Virtual Field Trip Educator Guide

Objectives

Students will be able to:

- Draw conclusions about the characteristics of a successful innovation.
- Communicate important information concisely.
- Advocate for action towards social good.
- Participate in the Innovation Design Process.
- Consider data gathering and analysis when problem-solving.

Overview

The Tech Interactive is a 130,000 square foot hub for science, technology, engineering, and math (STEM). The Tech isn't just about interacting with STEM—it's also about having fun and inspiring the maker, tinkerer, and innovator in everyone through interactive exhibits and classroom activations.

The Tech Interactive is also home to The Tech for Global Good, a year-round program designed to inspire the next generation of innovators to tackle the toughest challenges facing our planet. Learning to think like a social innovator encourages young people to consider the ethical and empathic aspects of making things.

Each year, The Tech for Global Good program honors a handful of innovators, called "Laureates," from around the world who are using technology to help improve lives. Since 2001, more than 300 Laureates have been honored. These innovators are incredibly diverse, not just in their backgrounds, where they live, and what they do, but also in the types of technology they use. Technologies like robotics, artificial intelligence, and data science are all being used to solve global problems. The focus for the 2020 Laureates was on data and using it to effect change.

Grade level

6–8

Materials

- Pencil
- Device with internet access, one per student
- **WebQuest** student handout, one per student*
- **Use Your Voice** student handout, one per student*
- **Innovation Version 2.0** student handout, one per student*

*Note: See the facilitation options throughout for tips on distance learning.

The Tech Interactive | Discovery EDUCATION

TECH
for Tomorrow

Before the Field Trip (30–45 minutes)

1. Engage students in the upcoming activities by asking one or more of the following open-ended questions:
   - What makes you mad or upset?
   - What are you passionate about? What would you want to change about the world?
   - How have you seen technology used for good?

2. Explain the concept of "social entrepreneurship," which focuses on creating innovative solutions to big problems—things that might make us mad or passionate about improving people's lives. Introduce the Tech for Global Good program and its focus on using technology to solve these types of challenges.

3. Distribute one **WebQuest** handout to each student. Read through the instructions.

4. Direct students to the website listing The Tech for Global Good's 2019 Laureates: https://techfortomorrow.com/tech-for-global-good.

5. Explain that in preparation for meeting the 2020 Laureates during the Virtual Field Trip, they will be investigating the four projects featured in 2019.

6. Give students time to explore the videos on the website and complete the table.

7. Invite students to share their conclusions with the class.

Facilitation Options

If your students are learning in a remote environment, consider the following:

- Introduce the **WebQuest** handout and Tech for Global Good site via screen share.

- Collect responses virtually via a learning management platform, live video, shared online document, photos, etc.

During the Field Trip (45–60 minutes)

1. Remind students that The Tech for Global Good program is about celebrating innovators who are using technology to solve big problems.

2. Explain that during the Virtual Field Trip, students will be practicing communicating important messages in as few words as possible with the goal of inspiring problem-solving action in others.

3. Distribute the **Use Your Voice** handout. Read through the instructions.

4. Play the Tech for Global Good Virtual Field Trip. After each vignette, stop the video to give students time to record their tweet.

5. After the Virtual Field Trip have students share a few of their tweets and reflect on their key takeaways.

6. *Optional:* Invite students to post their tweets on your classroom's learning management system, a classroom Twitter account, or another social media platform.

Facilitation Options

If your students are learning in a remote environment, consider the following:

- Use screen share to play the field trip videos and have students post their tweets in the video chat.

- Have students watch asynchronously and share their tweets using the tool of your choice (online document, photo, learning management system etc.).

The Tech Interactive | Discovery EDUCATION

TECH
for Tomorrow

After the Field Trip (30–45 minutes)

1. Direct students' attention back to their **WebQuest** handouts. Instruct them to choose one project that interests them the most.

2. Distribute the **Innovation Version 2.0** handout. Using the information that they recorded during their **WebQuest** investigation and what they viewed during the Virtual Field Trip, students should complete part 1 of the handout.

3. Challenge students to think of other problems that could be addressed using this innovation, trying to specifically focus on local issues or their own community. They can record their thoughts in part 2 of the handout.

4. Finally, challenge students to think of the role that gathering and analyzing data could play in solving local problems.

5. Invite students to share their ideas with the class.

   - *Optional:* Have students pitch their ideas by creating videos or social media campaigns.

Facilitation Options

If your students are learning in a remote environment, consider the following:

- Facilitating this activity as a whole group discussion via web conferencing.

- Directing students to submit answers via a learning management system or shared online document.

Learning Extensions

- Students can research and discover a solution worthy of "winning" a Tech for Global Good Laureate distinction. They can make videos to amplify their "laureates" and share them with others and The Tech.

- Students can connect what they have learned to the US Census. What kind of data does the Census collect and how is it used? What problems can they identify from the Census?

- Students can create an infographic on paper or using free online software (e.g., Canva) to share information on an idea or Tech for Global Good Laureate issue about which they are passionate.

- Students can identify an issue of interest and create a poster highlighting the changes they can make in each of the four spheres of influence (self, family/friends, local community, world) to effect positive change.

The Tech Interactive | Discovery EDUCATION

TECH
for Tomorrow

National Standards

CCSS in English Language Arts

- CCSS.ELA-LITERACY.SL.1
  Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others' ideas and expressing their own clearly.

- CCSS.ELA-LITERACY.SL1.C
  Pose and respond to specific questions to clarify or follow up on information and make comments that contribute to the discussion and link to the remarks of others.

- CCSS.ELA-LITERACY.SL.1.D
  Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.

- CCSS.ELA-LITERACY.W.2.D
  Use precise language and domain-specific vocabulary to inform about or explain the topic.

- CCSS.ELA-LITERACY.W.7
  Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

Next Generation Science Standards

- MS-ETS1-1.
  Define the criteria and constraints of a problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment.

The Tech Interactive | Discovery EDUCATION

WebQuest

Directions:

1. Visit the website: https://techfortomorrow.com/tech-for-global-good.

2. Investigate the 2019 Laureates for The Tech for Global Good program using the videos.

3. Complete the table.

4. Respond to the "Draw Conclusions" question.

Project	Problem Identified	Solution Provided by Laureate	Use of Technology or Data

Draw Conclusions

Based on your investigation, what characteristics do you think The Tech for Global Good looks for in a "winning" project?

Use Your Voice

Directions:

1. After each vignette, compose a tweet that inspires action in others to solve the problem identified by the innovator.

2. Your message must be conveyed in 280 characters or less, including spaces!

3. Add hashtags that would help promote your tweet and help others find your message.

Innovation Version 2.0
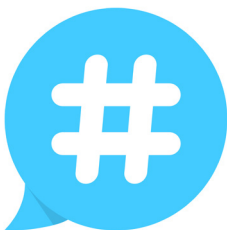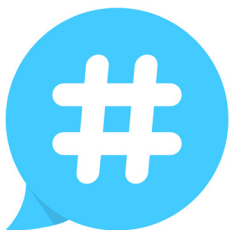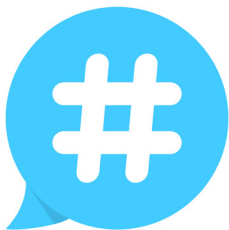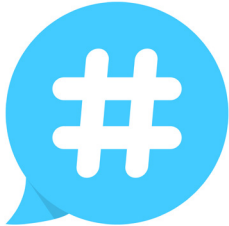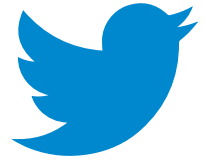
PART 1

Tech for Global Good innovation: _____

_____

Problem that it currently solves: _____

_____

PART 2

What other problems or communities could this innovation address? Is there a way that this innovation could help your local community?

PART 3

Explain how gathering or analyzing data could help solve a local problem.