



TECH MISSION Facilitator Guide

“Welcome Boys and Girls Club facilitators to the **PowerU Tech Mission Guide** powered by Learning Blade!

This is the second part of the modular experience that will help students to immerse into the world of STEM and to create clear pathways into STEM careers!

Here are a few instructions and hints for you as facilitators of this experience.

SUMMARY

After the STEM-based Escape Room, students will participate in a web-based assignment that aligns with STEM careers of today. To enable this opportunity, you will leverage a website called Learning Blade to manage students (as needed) and quickly determine the winner of the game. The total duration of this experience is approximately 60 minutes.

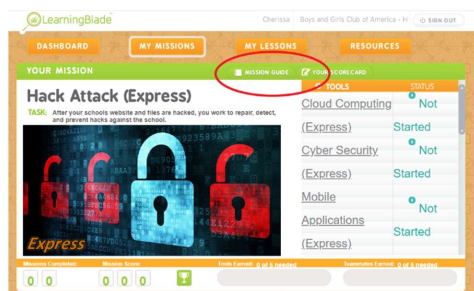
We have selected 3 missions of similar difficulty from the Learning Blade platform. These missions will expose the students to STEM skills and careers through solving real-world problems. Generic templates have been created and uploaded on your behalf; so you can concentrate on creating an exciting and engaging experience!

THE SETUP (10 min)

1. Engage the students by introducing the game and what they are about to learn. See Conversation Guide for ideas!
2. Divide the students into 2-3 groups and assign them to a Class.
 - a. Class 1 = ClassHackAttack
 - b. Class 2 = Class RobotRescue
 - c. Class 3 = HaitiOrphan
3. Divide each Class into teams (2-4 students recommended as required by number of devices).
 - a. Team1, Team2, Team3...Team10
4. Provide each Class/Team with login credentials as outlined in Appendix A of this reference guide.

HOW TO PLAY (40 min)

1. Have each team click to accept and start the mission by logging into Learning Blade.
2. Select the assigned mission & view the “Mission Guide”
 - a. If the Mission Guide doesn't auto play you may manually select it in the upper in upper right-hand portion of the green box.



3. Once all teams have completed the Mission Guide; ~~IT'S~~ TIME TO PLAY!

- a. Set & start a timer for 40 minutes
- b. Tasks do not need to be completed in order.
- c. All team members should take a turn leading a task.

5. Once the game is over; allow students to take a break (as needed) so you can identify the winner.

- a. How to determine the Tech Mission winner
 - i. Login to Learning Blade with the provided teacher credentials.
 - ii. Navigate to the "Dashboard" tab and Select Class and Mission.
 - iii. The tasks completed and the associated points will show under the "Leaderboard" section. ~~<insert screenshot>~~
 - iv. *The team with the most points wins!!*

6. Announce the winner and prizes!

Commented [1]: The number skipped from 3 to 5 in the steps. What happened to step #4?

Commented [2]: Do we have a screenshot for this step?

THE WRAP-UP (10 min)

As each class was assigned a different mission, facilitate a de-briefing discussion where students can share what they learned about their mission and tasks. See Conversation Guide.

GOOD TO KNOW INFO, TIPS & TRICKS

- ??
- A general guide to facilitate the game and dialogue with the students has been provided in the Conversation Guide as reference. Feel free to use and/or adapt as you see fit!

CONVERSATION GUIDE

Tech Mission Game Intro (The SETUP):

Have any of you heard or seen the movie Hidden Figures? Well in the Tech Escape you learned about Dr. Gladys West which is another one of America's hidden figures.

She was known for her contributions to the mathematical modeling of the shape of the Earth. Her work led to the invention of the Global Positioning System; which is also known as?

- A: GPS

We also learned about Garrett Morgan, Mark Kean and Marie Van Brittan Brown. Can anyone share with us something they learned about those pioneers?

(NEED TO INSERT SOME INFO)

- *Marie Van Brittan Brown – invented the first video home security system in 1966. It consisted of peephole, a sliding camera, television monitors and two-way microphones. This created a system called closed circuit television system for surveillance.. also known as CCTV. Her invention paved the way for the technology we use today.*
- *Garrett Morgan – Notable inventions: sewing machine, traffic light, gas mask. The gas mask was instrumental in saving lives by protecting the wearer from smoke and ammonia.*
- *Mark Kean/Dean – co- inventor of IBM's original personal computer and the color PC monitor changing how we interact with the internet. This technology has allowed for the creation of keyboards, printers and all the things that connect to your computer...*

Each of these pioneers helped pave the way to what we call STEM today. So now we're going to learn about some current-day STEM careers. As part of our next experience, Tech Missions we are going to play a game of solving some real-world problems.

There are three missions, Hack Attack, Robot Rescue and Haiti Orphanage.

- In Hack Attack, your school's website has been hacked!! You learn how to create and protect a website, apps and social media to make sure it doesn't happen again.
- In Robot Rescue, you will learn how to use sensors, circuits and computers to design robots
- In Mission Haiti Orphanage your help is needed to help design an environmentally-sound orphanage for those that were left homeless after an earthquake in Haiti.

Doesn't that sound exciting? Are you ready for the challenge??

Ok, so in just a minute, I am going to divide you into 2 (or 3 depending on class size) groups. Each group/class has been assigned a different mission in Learning Blade. You will work in teams of 2-4 to complete as many tasks as you can within the allotted time of 40 minutes.

*Divide class into 2 or 3 groups/classes
Divide group/class into teams of 2-4 student
Distribute login credentials (Appendix A)*

HOW TO PLAY

I have given you each a login. One person should accept the mission and log in to Learning Blade using that login. Once your team has logged in. Look for the "My Missions" button. When you select it you will see your assigned mission.

Select your assigned mission and view/complete the mission guide. Once your team has viewed the mission guide; raise your hand.

Ok, now that everyone has accepted their Tech Mission, we are READY TO PLAY!!

I'm going to set the timer for 40 minutes and when I say "GO" your team should complete as many of those tasks on the right as possible. Everyone on the team should take the lead on at least one task and you don't have to go in order!!

Before we get started, are there any questions? READY, SET, GO!

GAME OUTRO: THE WRAP-UP (10 minutes)

Alright, teams, time is up! Please take a break while we determine the winner.

Okay, so before we announce the winning class... let's talk a little about the Missions.

- What did you think of Mission Hack Attack?
- What were some of the careers you learned about in Hack Attack? What were some of the other careers explored?
- Can someone in Class RobotRescue tell us what they did in their mission and what they learned about? Anyone have anything else they would like to add? What careers did you learn about in the Robot mission?
- What were your thoughts on Mission Haiti Orphanage? *<Repeat follow-up questions above>*

As you may have noticed, there are so many careers in STEM that make a positive impact in our world. And I hope you see that YOU have the power to create that impact!

So now the moment we've been waiting for... the winner is (insert team name)!

Congratulations, (insert names of winning team members). You did an outstanding job, and your hard work paid off. But let's not forget you are all winners in your pursuit to learn about STEM.

I hope you all enjoyed today's activity and learned more about STEM careers. You can continue to explore these careers on your own by checking out the PowerU summary we are going to provide you. And remember, STEM is all around us, so keep exploring, learning, and asking questions.

APPENDIX A:
LEARNING BLADE LOGIN INFORMATION

STUDENT CREDENTIALS

FirstName	LastName	UserName	Password
Class HackAttack	Group 1	HackAttack1	PwdHack
Class HackAttack	Group 2	HackAttack2	PwdHack
Class HackAttack	Group 3	HackAttack3	PwdHack
Class HackAttack	Group 4	HackAttack4	PwdHack
Class HackAttack	Group 5	HackAttack5	PwdHack
Class HackAttack	Group 6	HackAttack6	PwdHack
Class HackAttack	Group 7	HackAttack7	PwdHack
Class HackAttack	Group 8	HackAttack8	PwdHack
Class HackAttack	Group 9	HackAttack9	PwdHack
Class HackAttack	Group 10	HackAttack10	PwdHack
Class RobotRescue	Group 1	Robot1	PwdRobot
Class RobotRescue	Group 2	Robot2	PwdRobot
Class RobotRescue	Group 3	Robot3	PwdRobot
Class RobotRescue	Group 4	Robot4	PwdRobot
Class RobotRescue	Group 5	Robot5	PwdRobot
Class RobotRescue	Group 6	Robot6	PwdRobot
Class RobotRescue	Group 7	Robot7	PwdRobot
Class RobotRescue	Group 8	Robot8	PwdRobot
Class RobotRescue	Group 9	Robot9	PwdRobot
Class RobotRescue	Group 10	Robot10	PwdRobot
Class HaitiOrphan	Group 1	Haiti1	PwdHaiti
Class HaitiOrphan	Group 2	Haiti2	PwdHaiti
Class HaitiOrphan	Group 3	Haiti3	PwdHaiti
Class HaitiOrphan	Group 4	Haiti4	PwdHaiti
Class HaitiOrphan	Group 5	Haiti5	PwdHaiti
Class HaitiOrphan	Group 6	Haiti6	PwdHaiti
Class HaitiOrphan	Group 7	Haiti7	PwdHaiti
Class HaitiOrphan	Group 8	Haiti8	PwdHaiti
Class HaitiOrphan	Group 9	Haiti9	PwdHaiti
Class HaitiOrphan	Group 10	Haiti10	PwdHaiti

TEACHER CREDENTIALS

FirstName	LastName	UserName	Password
Teacher	A	TeacherA	ABCD
Teacher	B	TeacherB	ABCD
Teacher	C	TeacherC	ABCD