience where you'd like to take your idea, app, or prototype.
- Your video can be in the format of your choice, commercial, infomercial, dramatic presentation — get creative!
- For very young innovators, parents/teachers are welcome to help prompt as needed.
- Editing is permitted.
- To remain eligible, videos must remain appropriate for all audiences. If you wonder if something is appropriate, then let's just assume it should not be included.
- This video is your shot at innovation stardom! It's your elevator pitch! Your chance to win the title of Recognized Innovator for the National Innovator Challenge. Give it all you've got and get out there and INNOVATE!



# How to Design a Pitch Video

- Video should be no more than 3 minutes in length.
- Videos must be stored on YouTube and the share link provided through our online registration form prior to the registration deadline.
  IMPORTANT: Do not set videos as "private" on YouTube. This will leave your video inaccessible to our Advisors.
- Who should be on the video? If students working in a group have the means to record teams together via skype, zoom, or another technology, they are welcome to create a video with some or all team members together. If teams do not have the ability to record together, they are welcome to select a member of the team to represent all members.
  - They should work as a team, where possible, to identify what is important to have on the video.
  - Where possible, teammates should help the student who will be on the video by letting them run through (practice) what they will say over the phone (or skype) before recording.
  - At the start of the video, the person speaking should provide their name and (if applicable) the name of all teammates representing the idea, app, or prototype.
  
  Note: Innovators will not lose points because only one teammate appears on the video, the content of the video is what is most important.
- Video must include:
  - Your name(s) - spoken, shown or within the credits
  - Idea, App, or Prototype name.
  - What is the problem your idea, app, or prototype solves?
  - How does your idea, app, or prototype solve the problem?
  - Who has the problem and who would buy this idea, app, or prototype? (Identify both the customer and the end-user).
  - What is the market size for this idea, app, or prototype?
  - What products are on the market today like what you have invented and how is your idea, app, or prototype different and/or better?
  - Demo your idea, app, or prototype or show it and explain how it would work if it were operational.

Please include any other information you feel is important to relay to our Advisors.

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# Rubric

## INNOVATION PROCESS (50)

Identify & Understand Problem 15

Ideating & Brainstorming 10

Designing & Building 15

Testing & Refining 10

## INNOVATION IMPACT (45)

Market Potential 10

Value Proposition 10

Originality 15

Social Value 10

## COMMUNICATION (40)

Outline of Idea/Code/Prototype/Model 10

Presentation Slide Set 10

Logbook/Journal 10

Video (for first round) 10

Live Pitch (for live event) 5

Q&A (for live event) 5

Note: Expanded descriptions of each category can be found on the following pages.

# Innovation Process

## IDENTIFY & UNDERSTAND PROBLEM

- How did the innovator identify the problem?
- What research did the innovator do to understand the problem?
- What other solutions currently exist?
- Who else might experience the same problem?
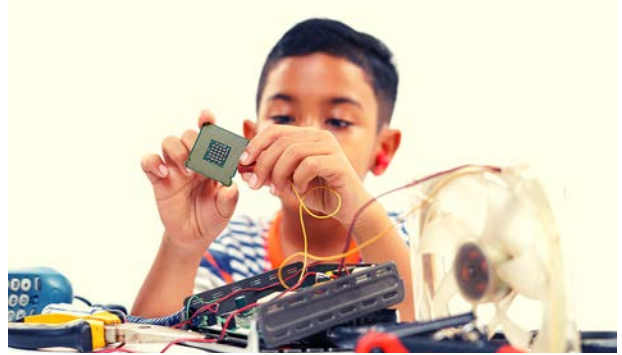


## IDEATING & BRAINSTORMING

- What process did the innovator go through in determining the problem to solve?
- How did the innovator break down the problem into sub-questions? What solutions did the innovator provide for each sub-question?



## DESIGNING & BUILDING

- How did the innovator start the design cycle?
- Was the innovator clear about every process of the designing? Can the innovator identify the problems in the design process?
- Why did the innovator choose these materials or coding language? Where did they get any materials or skills used? Or where would they get any materials or skills to be used in the future?

## TESTING & REFINING

- How did the innovator test or evaluate the idea, app, or prototype?
- Did the innovator identify any problems in the testing process? How did they refine their solution?
- How did the innovator get feedback from others on their idea, app, or prototype?

# Innovation Impact

## MARKET POTENTIAL

- Did the innovator have a clear understanding of the market? What market research was done?
- How large and/or viable is the potential market?
- Did the innovator evaluate the cost & value of the idea, app, or prototype?

## VALUE PROPOSITION

- Did the innovator clearly explain why others should use their idea, app, or prototype?
- How well did the innovator's explanation convince potential consumers/users that their idea, app, or prototype would add more value or better solve a problem than similar offerings?

## ORIGINALITY

- How is the innovation unique, novel, and creative?
- To what extent did the innovator contribute to the originality of the idea, app, or prototype?
- How is it distinguishable from prior ideas, apps, or prototypes and from those of their peers?

## SOCIAL VALUE

- How did innovators consider and address the potential environmental, social, and other non-traditional impacts of their idea, app, or prototype?
- To what extent does the idea, app, or prototype improve those conditions? Or to what extent does it minimize adverse impacts?

# *Communication*

## LOGBOOK/JOURNAL

- Did the innovator clearly explain the design process? (from identifying the problem through testing and refining the product, app, or idea)
- Are the pages clear, detailed, & thorough?
- Did they identify anyone who helped?
- Did they identify any materials used and how they obtained those materials?
- Is both the research and analysis clearly shown?

## OUTLINE OF IDEA/CODE/PROTOTYPE

- Did the prototype, model, code, outline, or diagram clearly communicate the key characteristics of the innovation?
- Note: Outside assistance is acceptable so long as the innovator is driving the process and documents any outside help.

## PRESENTATION SLIDE SET

- Did the presentation slide set have strong visual appeal?
- Was it in conformity with other materials and the rest of the presentation?
- Did it present the innovator's designing purpose?

## VIDEO (FOR FIRST ROUND)

- Was the video informative and precise?
- Did the video captivate the intended audience?
- Did it communicate the significant characteristics of the idea, app, or prototype that makes it valuable, unique, and useable?

## Q&A (FOR LIVE EVENT)

- Did the innovator understand the question and answer it accordingly?
- Was the answer in conformity with the presentation and other materials?
- Did the innovator present their own thinking?
- Was the answering clear, fluent, and confident?

## PRESENTATION (FOR LIVE EVENT)

- Did the innovator present the idea, app, or prototype completely including the idea, process, model, and how it works?
- Did the innovator demonstrate the originality of the idea, app, or prototype?
- Was the presentation clear, fluent, and confident?

# FAQs

**Q**: **What will the first round look like?**
A:  Advisors will use the rubric assess each submission (using the logbook, powerpoint, video, and image of the prototype or code). Each student will get written feedback from the advisory panel stating both things the innovator has done well and things that can be improved. The top innovations will be invited to the live Zoom Event.

**Q**: **What will the live event look like?**
A:  At least 2 advisors and at most 10 projects will be in the same advisory panel (along with a facilitator) using a Zoom breakout room. The advisory panel typically takes 60-100 minutes. Each student will give a 3 minute presentation (using their PowerPoint) and then answer questions from the advisors and other innovators in the circle for another 5 minutes.

**Q**: **Do I need to prepare everything by myself?**
A:  The innovator is responsible for preparing all CONTENT. They may ask someone else to teach them how to develop any individual piece of the innovation (e.g. how to create a PowerPoint, create a blueprint, or wire a circuit). This should be acknowledged in the journal and presentation.

**Q**: **Do I have to use PowerPoint?**
A:  No. You may use Google Slides as well. Currently we are not able to accept presentations created using Prezi. You will need to upload the file in a way that our facilitator can open during the live event.

**Q**: **What do I need to do to make sure that I have uploaded the files in a way that the facilitator can operate? Is there something specific that I need to do or not do?**
A:  The facilitator will be able to open and operate PowerPoint or Keynote files saved as .pptx or .pdf. The presentation needs to be saved so all the facilitator needs to do is advance the slides. Likewise, Google Slides files shared with a link need to have the setting set to public and saved so that the facilitator can easily advance through the slides at the prompting of the presenter.

**Q**: **What do I need to include in my Presentation Slides?**
A:  The slides should highlight key points of the innovation process as well as the idea, app, or prototype. There should be no more than 6 slides. For those who have participated in previous in-person events, the slides take the place of the display board. It will also be shown during the presentation if the participant(s) makes it to the live event.


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# Submissions Checklist

## Logbook

- [ ] Identifies each step in the innovator's journey
- [ ] Includes a clear explanation of the Idea, App, or Prototype
- [ ] Highlights any key research and/or diagrams
- [ ] Is clearly labeled and organized
- [ ] Identifies any resources used or people who helped
- [ ] Is saved as a scanned image, PDF, or typed document

## Presentation

- [ ] Is no more than 6 slides long
- [ ] Includes presenter(s) name(s) & name of innovation
- [ ] Describes the product, what problem it solves, & who will benefit from the innovation (including an image or diagram)
- [ ] Explains what makes it unique & how the idea, app, or prototype originated
- [ ] Highlights any market research, branding, or other relevant information
- [ ] Is saved as a PPT or PDF

## Pitch Video

- [ ] Communicates both the problem and the solution in a creative way
- [ ] Is 2-3 minutes long
- [ ] Contains the innovation name and the name(s) of the innovator(s)
- [ ] Captures the attention of the viewer
- [ ] Is uploaded to YouTube

# Participant Community Guidelines

## HONEST COMMUNICATION

**A**ll contributions are expected to:
- Be in compliance with this Code of Civility
- Be accurate (where they state facts)
- Be genuinely held (where they state opinions)
- Be in compliance with applicable law in the United States and in any country from which they are posted
- Respect Yourself and Others

We require that all NIC participants treat other people with respect. Any use of Communication Services (see the Code of Civility) to threaten, harass, stalk, or abuse others using these services is unacceptable and is strictly forbidden.

We reserve the right to remove content that advocates or encourages expressions of violence, bullying, general cruelty, bigotry, racism, illegal activity, hatred, or profanity. This includes content that is deemed inappropriate, offensive, or that violate guidelines in the Terms of Service or the Code of Civility. Falsely impersonating an NIC employee, agent, manager, host, or any other person other than yourself, is forbidden.

**Protect Your Privacy**

We caution you against sharing unnecessary personally identifiable information during the Zoom challenge (such as home address or personal contact information), which may be inadvertently obtained by others or, in rare instances, used for illegal or harmful purposes. Talk to your coach, parent or the NIC staff if you have a question or concern.

**Non-Discrimination Policy**

The NIC continuously addresses issues of diversity and multiculturalism and is committed to engaging in actions that create inclusive communities, increased diversity, and the elimination of discrimination. The NIC prohibits discrimination on the basis of race, color, ethnicity, religion, sex, national origin, age, ancestry, disability, status as a veteran, sexual orientation, marital status, parental status, and gender identity or expression in all of its programs and activities.

## CODE OF CIVILITY

**A**s part of our commitment to making the NIC. and its related social media channels a great place to meet and interact with others who have a passion and commitment to science, technology, engineering, math, innovation and entrepreneurship, you agree to abide by this Code of Civility. By participating on the Site and social media community, you give your commitment to abide by this Code when contributing to all NIC resources and programs, including, but not limited to, profiles, team pages, chats, posts and comments, emails, social media sources, etc. ("Communication Services"), and to help create a positive experience for all the community's users.

We reserve the right in our sole discretion to eject or ban any user from participating in the National Innovator Challenge (NIC), the Site or social media community who behaves in a manner deemed inappropriate or offensive, or who violates the guidelines of this Code of Civility. The NIC and its partners and service providers are not responsible for any user-created content or other activities.

## CONFIDENTIALITY & PATENTS

**W**hen you conceive, design, and create an innovative product as part of the National Innovator Challenge, you are creating intellectual property that belongs to you. It is the sole responsibility of the creator(s) of an Idea, App, or Prototype to determine if their innovation requires protection and, if so, what type of protection it may require. It is also the sole responsibility of the creator(s) to contact the appropriate legal professional(s) to secure any/all protection they deem necessary.

You can find information regarding the process and requirements for filing a patent application at the U.S. Patent and Trademark Office's website: www.uspto.gov. If you have any questions about the value or procedures for filing a patent application, we encourage you to consult your own patent attorney or agent who can give you advice tailored to your particular product. Unfortunately, because of the number of submissions we receive, Hewitt Learning and the NIC cannot provide you any specific advice regarding whether to file a patent application.

# Parent/Guardian Agreements

## RELEASE AGREEMENT

By registering your child, you grant permission for your child to take part in the National Innovator Challenge and verify agreement with the following Hewitt Learning photography/filming release:

Without expectation of compensation or other remuneration of any kind, now or in the future, on behalf of my registered student, I as guardian do hereby give consent, permission, and authorization to Hewitt Leaning, including its parent, affiliates, subsidiaries, successors, members, directors, officers, principals, partners, and agents, to use their name, image and likeness, including all rights, title and interest therein, for Hewitt Learning's use in whatever form (digital, web-based, hard-print or otherwise) and for whatever purpose in perpetuity. Hewitt Learning's use includes, without limitation, any advertising, video footage, recording, publication, website, radio, digital media, print media, or other promotional marketing or media activities, as well as, all film, motion picture and television rights (e.g., free television, pay television, basic cable, subscription, video-on-demand, pay-per-view, syndication, digital streaming, and all other methods of transmission delivery systems and formats). Both my registered child and I as their guardian, hereby further release Hewitt Learning from any and all claims or disputes, including damages in any form, for libel, slander, right of publicity, invasion of right of privacy, trademark infringement or false endorsement, breach of contract, or any other tortious claim or persona right associated with Hewitt Learning's use of said name, image and likeness, and further, hereby acknowledge that Hewitt Learning shall have no obligation to use said name, image or likeness.

This consent is given in perpetuity and does not require prior approval. By completing the online registration and paying the non-refundable registration fee, I hereby grant my child permission to participate in the National Innovator Challenge (NIC) hosted by Hewitt Learning. I have been thoroughly informed of rules and requirements of the NIC. I understand and consent to my child being in virtual contact with Hewitt Learning employees and volunteers for the purpose of judging my child's project. I hereby release Hewitt Learning and any of its officers, directors, employees or sponsors, from responsibility and liability for any damage, injury or illness that my child may sustain as a result of or in any way connected to my child's participation in the I Innovator Challenge and, further, waive any and all rights to assert any claims against Hewitt Learning for any damages allegedly sustained as a result of my child's participation in the National Innovator Challenge.

## BEHAVIOR AGREEMENT

I understand and agree that my child's behavior with regard to their participation in the National Innovator Challenge is my responsibility. I will instruct my child in proper behavior and ensure that they respect and adhere to the Code of Conduct, which include the Participant Community Guidelines and the following:

- The content of my child's project submission in the National Innovator Challenge shall be age appropriate and non-discriminatory.
- My child's National Innovator Challenge project submission must be of a nature where it cannot cause harm to property, animals, my child or other children, and any other adults.
- Plagiarism, defined as when an author attempts to pass off someone else's work as their own, of any type and format, is strictly prohibited.

In the event of (a) behavior problem(s) regarding my child's participation in the National Innovator Challenge or failure to adhere to the Participant Community Guidelines, I understand that I will be contacted to correct any problem or issue. In the event a problem or issue cannot be corrected, I recognize my child will no longer be allowed to participate in the National Innovator Challenge for the remainder of the event year.