Global Problem Solvers: The Series – Season 2, The Storm

Episode 2.1 – The Storm
Teaching Companion

Episode Summary
This episode introduces the next problem for the Global Problem Solvers team to solve a severe weather event, known as a hurricane, that has touched down in Tampa, Florida, USA. It also introduces us to a tech-savvy teen who, over the course of the season, will prove to be a valuable new member of the Global Problem Solvers: Ivy Stormcatcher. Ivy has an internet channel on which she talks about the weather and calls the team for help after the Tampa hurricane. However, her phone loses power before she can describe the specific problem that led to her call. The Global Problem Solvers plot a course for Tampa.

Worksheet
Can you find all the heroes and their powers in this word find? To help, here’s a list of everyone on the team and their powers. Their friend Ivy is in the word find too!
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Episode 2.2 – The Problem
Teaching Companion

Episode Summary
This episode takes the Global Problem Solvers to Tampa, where they get a direct look at the conditions that led Ivy to call for help. The team sees the role of infrastructure—roads, buildings, the electrical grid—in enabling a community to function at its normal level. With trees and floodwaters blocking the roads, schools damaged, power lines not fully restored, and disaster aid dedicated to higher priorities, Tampa’s schools could benefit from an innovative approach to getting students back to class.

Worksheet

1. Ivy Stormcatcher created her own online show to talk about her favorite subject: the weather. If you were to create your own online show, what would you discuss? What kind of information would you provide that might be helpful to other problem solvers?

2. Not every problem is a major disaster like a hurricane. Social problems are all around us. One of the essential skills in being a Global Problem Solver is seeing the problems that remain to be solved. What social problems do you think need to be solved in the following areas?

   Schools:

   Roads:

   Stores:

   Housing:

   Internet:
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Episode 2.3 – The Solution
Teaching Companion

Episode Summary

Ivy’s grandmother provides the theme for this episode, which has direct application to the process of creative social innovation: “I know we’ll find Bucky. I just love to see how you get us there.”

Ivy’s solution of putting a tracking device on the cat’s collar does not work in a community without Internet. In using Beela’s goggles to find the cat, the team not only locates Bucky, but also finds a house with an electricity generator, which in the next episode, will become part of the solution. At the same time, Adrien’s twisted ankle from Episode 2.1, coupled with a sunbeam shining through the airship window, inspires the idea for an emergency classroom kit and the use of solar energy. Sometimes the best ideas come from a combination of strategy and serendipity.

Worksheet

1. We can become so used to everyday technology that we forget the problems it was designed to solve. For example, consider the ad from back when zippers were new. What was so special about a zipper being “the Original Hookless Fastener”? Before zippers, clothing was held together with so many buttons that people closed them with a special tool, called a button hook, to save time and their fingers. The zipper especially made pants, skirts, and dresses much easier to wear.

2. The following are a few more examples of everyday objects that were invented to solve one or more problems. What problems do you think they solved?

   Lightbulb:

   Flush toilet:

   Beverage cans and bottles:

   Car:

   Smartphone:
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**Episode 2.4 – The Technology**

**Teaching Companion**


**Episode Summary**

The Global Problem Solvers have developed a possible solution and considered some potential challenges. In this episode, they build a prototype, or first model, of their emergency classroom kit. Along the way, they encounter more obstacles that could limit the kit’s usefulness. They succeed in overcoming a couple of these obstacles by reaching out to a family contact and adapting the solar technology to cloud cover in Tampa. But these experiences show the Global Problem Solvers that there is another problem they need to solve: how to turn this one-of-a-kind prototype into a product they can scale.

**Worksheet**

1. The most effective Global Problem Solvers realize that even though technology may solve an important social problem, technology can also create new problems.
   
   Let’s take another look at the inventions from the previous worksheet. Can you think of any new problems they have created and how these inventions could be made better?

   **Lightbulb:**

   **Flush toilet:**

   **Beverage cans and bottles:**

   **Car:**

   **Smartphone:**

2. What technology do you wish existed that has not been invented yet? What new problems might this new technology create? How might putting this new technology into practice show how it might be improved?
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Episode 2.5 – The Business Plan
Teaching Companion

Episode Summary

The Global Problem Solvers have a working model of an emergency classroom kit. Now they must get the product in the hands of their target market: teachers and administrators at Tampa’s schools. One problem is that the roads are difficult to travel and the Air Force can no longer spare high-water vehicles. Another is that these kits cost money, so someone is going to have to pay for them. Once again, understanding the community the Global Problem Solvers hope to serve helps them figure out successful strategies to overcome these problems.

Worksheet

The Global Problem Solvers have asked you for help in preparing their latest business plan for their Tampa schools social enterprise. The following are typical sections in an effective business plan. How would you persuade people to support the emergency classroom kit?

**Title:** What would you call this social enterprise?

**Problem:** What is the social problem that needs to be solved?

**Solution:** How will the emergency classroom kits solve the problem?

**Target market:** Who will use the kits? Who is likely to buy the kits?

**Business model:** How will the emergency classroom kit business make money?
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Episode 2.6 – Test and Retest
Teaching Companion

Episode Summary
The Global Problem Solvers now must test their emergency classroom kit with a class. They set up the kit outside for a group of students. For a short time, the portable classroom appears to be a success, but the team has overlooked two critical pieces of information. First, Tampa is rebuilding after the hurricane, so there’s a lot of noise in the streets. Second, a city with rainy weather is not an ideal place to hold class outdoors. Fortunately, the team is able to find a solution to these problems by once again paying attention to the community they are trying to help. Empty shipping containers outside shelters provide protection from the weather, block outside noise, and have enough space for a class to meet. Testing and retesting has made a good solution even better.

Worksheet
Another important way to perfect your business plan is to integrate honest feedback on what could go wrong with your solution and how you would overcome those problems. A popular way of doing this is through what is called a SWOT assessment:

- **S** is for Strengths of the solution.
- **W** is for Weaknesses of the solution.
- **O** is for Opportunities. What circumstances in the outside world will help sales of the solution?
- **T** is for Threats. What circumstances in the outside world will hurt sales of the solution?

It’s never too late to make a SWOT assessment. It’s a good way to make sure your business continues to be healthy.

1. What would you say are the strengths, weaknesses, opportunities, and threats for the Global Problem Solvers’ emergency classroom kit?
   - **Strengths:**
   - **Weaknesses:**
   - **Opportunities:**
   - **Threats:**

2. Choose an item of technology that you use every day, such as a smartphone, a favorite app, a car or television set, and make a SWOT analysis. Are there ways it could be improved to be more useful?
   - **Technology:**
   - **Strengths:**
   - **Weaknesses:**
   - **Opportunities:**
   - **Threats:**
Global Problem Solvers: The Series – Season 2, The Storm

Episode 2.7 – Birth of a Social Enterprise
Teaching Companion

Episode Summary

Once again, the Global Problem Solvers have helped a suffering community by creating a social enterprise: a business that attempts to solve a social problem. Even though this episode takes place sometime after their first test, the Global Problem Solvers continue to gather data to measure the effectiveness of their emergency classroom kits. Ivy helps spread the word through her Internet reporting and the team receives another major marketing push from the promoter of the Monster Truck Showdown. As the team sets off for its next adventure, Ivy joins the Global Problem Solvers. Her ability to foresee problems will provide another valuable superpower sure to help other people in need.

Worksheet

1. By blending a project that benefits the community with a profit-making business strategy, the Global Problem Solvers have successfully launched another social enterprise. When and how would the emergency classroom kit be useful for your school?

2. Imagine that your school uses the emergency classroom kit. What kind of data would need to be gathered to determine whether it was effective for your school?

3. Marketing strategy is another key part of a good social enterprise business plan. Are there other ways besides a big event that the Global Problem Solvers could use to promote their emergency classroom kits?

4. How would you promote a social enterprise on social media? If you were to create a clever meme to market a social enterprise, what would it be?