Teacher Guide

2023 Application Stage

1) Introduction

Welcome

Welcome to the Ghana Science & Tech Explorer Prize (GSTEP) Challenge!

In this Challenge, we encourage Junior High School (JHS) students to develop new and exciting ways to tackle pressing societal issues, using Science and Technology.

The GSTEP Challenge is being led by DreamOval Foundation, who run training programmes to improve the quality of education in Ghana. They are working in collaboration with MEST, Challenge Works, Foundervine and Dext Technology, and the Challenge is funded by Fondation Botnar.

This guide provides teachers, who are supporting student teams, with all the information needed to enter the GSTEP Challenge.

You can also download this guide on our website, as well as other supporting materials, including the application form, the Judging Criteria, Lesson Plans and Frequently Asked Questions (FAQs): www.gstep.org.gh/resources/.

If you have any further questions, please email challenge@gstep.org.gh or contact 0595703311.

Contents

The guide includes the following information:

2) Overview (I)

Aims

The GSTEP Challenge is a unique opportunity for young people to learn more about entrepreneurship, innovation and Science, Technology, Engineering and Mathematics (STEM). It presents a new and exciting way for young people to engage with Science and Technology through practical learning, developing skills such as problem-solving, presentation skills, communication, teamwork and entrepreneurship skills.

The GSTEP Challenge provides all of the resources to take part, including lesson plans to support the application process, and additional training and mentorship for finalist teams.

The Challenge Statement

> **Create a product or solution that uses Science or Technology to make the world around you a better place**

The Themes

Live healthier:
Providing people with what they need to lead happy and healthy lives, including physical health and mental wellbeing. This covers topics that relate to improving health, such as nutrition, hydration and exercise.

Live greener:
Protecting the environment and saving the planet's resources. This covers topics that relate to the planet, such as climate change, conservation and waste management.

Live together:
Tackling social issues and helping people to live better together. This covers topics that relate to society, such as discrimination, communication, transport and crime.

2) Overview (II)

Stages of the Challenge

Application stage (14th February - 14th April 2023):
Teams are invited to make an application to the GSTEP Challenge. Teams should comprise 4 - 6 students and each team must be paired with a teacher or adult representative.

Lesson plans, and other materials, are available to support teams to develop their ideas and complete their applications. More details are provided in *Section 3* of this guide.

You will need to submit the applications on behalf of your teams in the online application form. More details are provided in *Section 5* of this guide.

Assessment stage (April - May 2023):
A team of expert judges will pick 100 finalist teams from the Greater Accra, Ashanti and Eastern regions.

Finalist stage (June - December 2023):
These finalist teams will be supported to develop their ideas through the provision of expert mentors, training materials and science kits. They will be supported to develop a business case and prototype. These finalist teams will also have the opportunity to pitch their ideas in front of a team of expert judges.

Exhibition & Awards (January 2024):
All finalist teams will showcase their prototypes to the general public at an exhibition. A prestigious awards ceremony will be held to celebrate finalists, recognize outstanding teams and announce winners of the Challenge.

3) Supporting Documents

Support for Teachers

Introduction to the GSTEP Challenge:

This document gives an overview of the GSTEP Challenge. This is a useful resource for both teachers and students to understand the aims of the GSTEP Challenge and how it will work.

You can find this on the GSTEP Challenge website: www.gstep.org.gh/resources/.

Lesson plans:

There are 6 lesson plans, which can be used to support your class or group to come up with ideas for their application. Each lesson plan has guidance notes, recommended supporting materials and and an optional worksheet. You do not need to follow all of these lesson plans to make an application, but we recommend that you do.

You can find these on the GSTEP Challenge website: www.gstep.org.gh/resources/.

Application resources:

There are lots of supporting materials available to help you to submit your application. These include: the Assessment Form, Lesson Plans, the Eligibility Criteria, the Judging Criteria and a list of Frequently Asked Questions (FAQs),

You can find all of these on the GSTEP Challenge website: www.gstep.org.gh/resources/.

Get in touch:

The GSTEP team are on-hand to support and answer your questions. Please email challenge@gstep.org.gh or contact 0595703311.

4) Eligibility Criteria

Eligibility Criteria

To be eligible to apply to the Ghana Science and Tech Explorer Prize (GSTEP):

- Teams must contain between **4** and **6** members.

- All team members must attend a **Junior High School (JHS)** at the point of applying to the GSTEP Challenge.

- All team members must attend the same school in either the **Greater Accra, Eastern** or **Ashanti** regions.

- Both **public** and **private** schools are eligible to apply.

- Teams must be represented by an **adult** (18+ years of age) who is associated with that Junior High School (JHS). The majority of these adults will be teachers. However, teams can be represented by adult selected by the school.

Please note that:

- Multiple teams from the same Junior High School (JHS) can enter (we highly encourage as many students as possible to apply from each school - there is no limit!).

- A teacher, or adult representative, can be associated with multiple teams (for example, a teacher can represent their whole class).

- Team members cannot be a part of multiple teams.

You can also access the Eligibility Criteria on the GSTEP Challenge website: www.gstep.org.gh/resources/.

If you have any other questions, please email challenge@gstep.org.gh or contact 0595703311.

5) Application Process

Application Process

Applications must be made **online**. The secure platform can be accessed through the GSTEP Challenge website: www.gstep.org.gh.

The form has been made as simple as possible and consists of 4 sections:
- **Part 1:** Your details (who we contact about the application) - to be completed by the **TEACHER** (or adult representative)
- **Part 2:** Your idea (some details about the team) - to be filled out by the **TEAM**
- **Part 3:** Evaluation (some questions to help us to continue to improve the prize) - to be completed by both the **TEACHER** (or adult representative) and the **TEAM**
- **Part 4**: Demographic information (some questions about the team, to help us with diversity and inclusion) - to be completed by the **TEACHER** (or adult representative)

Teams must be represented by a teacher (or another adult representative) throughout the GSTEP Challenge.

These adult representatives must submit the application on behalf of the team. However, we really encourage the students to take ownership of their ideas and answers.

We recommend that teams work on the **Editable Application Form,** before the final submission. This is available on the GSTEP Challenge website: www.gstep.org.gh/challenge/.

6) Judging Process

Judging Process

All applications will be assessed against the Judging Criteria below. **100** finalist teams from the Greater Accra, Ashanti and Eastern regions will be selected by a panel of expert judges.

The judges will be announced on our social media channels and website: www.gstep.org.gh.

Judging Criteria

Category	Description
1. Impact	Have the team clearly explained the problem they are trying to solve? Is this a problem that needs solving?
2. Innovation	Is the project an innovative idea that uses Science and Technology in a new way?
3. Enterprising	Have the team clearly explained the steps they would need to take to turn their idea into a reality? Is the idea feasible?
4. Teamwork	Have the team worked together effectively?
5. Communication	Do the team have a clear plan for marketing and promoting their idea to their target audience?
6. Risk Factors	Have the team thought about how they would make their idea safe for people and the environment?

A summary of the Judging Criteria and a list of of prompt questions for students can be found on our website: www.gstep.org.gh/resources/.

7) Summary

Application Stage

What do I need to do at this stage?	When do I need to submit?
- Support your team/s to submit their idea through the online application form (see *Section 5* of this guide). - Encourage as many of your students as possible to sign up to the GSTEP Challenge. - We highly recommend you download the editable application form to work from and copy and paste the information over, closer to the time. - In preparation for the application, you can go through the lesson plans (1-6) with your class. You do not have to use these but we recommend that you do.	14th April 2023 (at 11.59 pm GMT)

Finalist Stage

What do I need to know at this stage?	When do I need to submit?
100 finalist teams (represented by a teacher or adult representative) will be selected by an expert panel of judges and informed - Finalist teams (including the adult representative) will be supported by an expert mentor and provided materials and training to help develop a business plan and prototype. - Finalists will be invited to pitch to an expert panel of judges.	Business Plan & prototype by November 2023 (deadline TBC)

Awards & Prizes

What do I need to know at this stage?	When is the exhibition and awards ceremony?
All teams will present their prototypes at an exhibition. Winners of the challenge will be announced and finalist teams will be recognized at a prestigious awards ceremony.	January 2024 (date TBC)