



# 2019 Event & Project Guidelines

## Pre-Event Logistics

### I. Eligibility

STEMBall is open to youth in grades 3-12. All team members must meet this eligibility requirement as of March 23, 2019.

### II. Team Leaders

All teams must be accompanied by a lead staff member who will serve as “Team Leader”. The Team Leader is responsible for communication with STEMBall staff **and the supervision of their team at the event.**

### III. Entry Fees

All entry fees are due no later than March 15, 2019.

### IV. Parent Consent

All team leaders will be emailed a copy of the parent consent form for STEMBall prior to the first visit of their college mentor. Team leaders are asked to email completed forms to [stemball@prodigyhq.org](mailto:stemball@prodigyhq.org). The parent consent form covers all participation leading up to and including the event on March 23, 2019. Please note: BSE Global (Barclays Center & Brooklyn Nets) may also request the completion of additional waivers for the event.

### V. College Mentors

STEMBall staff will follow up with team leaders to identify mutually agreed upon days for college mentors to visit their program. Mentors will visit teams up to 4 times leading up to the event. College mentors will assist with the development of the project, encourage students to continue to engage in STEM learning, and will detail their academic experiences as college students.

### VI. Team Profiles

In addition, college mentors will document the progress of each project. Select teams as well as their host school/organization will be featured in our newsletter, on our social feeds and potentially as part of partner content. Features will focus on the team’s preparation for and participation in the STEMBALL, as well as the stories behind the team and its ideas, along the lines of profiles of athletes/teams.

### VII. Additional Event Activities

Beyond showcasing their own projects and interacting with the projects of their peers, students will also have a chance to experience hands-on activations from brands and university STEM programs. They will also receive information on local college programs, and have a chance to win prizes and giveaways from the Brooklyn Nets and other partners.

# STEMBall Project & Event

## I. Project Elements

All projects must incorporate sports with at least 1 STEM discipline – science, technology, engineering, or math.

Each project must include the following:

- Project summary
  - Clearly state how your project explores the intersection between sports and science, technology, engineering, and/or math. Projects may focus on one or more aspects of STEM.
- About the team
  - Identify all members of the team and team leader. Include:
    - Name
    - Grade
    - Favorite sport
    - 1 thing you learned about STEM in sports
- Hypothesis/Question
  - Describe the question your team is investigating and your hypothesis, or the problem that you are going to try to solve and the outcome that you expect.
- Research
  - Identify the research you have done into developing your concept.
- Process
  - Describe in detail how your team implemented your experiment or tested your solution
- Results
  - Clearly present any data and observations gathered during your experiment or testing, including a description of any patterns, trends or outliers.
- Conclusion/Report
  - Explain how your experiment, testing, or product solves your identified problem, or why it fails to do so, and whether or not the outcome was as you expected
- Bibliography/References
  - List any sources used to develop your project

## II. Event Demonstration

All teams must be accompanied by a lead staff member who will serve as “Team Leader”. The Team Leader is responsible for communication with STEMBall staff **and the supervision of their team at the event.**

Each team will be expected to bring a display of their project to the Barclays Center on March 23.

Displays can include traditional science fair display boards, hands-on prototypes and demos, video, documents, banners, slide shows, and any other showcase tools. However, fire, pyrotechnics, hazardous materials, waste, animals, weapons, sirens, and gases are not permitted.

Teams are responsible for any audio/visual equipment. However, if you have specific A/V needs, let us know prior to March 15.

Each team will be provided a 5 to 7-foot table at the Barclays Center. Please let us know (prior to March 15) if you need additional space. Teams may decorate their table/booth with signage.

### III. Judging

The requirements and the criteria below shall be used to assess each project by the panel of judges.

#### **Section 1: Summary** (no score)

Provide a clear, brief overview of the question or problem you are investigating, the stages of your project, what you set out to achieve and how far you succeeded.

#### **Section 2: Question / Proposal** (maximum score 10)

An excellent question or proposal will be interesting, creative, and relevant to the intersection between sports and STEM. Teams will include a hypothesis or expected outcome that leads on from the question, is tightly focused and builds on the curiosity and interests of students.

#### **Section 3: Research** (maximum score 15)

Teams that excel in this category will undertake research to help them shape their entry and to put their work into a relevant, real world context.

#### **Section 4: Process** (maximum score 20)

Teams that excel in this category will demonstrate that they have used good experimental techniques or testing processes, and describe their method clearly and in detail.

#### **Section 5: Results** (maximum score 15)

Teams that excel in this category will record relevant data, results or observations accurately, present them clearly and will describe patterns or trends supported by their data.

#### **Section 6: Conclusion / Report** (maximum score 15)

An excellent conclusion or report will explain how the experiment or testing answers the question or problem, or why it fails to do so and whether or not it supports the hypothesis.

#### **Section 7: Bibliography, References and Acknowledgements** (maximum score 5)

Teams that excel in this category will acknowledge and provide clear references for sources of information that they have consulted and/or referenced and acknowledge any adult assistance received (e.g. to find equipment and materials, to stay safe or to use unfamiliar equipment or techniques)

#### **Section 8: Creative demonstration of the project** (maximum score 20)

Teams that excel in this category will produce a creative, engaging display that shows the process and outcome of their project.

**100 is a perfect score.**

## Sample Project Ideas

The questions below are simply to provide a direction for what we mean by incorporating sports and STEM. They can also be fleshed out as potential project ideas if you wish. No idea is too big or too small.

### I. Products

*Use STEM to create or improve sports products and equipment, or even educate us on the reasons behind the design of the tools we use to compete.*

- Why are footballs shaped that way?
- Can we improve upon the design of a helmet?
- What if we built a robot that could catch fly balls?
- Do certain brands of sneakers make you jump higher or run faster?
- What's the most accurate heart rate monitor?

### II. Health

*Examine the connection between mind, body and game. Discover ways to improve the health and safety of athletes at all levels – from youth to the pros.*

- How much water does an NBA player need to stay hydrated during a game?
- What is the healthiest sports drink?
- How can we prevent injuries in young athletes?
- How does sleep impact performance on the field/court? What about in comparison to performance in the classroom?

### III. Data

*Use math to analyze the games we love, and inform fans and consumers of what's actually happening between the lines.*

- How is math used to measure success on the field?
- How do percentages and probability predict the likelihood of shots going in?
- Why not create a new stat for your favorite sport?

### IV. Digital

*Use technology to imagine the future of sports in an increasingly digital society.*

- What if we created our own version of Fortnite?
- Or designed an app to find places to play?
- How can we incorporate technology into gym class?
- What would a youth-led sports news and information platform look like?

## Post-Event

### I. Exit Survey

All team leaders will be asked to complete a brief exit survey regarding the demographics of their team. This will enable us to improve future STEMBall events and programming by ensuring we are meeting our goals of inclusion and exposure. It will also help us reach out to partners who share and support our mission.

### II. Resources

All STEMBall teams will be given access to a digital sports and STEM course courtesy of EVERFI, a leading provider of education technology.

All STEMBall teams will be granted membership to the PRODIGY Network. In addition to highlighting the work of educators and youth-serving organizations, PRODIGY provides access to program enhancements such as events, field trips, activities, and resources, as well as professional development and networking for youth development professionals.

**Additional information regarding STEMBall can be found at [stemball.org/faq](https://stemball.org/faq).**