Objectives

The Global Problem Solvers animation series is designed to introduce middle-to-high-school students to strategic social innovation with a particular focus on how they can use technology to create effective new solutions to seemingly intractable problems. By equipping students with a fundamental set of problem-solving tools for turning their visions for change into a practicable reality, the series aims both to generate excitement for social innovation and to develop a new generation of emerging social entrepreneurs.

The Global Problem Solvers series engages students with the story of how a global and diverse teen super-team takes action against the scourge of safe water shortages in developing communities. The series encourages students to think of social entrepreneurship not just as an inspiring ideal, but as an achievable goal.

The overarching goals of the series are as follows:

- Foster an entrepreneurial approach to problem solving;
- Encourage the future development of innovative technological solutions and sustainable social ventures;
- Inspire students to be social change agents; and
- Facilitate the achievement of these objectives by presenting six attributes of Global Problem Solvers and nine steps of social entrepreneurship in an engaging and entertaining way.

Core Concepts

The six attributes of Global Problem Solvers include:

1. Digital skills
2. Creativity
3. Critical thinking
4. Social consciousness
5. Entrepreneurial spirit
6. Teamwork skills

The nine steps of social entrepreneurship include:

1. Articulate the problem
2. Surround yourself with experts
3. Formulate a solution
4. Incorporate technology to connect people, processes, data, and things
5. Develop a business plan
6. Raise funding and spend it wisely
7. Test and refine solution
8. Use data to measure impact
9. Spread the word
Episodes

Global Problem Solvers Season 1 consists of seven units, each of which contains a two-to-three-minute video and follow-up discussion aimed at highlighting the elements of social entrepreneurship featured in the respective episode. The discussions can take twenty-to-forty minutes and can be aided by the scripts, storyboards, and worksheets. It is best not to wait too long between screening each episode. Spending more than a month integrating all seven units into your lesson plans might sacrifice memory and continuity of storyline and themes.

The episodes set forth specific aspects of innovative problem-solving by going through the stages of social entrepreneurship as follows:

- **Episode 1.1: The Team**—describe six attributes of Global Problem Solvers.
- **Episode 1.2: The Problem**—articulate problem and surround yourself with experts.
- **Episode 1.3: The Solution**—formulate a solution and integrate technology.
- **Episode 1.4: The Technology**—integrate technology and conduct initial testing that reveals need for a viable business plan.
- **Episode 1.5: The Business Plan**—develop business plan and fund the project.
- **Episode 1.6 Test and Retest**—test the solution.
- **Episode 1.7: Birth of a Social Enterprise**—use data to measure impact, spread the word, and keep looking for innovative solutions.

Pedagogy

The Global Problem Solvers series takes an inductive approach, using the characters in the Global Problem Solvers super-team to exemplify effective social innovation through their interactions.

- **Discussion** prompts for each episode encourage students to identify what they see as the most valuable points. The prompts also encourage students to identify opportunities for social innovation in their immediate communities and to apply the series’ lessons in their own lives.
- **Long-term Project** helps students write and even produce their own Global Problem Solvers adventures. It starts with Episode 1.1 and develops throughout the season.
- **Worksheets** give students an opportunity to explore the themes of each episode further.
Materials

In addition to the videos, classroom activity for this teacher’s guide makes use of the following materials:

- Storyboards
- Scripts
- Worksheets

Additional Resources

The following are helpful references that provide a general introduction to social innovation and entrepreneurship:

GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.1: THE TEAM

This unit serves to introduce the six members of the Global Problem Solvers super-team. Each member exemplifies one of six attributes conducive to creating innovative solutions to social problems. Putri, the team leader, whose special power is teamwork, summons the teens together aboard an airship to see if the combination of their skills can solve a real-world issue.

The members of the Global Problem Solvers super-team, their home countries, and the attributes they exemplify include:

1. Beela, Jordan, Digital skills
2. Adrien, France, Creativity
3. Satoshi, Japan, Critical thinking
4. Kelile, Malawi, Social consciousness
5. Cristina, Brazil, Entrepreneurial spirit
6. Putri, India, Teamwork skills

Objectives

Within the broader framework of Season 1, Episode 1.1 is akin to the overture in a play. Motifs appear throughout the remaining episodes. By discussing how technology and socially responsible entrepreneurship can make the world a better place, your students will be better prepared to engage the lessons in subsequent episodes.

In this unit you'll help students identify the fundamental attributes of being a global problem solver and think about how they can develop the same attributes to help their own communities. The most important takeaway is that digital skills, creativity, critical thinking, social consciousness, entrepreneurial spirit, and teamwork are essential tools to catalyze change.

Class Discussion: Introduction

Before starting the video, it could be helpful to frame the conversation in a way that gets your students to feel vested in the task of social innovation. One way to do this is to elicit ways in which the students see themselves as problem solvers.

To this end, the class could open with a discussion of something along the following lines:

“For the next few days we’re going to talk about problem solving and how you can make the world a better place. To help us we’re going to take a look at a series of videos that show how a team of teen superheroes, the Global Problem Solvers, use their powers to help people. Before we view the first episode, I want to ask you a question: If you could have any superpower in the world, what would it be?”
This conversation should be open-ended and will most likely cover a wide range of impossible possibilities. It’s an opportunity to get the students’ creativity flowing as they imagine themselves doing fantastic things and having an outsize impact. Once the conversation reaches a natural transition point in terms of time or rhythm, a segue to the video can be made as follows:

“These are all wonderful ideas, but what you may not realize is that you can all develop real skills that can save the world. In the first episode of Global Problem Solvers Season 1, let’s look out for how you can be Global Problem Solvers too—what are the skills that can make you a real-world problem-solver?”

Class Discussion: Video

After showing the students the video, lead the students in a discussion of the ways in which the video shows us how we can all be problem-solvers. The video includes three focal points in particular, which can be addressed with the following questions:

- The leader of the team, Putri, is assembling the teens to help solve social problems. What types of problems are the team members she finds in the process of helping to solve?

  The video presents six different problems, each of which can be generalized into issues faced around the world, such as internet connectivity, transportation, food delivery, business sustainability, and environmental protection.

- What did the heroes do to help solve these problems?

  This discussion will revolve around several main themes, including technology and new ideas. Each solution applied in the video can invite questions as to how the technology or idea can help. For example, how can internet access, video games, and video drones promote positive social change?

- What is each hero’s superpower?

  This question is the prompt to elicit the six attributes of effective social entrepreneurs, which can be summarized in more detail as follows:

  o **Beela, Digital Skills**—Not just using technology, but embracing it. People who can analyze data, build networks, develop apps, or secure devices can bring ideas to life.

  o **Adrien, Creativity**—Dreaming up new ways to solve problems and make things better for others. Innovative ideas are the foundation for addressing the challenges we face.

  o **Satoshi, Critical Thinking**—Analyzing one’s way around every obstacle. People who are curious, ask questions, and evaluate options are essential to solving problems.

  o **Kelile, Social Consciousness**—Awareness that “changing the world” is a must and that everyone can make a difference. People with a sense of service inspire others and spark transformation.
- **Cristina, Entrepreneurial Spirit**—Seeing a challenge as an opportunity waiting to happen. People who are comfortable taking risks and leading others can turn ideas into action.
- **Putri, Teamwork Skills**—Communicating well and respecting others. The best problem solvers realize they are stronger working together than powering through alone.

- To help show how everyone has the capacity to make a positive impact, ask the students a personal question: In what ways have they displayed any of the attributes of being an effective social entrepreneur, or perhaps know someone who has?

This episode can also serve as a springboard for a fun small group activity. Divide the class into separate Global Problem Solvers teams. The mission of each team: choose a problem that needs solving (globally or in their own community), describe a way to address it, and identify what special skill or attribute each member of the team brings to the task.

**Long-term Project: Global Problem Solvers Fan Fiction**

The ideal outcome of the Global Problem Solvers series is for students to engage in solving social problems. To this end, the long-term project provides a means for students to explore and offer solutions for a social problem by creating their own story about it. The protagonists can be the Global Problem Solvers team or whatever characters the students create.

The first step: learning how stories are told. After the episode and ensuing discussion, hand out copies of the episode’s script and storyboard. Explain that these materials give students a behind-the-scenes look at how not just animation, but also movies, TV shows, and video games are made.

Talk about how the first episode of the Global Problem Solvers introduced each member of the team by showing him or her in action. Each character was doing something to illustrate an attribute of real-life global problem-solvers.

Start the students on creating characters for their own stories, through a script or storyboard—whichever they’d prefer. You should only have students create the first chapter of their story, in which they introduce characters and show how they come together as a team. How will their characters be shown exhibiting certain traits? Which problems might their own Global Problem Solvers try to solve?

There are plenty of blank, printable storyboards available online. Start here: [https://www.printablepaper.net/category/storyboard](https://www.printablepaper.net/category/storyboard)

**Additional Resources**

The call for global problem solvers:

Young social entrepreneurs in action:

• India: UnLtd India - [http://www.unltdindia.org](http://www.unltdindia.org)
• Jordan: Digital Opportunity Trust - [https://jordan.dotrust.org](https://jordan.dotrust.org)
• USA: Ashoka Youth Venture - [https://www.youthventure.org](https://www.youthventure.org)
• Volunteer for Social Change, DoSomething.org: [https://www.dosomething.org/](https://www.dosomething.org/)
1. Match game!

The Global Problem Solvers are a team dedicated to using their special skills to create a better world. Which attribute of a Global Problem Solver best describes each team member?

- Beela: Social consciousness
- Adrien: Digital skills
- Satoshi: Entrepreneurial spirit
- Kelile: Creativity
- Cristina: Teamwork skills
- Putri: Critical thinking

2. Which special skills do you bring to global problem solving? Which attributes do you see in your classmates?

3. What have you or someone you know done to make the world—and that includes your own community!—a better place?

4. Who is your global problem solving “hero”? 
GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.2: THE PROBLEM

Episode 1.2 sets out a problem for the team—and the students—to solve, decipher and articulate, i.e., contaminated well water in the home community of Global Problem Solvers team-member Kelile. In Malawi, the team explores the cause of the broken well, the conditions that led to the problem, and the impact it is having on the local community. By directing students to see problems in terms of the systemic causes and system-wide effects, this episode highlights why the defining characteristic of social entrepreneurship is its determination to identify solutions that go beyond patchwork, palliative fixes.

This episode also highlights the value of teamwork. In the story, the Global Problem Solvers descend upon Malawi and learn through their team member how the well has been affecting his village and family. The Global Problems Solvers gather data to articulate the problem. The team canvases Malawi technicians and farmers, learning the key flaws of the current well system and the causes of contamination. They must work together to get a holistic view of the social problem they have identified.

Objectives

The mission of Episode 1.2 is as follows:

- Teach students to articulate problems on multiple levels, e.g., the immediate problem and the larger-scale problem that it might reveal
- Teach students to see the broader, system-wide effects of social problems
- Encourage students to approach problems through information gathering, and particularly by consulting experts and others more familiar with what’s going wrong.

Class Discussion: Introduction

To get students thinking about problem solving, ask students to identify social problems in need of new solutions. They will likely start with high level abstractions (poverty, pollution, crime) and possibly concentrate on areas outside their own direct experience. Highlight how the upcoming episode not only provides a problem for the team to solve, but shows how social problems can arise in one’s own community.

Class Discussion: Video

The following questions based on the video can help students learn how to take a creative approach to problem solving.

- What is the problem that the Global Problem Solvers need to fix?
• Is this only a mechanical problem? What kind of effects did the broken well have throughout the whole town? What kinds of problems did it cause for kids?
• Why did it take so long for the source of the problem to be discovered?
• How did the Global Problem Solvers figure out what was happening?
• Is the problem limited just to one community in Malawi?

The video provides a series of cues that point to issues beyond the immediate issue of a broken machine. For example, the reliance on a single technician to spot and fix problems is a major issue; unsafe water leads to disease; and the need to gather water forces kids to miss school.
To diagnose the full scope of the problem, the team engages in information gathering. The teens don’t assume that they know everything on their own or just from Kelile. From there the discussion can go to broader strategies for information gathering and team building, from exploring the various media for finding information and making new connections to the types of people who might be useful for addressing a problem.

The discussion of the video can also lead to a broader discussion of social problems. Students should be encouraged to think critically about social problems: the broken well might be addressed by a simple fix, but sometimes fixing a problem is not truly fixing the problem. It’s possible that a repeatedly broken well can be a symptom of a system-wide breakdown that requires a more substantial solution than just repairing a part.

From there it’s a short jump to identifying the metaphorical broken wells that students see in their own communities. The episode’s focus on a problem in the home village of one of the team members exemplifies how global social problems are not just in someone else’s country. They can be an all too familiar aspect of day-to-day life at home.

Here are a few questions to spark discussion:

• What social problems do the students encounter in their own communities or home country?
• What problems do students see that point to bigger problems to be solved?
• Might there be any hidden problems—things that everyone accepts as normal but actually could be improved?
• How would the students go about finding more information about how they can help?

Ask students about the problems being addressed by the technology they use every day. For example, although we tend to see cars as polluters today, when they first appeared they had the benefit of easing the sanitation problems created by horses—indeed, early ads touted automobiles as a cleaner form of transportation. Phones, computers, the internet, indoor plumbing, ready-to-wear apparel—students everyday encounter technology that at one time represented an innovative solution to a social problem, and seeing a world that has improved can help students see new possibilities for improving it further.

Long-term Project: Inciting Incident
From a storytelling perspective, the first episode introduced the characters. The second episode presents what is known as the inciting incident: the development that sets the story in motion. In the case of the Global Problem Solvers, the inciting incident is a broken pump that in turn points to a more extensive problem that the characters need to solve.

This is an appropriate time for students to reflect upon what the inciting incident will be in their own Global Problem Solvers stories. What issue leads their characters to discover a global problem, and how do their characters then go about learning more? Have students write or draw the second chapter in their script or storyboard.

Mastering character development, inciting incident, and other elements of a story arc are vital skills for social entrepreneurs. Being able to tell an engaging and persuasive story can make all the difference in making an investor believe in an enterprise or a customer believe in a product.

Here is some background material on storytelling and inciting incidents:


## Additional Resources

### Safe water:


### Global problems and problem-solving:

- Global Issues - [http://www.globalissues.org](http://www.globalissues.org)
Guest speakers can be another resource for making the problem-solving story come alive for your students. For example, you could ask someone in your community who has addressed a social problem through their business, nonprofit, or government work to discuss the problem he or she identified and how they went about trying to solve it. For this episode, someone with a story about asking others for help or doing research would be especially appropriate.
1. The Global Problem Solvers work together to develop a solution for the broken wells in the village. Name something you have accomplished working together with friends or family. What about that accomplishment benefited from working together versus just attempting to solve the problem yourself?

2. Another important tool of the Global Problem Solvers is creativity. They think up approaches that have never been used before to solve problems. Describe your special creative skill in solving problems. For example, can you build things? Do you create good art or writing?

3. The girls from the village were tasked with collecting water from wells and missed school to do so. That seems like an unusual problem to many people. But it’s not so difficult to imagine, for example, no hot water in your home. Describe the problems that would cause someone in your family to get it fixed.

4. Describe your own creative solution to maintaining the village wells. Feel free to use your imagination!
GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.3: THE SOLUTION

Having developed a more informed understanding of the water situation in Malawi, the Global Problem Solvers take an inventory of their skills and experience: What can they each contribute to developing an innovative solution? Pooling their talents, the Global Problem Solvers devise a network of sensors to determine when each well requires maintenance and start implementing their strategy in a small-scale test. But not everything works as anticipated.

Objectives

Episode 1.3 has the following objectives:

- Show students how they can solve large-scale social problems through brainstorming.
- Illustrate how in the world of global problem solving, even small and seemingly invisible matters can pose substantial challenges that need to be addressed.
- Encourage students to look beyond themselves as individuals to take advantage of others’ insights and abilities.
- Exemplify how creative thinking and new technology can be applied to deeply entrenched problems.

Class Discussion: Introduction

Have your students ever read a book and wondered where the author got his or her ideas? The process of creating a fictional universe may seem mysterious, but there are aspects of world-building that anyone can do. We consider our experiences—things we've read, people we've met, ideas we've had. We reflect on what we know and imagine what we've not yet encountered. Eventually, we can either see new connections among familiar objects or new connections suddenly emerge.

A similar process is at work in global problem solving. To create a world we want to see, we must reflect on not only a problem, but also our past experiences of interacting with others and how we've gotten things done. The most inspiring and workable solutions—much like the most compelling fiction—are anchored in reality.

Take a sampling of what changes students want to see in the world, but have them think more locally than global poverty or world peace. What happened on the way to school that your students could imagine being better? Speaking solely from students’ past experiences, what could solve the problem?

Class Discussion: Video
While cameras are more a part of our everyday lives than ever before, most people do not have a video archive of how they went about solving problems in the past. But that’s OK. We each have a theater of the mind in which we get to star. Or to update that old image, we all have the screens of memory and imagination, and as Satoshi indicates in this episode, drawing on our past to create new solutions can seem a lot like playing a video game.

How did the Global Problem Solvers come up with a solution to Malawi’s water problem?

- They reflected on their past experiences, sifting through their skill sets and acquired knowledge, to assess how those experiences could be adapted in new ways to the present situation.
- They decided to approach the problem “like businesspeople.” What did that mean? First and foremost, it did not mean they thought only about how they could get rich. Instead, they thought about the demand they were trying to meet—in this instance, the demand for working wells and a safe, accessible water supply.
- They also assessed the people and area they were trying to help.
  - They observed that technicians needed help identifying which wells were broken.
  - They mapped out the territory in need of help (“Malawi has 28 districts and 25,000 wells”).
  - They hypothesized that a sensor network might be a viable technological solution to the problem.
  - They recognized the realistic difficulties implementing their potential solution.
  - Before going too far, they decided to test their proposed solution on a smaller scale.

This all leads to a natural follow-up question for your students: How does the proposed solution benefit from the talents of each Global Problem Solver? For a refresher, here are the team members and their special abilities:

- **Adrien, Creativity**—The sensor network provides an innovative new way to solve the problems with Malawi’s wells.
- **Beela, Digital Skills**—The sensor network harnesses Beela’s ability to analyze data, build networks, develop apps, and secure devices that can bring ideas to life.
- **Cristina, Entrepreneurial Spirit**—Creating a new solution such as a sensor network requires a confident, risk-taking spirit. There’s no guarantee that every new idea will work, and even an idea that appears to work will encounter problems along the way.
- **Kelile, Social Consciousness**—Kelile’s awareness that everyone can make a difference and ability to inspire others will be crucial for garnering support for the sensor network in local communities and throughout the country.
- **Satoshi, Critical Thinking**—The sensors not only reflect a critical analysis of Malawi’s current water delivery mechanisms, but also require constant ongoing analysis to implement and maintain effectively.
- **Putri, Teamwork Skills**—Just as the sensor network connects Malawi’s wells to each other and to local technicians, Putri’s teamwork skills bring everyone together to turn a new idea into reality.
Long-term Project: Character Development

Whether making a novel, movie, or video game, creators often choose to move a story forward not merely through a series of plot points external to the characters, but by exploring how the characters develop, learn, and change. What the characters do reflects who they are, and exciting new possibilities can emerge as characters interact with each other and their surroundings.

Mastering character development and other elements of good storytelling are vital skills for social entrepreneurs. Being able to tell an engaging and persuasive story can make all the difference in making an investor believe in an enterprise, a customer believe in a product, or a community inspired to embrace change. As your students take another step toward crafting their own Global Problem Solvers adventure, this section provides an opportunity to explore how their proposed solution emerges from the characters themselves.

- One of the most common structures for stories is that characters are introduced (as in Episode 1.1), there is an inciting incident (as in Episode 1.2), and then in reaction to the inciting incident, the characters develop (as in Episode 1.3). How the characters respond or attempt to manage the event or epiphany from the second act reveals something much deeper about these characters in the third. This is where students should create their own third acts in their scripts or storyboards. Keep in mind that in addition to the characters’ responses betraying their personalities, it will give important clues about where the story’s going, so it’s essential for students to think ahead.

- An element of a story that can at times seem like a character is its setting. Places have personalities, and will continually influence how a story unfolds. Settings are essential elements to understand global problem solving. Have students consider how the settings of their stories have changed—in the eyes of both the characters and the audience—as a result of the inciting incident.

Additional Resources

- “We Gamify Africa’s Learning Needs.” AFROES. http://afroes.com
1. In this episode, the Global Problem Solvers test a sensor network that can notify local technicians when a well needs repair. What other problems with wells might a sensor network help solve?

2. What other problems aside from broken wells could be helped with sensor technology?

3. In this episode, the Global Problem Solvers run a test of their solution. Why is it important to test a solution when trying to solve a problem?

4. Think of a problem in the community you live in, like pollution, traffic, or flooding. Describe a solution that could address your community's problem.
The Global Problem Solvers use their special powers to start building a network of sensors for the wells of one of Malawi's twenty-eight districts. First, they use their special skills to solve a problem resulting from how their sensors interact with the surrounding physical environment—namely, Lake Malawi. Then, the team encounters issues resulting from how local residents, including the technicians themselves, are responding to the new technology. The team is inspired to solve this problem by a most unexpected source: a school of fish.

**Objectives**

Episode 1.4 encourages students to do the following:

- Identify potential technological solutions to social problems.
- Account for logistical challenges and opportunities.
- Recognize the human impact of technology, particularly with respect to disruptive social change.
- Develop strategies that blend local skills with technological capabilities.

**Class Discussion: Introduction**

The previous episode ended on a cliffhanger: Sensors installed to alert locals to malfunctioning wells had mysteriously stopped working. One way to open this lesson would be to ask why. What could have caused the sensors to go off the grid? There's a good chance that students will not guess the answer provided in the upcoming video, but that's OK. The main goal of this exercise is to get students to think critically about technological solutions to social problems.

**Class Discussion: Video**

The opening scene of this episode illustrates another important aspect of innovative problem solving: Sometimes the obvious solution is also the most complicated. In this instance, the seeming abundance of fresh water in Lake Malawi would appear to provide an easy solution at least to the water problems in the nearby region, but geography, physics, energy resources, and cost prove to be difficult obstacles to overcome. (At least thus far, a controversial $500,000,000 project is underway to create a new pipeline that would supply the country's capital with water from Lake Malawi.)

What kind of difficulty did the lake create for the Global Problem Solvers' sensors? The scientific answer is that the water interfered with the sensors' signals, but from a broader perspective the story points out the need to understand that technology does not operate in a vacuum. Understanding how technology interacts with its surrounding environment can be the difference...
between success and failure.

What other issues can arise from technology’s interactions with society?

- One issue that must be faced wherever there are problems to be solved: legal requirements. Sometimes, as in the District Water Officer sequence in this episode, there are permits to obtain and paperwork to be filed. Failing to get the right form or to make the right government official happy can prevent even the most visionary solution from becoming a reality.

- Another issue highlighted in this episode: concerns about technology’s potentially negative disruptive effects. In this instance, local workers call attention to their need for training and express their fear that automated technology will render their jobs obsolete.

How do the Global Problem Solvers deal with these concerns? By demonstrating how their network of sensors will not only continue to value current technicians, but also create new opportunities for workers throughout the country. The way the team finds a resolution to this issue reflects two increasingly important approaches to problem solving:

- The inspiration from how fish act together in schools illustrates the value of biomimicry, also known as biomimesis (adapted from Greek words for “imitating life”). Biomimesis is being used in all forms of engineering, including robotics, medicine, fashion, tool design, vehicles, architecture, and prosthetic limbs. Sometimes, the answers to the planet’s biggest problems can be answered by the planet itself.

- Kelile’s moment of inspiration occurs during a fun activity: swimming. Sometimes the most effective way to solve a problem is to step away from it. Play, daydream, solve puzzles, listen to music, sleep—your students will be surprised how many seemingly impossible problems they will solve in life when not trying to solve them!

One key phrase in this episode: “I was so focused on getting the technology to work, I missed what it takes to get it working in Malawi.” This touches on one of the hottest issues in international aid efforts today: overcoming the savior complex. Regions in need of help are not passive victims to be saved. Providing assistance involves not just understanding the culture, institutions, environment, and other experiences of those being helped, but seeing how local residents can be valuable resources for positive change. This may seem like a fairly advanced idea, but you might be surprised about how familiar your students are with efforts to “help” them that don’t quite speak to or include them. See if they connect with the concept.

**Long-term Project: Complications**

Steven Moffat, the writer and producer of such internationally successful television shows as *Doctor Who* and *Sherlock*, observed, “If you’re going to do a show about a genius, you can’t do a show about a genius who doesn’t learn.” The same is true in telling stories about how Global Problem Solvers use tech to help people. Rarely does tech make perfect changes to an entire community right out of the box. Things break, machines stop working, lights turn red when they’re supposed to turn green.
What makes social entrepreneurs great is not that they get everything right, but how they adapt when things inevitably go wrong.

As your students continue to create their own Global Problem Solvers stories, encourage them not to make everything work perfectly. Instead, have them think about the many ways their technological solutions might not work and how the characters might respond. This won't just make for more engaging stories; it will help your students (and their characters) develop more effective solutions.

Storytelling through how characters respond to a series of complications has a long history, with the ancient Greek philosopher Aristotle being the first to identify complications as an essential part of dramatic narrative. Having characters evolve by encountering a series of complications is a basic structure that we continue see in everything from Oscar-winning movies and narrative-driven video games to nonfiction books, articles, and documentaries about social entrepreneurs.

**Additional Resources**

GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.4: THE TECHNOLOGY

WORKSHEET

1. In this episode, Kelile is inspired to solve a problem by watching how fish swim together in schools. Describe other ways we might find inspiration when solving social problems from how animals interact.

2. Have you ever had an answer to a difficult problem come to you when you weren’t trying to solve it? While dreaming, playing, relaxing? What’s your “sudden inspiration” story?

3. Sometimes solving a problem can lead to lots of obstacles. In your own life, how do you focus on solving a problem when things seem to be going wrong?

4. If you were going to propose a technological solution to a social problem in your own community, what would it be? How could others in your community get involved to help this technology accomplish your goals and perhaps work even better than you’d planned?
GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.5: THE BUSINESS PLAN

Back in the airship, the Global Problem Solvers discuss an issue that is essential to their venture's success: Who will implement their solution when they're gone? They develop a business plan for their well sensor network that addresses such key considerations as material resources, funding, profitability, marketing, social impact, and local connections. To fulfill this plan, they visit a factory in Malawi that manufactures similar sensor technology and persuade the owner to see how manufacturing well sensors would fit within his own business model.

Objectives

The main objectives of Episode 1.5 are as follows:

- Encourage students to see global problem solving as a blend of social good and good business.
- Show key elements of a viable business plan.
- Illustrate how social enterprise pursues three types of sustainability, commonly referred to as the triple bottom line: social, environmental, and financial.

Class Discussion: Introduction

If coming up with effective means for solving social problems seems a bit overwhelming, that's because it is a truly difficult task. Feeling overwhelmed is not so much a cause for worry as a sign that you're approaching the task the right way. If you feel that everything is easy and you're in total control, chances are that you're overlooking something important.

The lead-in to this video is a good time to call students' attention to how the story has progressed thus far, not with triumph after triumph but with the characters encountering fresh challenges and developing creative strategies for moving past them. You might want to ask your students when they've ever felt totally overwhelmed and what they did to deal with that feeling. Have they encountered any problems, difficulties, or other situations that they felt powerless to address? If they figured out ways to get past that situation, what did they do and why?

Another possible lead-in is to focus on the business aspect of the upcoming episode. Have any of your students started a business? Can they think of any famous entrepreneurs? What do the most successful businesses seem to do that makes them thrive?

Class Discussion: Video
This episode opens with a scene showing how a YouTuber creates a mini-tornado. This is an apt metaphorical depiction of the storm going on in the minds of every conscientious social entrepreneur.

How is solving social problems like weathering a storm? Think about all of the difficulties created by social problems and the challenges for launching a successful business. Then add to this the difficulties faced by a social enterprise, which attempts to be financially sustainable while also applying new solutions to seemingly unsolvable social problems. These businesses often operate in areas suffering from poverty and a lack of access to needed material resources. Solving social problems calls for courage and commitment!

What do the Global Problem Solvers do in this episode to get through the whirlwind?

- Devise a business plan.
- Involve local people in the solution.
- Adapt existing resources to new solutions.

What is a business plan? The video provides a number of clues to help your students understand why entrepreneurs create business plans and what business plans include.

A business plan helps entrepreneurs:

- Assess the viability of their idea.
- Develop effective strategies for success.
- Attract needed investment, talent, and resources.

The Global Problem Solvers discuss key elements of a strong business plan, such as:

- Description of goods and services.
- Target market.
- Marketing strategy.
- Strategy for going to scale, i.e., going big.
- Personnel.
- Financials, including investment needs and long-term projections.
- Risks.
- For social enterprises, social and environmental impact.

The additional resources section for this episode includes several leading business plan competitions for young people, along with free resources for understanding how to develop an effective business plan.

**Long-term Project: Storytelling Techniques**

This episode exemplifies several effective storytelling techniques that can also be used in building support for a real-world social enterprise. All or one can be implemented in the next chapter of your students’ scripts or storyboards.
• Metaphor: The tornado in the story is itself a symbol of the power of images for conveying ideas. What makes the tornado such a popular recurring symbol is that it represents chaos that catalyzes change, transforming from a destructive to constructive force. The most popular example is in the 1939 film The Wizard of Oz. The tornado takes Dorothy away from her Kansas home, ultimately making her appreciate it more. Similarly, Episode 1.5’s tornado—a potentially cataclysmic event in a poverty-stricken region—ends up being a source of nutrition for Malawians and inadvertently Adrien. How can the tornado be seen as a metaphor for social entrepreneurship? What metaphors work for your students’ stories?

• Humor: Never underestimate the power of humor to teach and persuade. Surprise and unexpected connections are significant aspects of what can make humor inspire laughter and learning, as we saw with the fly burger incident. Also in the humor toolbox: The callback, such as the return to the tornado image at the end of the episode, except this time not as a threat but as food.

• Action: The most instructive stories do not read like Wikipedia entries. One of the fundamental rules of good storytelling is, “Show, don’t tell.” Writers and artists know that the best stories don’t read like didactic lectures, let alone teacher’s guides! Instead, they engage the reader through dynamic narratives that inspire imagination and reflection.

Additional Resources

GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.5: THE BUSINESS PLAN

WORKSHEET

Your mission, if you choose to accept it: Create a business plan to sell your social enterprise idea to a potential investor.

1. How would you summarize your idea in what is known in business as an “elevator pitch,” a succinct statement that can be delivered in thirty seconds or less? (Why is it called an elevator pitch? Imagine it as a sales pitch you can only make to someone during a brief elevator ride.)

2. Assess your social enterprise idea's strengths and weaknesses.

3. Practice convincing someone of your idea. Try to pitch your friend or family member on investing in your business idea.

4. How would your social enterprise make money?

5. What kind of social impact would your idea have? How would you measure the impact?
GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.6: TEST AND RETEST

Installing new technology is only one part of solving a social problem. Even the most thought-out solution will require ongoing data collection, troubleshooting, and maintenance. In this episode, the Global Problem Solvers enlist a team of technologically savvy Malawi teens to help respond to another of the country’s most difficult issues: seasonal flooding. To prevent sending technicians out to repair wells that cannot be fixed during the most severe floods, the sensors are retrofitted to send out a special signal when a broken well cannot be accessed.

Objectives

The objectives of Episode 1.6 are as follows:

- Illustrate how the work of a truly sustainable social enterprise does not stop with the launch of a good-intentioned project.
- Highlight the importance of local expertise and experience.
- Call attention to the importance of understanding a project’s surrounding environment.
- Show the value for continual monitoring and adaptation.
- Note that even seemingly working solutions may be partial or require further work.

Class Discussion: Introduction

This episode starts with another problem in Malawi that your students might not have expected. While access to safe water and functioning wells are serious systemic issues, the country also experiences an intense rainy season that regularly leads to severe flooding. These floods destroy homes, kill people, and, as the episode notes, cause significant problems for the water supply by damaging equipment, spreading pollution, and preventing repairs. Even worse, droughts and dry spells the rest of the year can give rise to conditions that make flash flooding worse.

To start the discussion, ask students how access to safe water could be a problem in a country that has an intense rainy season.

Class Discussion: Video

The theme of this episode is testing and retesting. How did the Global Problem Solvers go about this process?

- One crucial element of effective testing and retesting is to try a technology under different conditions, such as different times, places, weather, and forms of stress.
• The Global Problem Solvers also benefit by bringing in others with more information or useful skills. What made the Polytechnic Institute so helpful? In this instance, the students had superior knowledge of local weather conditions. They also had specialized knowledge and skills in science, engineering, and coding. What are your students learning that would make them useful in social problem solving?

• What do your students think about the decision to make the sensors tell repair technicians not to fix certain broken wells until after the flooding had subsided? Some students might object that this means the problem was not solved at all. Others might argue that not every aspect of a problem can be solved, at least right away, and at best the technicians were sent to wells that could be repaired. The correct answer: Welcome to the complex world of global problem solving.

Difficult decisions in dealing with social problems are sometimes described as “tragic choices.” What factors might contribute to making a complete solution difficult? Examples include time, money, geography, technological limitations, and political and social conflict.

**Long-term Project: The Turning Point**

As we've seen in previous episodes, the storytelling structure of the Global Problem Solvers series follows a pattern that extends from the latest Hollywood movies back to plays in classical Greece. First, the characters encountered a series of challenges, or complications, and now they've reached a critical turning point. In this instance, the turning point consists of a major crisis in which our heroes find a way to overcome a significant problem that could render their sensors substantially meaningless. What’s left for characters to do in the final episode is to resolve the remaining details in their successful venture.

As your students develop their own stories, they should think of how they can build to a critical turning point. How might the fate of their characters' project be put in danger and what can the heroes do to prevail?

**Additional Resources**

- “Malawi.” *Open Data for Resilience Initiative (OpenDRI).* [https://opendri.org/project/malawi/](https://opendri.org/project/malawi/)
1. The Global Problem Solvers address the problem of flooded wells by reworking the sensors to tell technicians when not to come to make repairs. Can you think of a different way to address the flooded-well problem?

2. Many everyday technologies help address social problems that once seemed impossible to solve. How do you imagine first responders knew of roadside emergencies before smartphones? How can smartphones be improved to address roadside emergencies even quicker?

3. What kinds of challenges in a community can make it difficult to adopt a technological solution to a social problem? How would you try to overcome these challenges?

4. What skills are you learning in school that make you an effective global problem solver? What would you like to learn to make you even better at it?
GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.7: BIRTH OF A SOCIAL ENTERPRISE

The Global Problem Solvers have put their innovative solution in action, and the result is a venture that blends good business with doing good: a social enterprise. To help the venture thrive, the Global Problem Solvers gather information to measure what works and what can be improved. They also help spread the word through various forms of media, including social networks. Season 1 concludes with the team leader getting a call—the teens are needed elsewhere. The work of Global Problem Solvers is never done.

Objectives

The objectives of Episode 1.7 are as follows:

- Define social enterprise as a distinct type of business.
- Tie together the central themes of the preceding episodes, especially the nine steps of social entrepreneurship.
- Exemplify the final two steps: using data to measure impact and spreading the word.
- Show how solving a particular social problem can have a broader social benefit.
- Encourage students to look for new opportunities to provide innovative solutions to social problems.

Class Discussion: Introduction

Congratulations to you and your class for completing your first adventure with the Global Problem Solvers! By coming this far your students have already shown that they have the spirit and the smarts to make a positive difference in the world today, and this last discussion is an opportunity for them to bring together what they've learned.

To open discussion, feel free to ask your class this question:

As we begin the last chapter in the story, let's take a moment to think about where we've been. We've spent a lot of time talking about the Global Problem Solvers. What have they done so far to fulfill the nine steps of social entrepreneurship?

You can either list these again yourself or ask your students to name them. Whether or not your students remember the steps exactly is not as important as them understanding that launching a social enterprise requires a structured and well-thought-out strategy.

Thus far, Season 1 has focused on the first seven steps. Aspects of the last two have also appeared, and they are now the focus of the final episode.
• Articulate the problem: The broken wells of Malawi.
• Surround yourself with experts: Malawi villagers, businesspeople, technicians.
• Formulate a solution: Well sensors.
• Incorporate technology to connect people, processes, data, and things: Well sensors connect through a wireless network to a dispatcher who can send technicians to fix broken wells.
• Develop a business plan: The success of well sensors in Malawi requires the participation of Malawians.
• Raise funding and spend it wisely: Partner with a local manufacturer to create and sell the sensors.
• Test and refine solution: Monitor real-world performance in various circumstances.
• Use data to measure impact.
• Spread the word.

Class Discussion: Video

The title of this episode, “Birth of a Social Enterprise,” ends Season 1 with a new beginning. Social entrepreneurship is more than a good idea or a clever plan. It typically involves starting a new venture, whether as an initiative within an existing organization or an entirely new business.

An appropriate place to start talking about this video would be to identify what the Global Problem Solvers and the local Malawi team did to fulfill the remaining two steps of social entrepreneurship: use data to measure impact and spread the word.

In regard to data collection, the video focuses on information that the team collected concerning the impact of the sensors on the surrounding community. This evidence includes:

• Reduction in girls' absences from school.
• Decline in cases of dehydration.
• Increase in water-dependent food supply.
• Financial benefit to businesses through increased commerce.

You might also want to ask your students: What other impact data could be measured, whether by the sensors or by people? Below are a few possibilities. You and your students will inevitably come up with more.

• Change in amount of time taken to repair wells.
• Reduction in detected pollutants.
• Reduction in detected pathogens (diseases).
• Increase in water delivery.

In regard to spreading the word, the class discussion can explore why Mesi chose the concert as the best place to honor the Global Problem Solvers.

• Savvy social entrepreneurs use awards and public gatherings to publicize their ventures.
• The concert is an ideal venue for attracting attention through TV broadcasts, news stories, and social media.
• Government awards and celebrity endorsements are popular ways of attracting support and making useful connections.

Can your students think of other effective ways to promote a social enterprise?

The definition of social enterprise has been the topic of considerable discussion. In this episode, Putri defines a social enterprise as “a business designed to solve a social problem,” which captures the shared essence of many variations on this concept. Some definitions highlight innovation as a defining trait. Others highlight the triple bottom line, introduced in the discussion of Episode 1.5. The worksheet invites students to describe what they understand a social enterprise to be. This question and their answers can provide the basis for class discussion as well.

Season 1 concludes with the Global Problem Solvers team flying off to a new mission. What are the social problems that your students think they could help solve? What skills and new ideas would be your students’ problem-solving superpowers?

**Long-term Project: Solution and Resolution**

Your students are now at the end of their own Global Problem Solvers adventures, left to create their stories’ resolutions. Along the way they have learned basic steps of storytelling that will help them tell their own stories more effectively in the future, whether they are writing fiction, designing video games, or persuading others to support their venture.

While each of these elements reflects a fundamental part of narrative design, stories themselves are constantly evolving. For our purposes, this episode highlights a key aspect of social-enterprise storytelling—spreading the word—that your students are best qualified to innovate. Spreading the word has been an essential part of social enterprise from its beginning. Why is the best way to do this now through social media? How would your students share their stories of global problem solving today?

To this end, you may consider using social media—Facebook, Instagram, YouTube—to highlight excerpts from your students’ finished stories.

**Additional Resources**


GLOBAL PROBLEM SOLVERS: THE SERIES
EPISODE 1.7: BIRTH OF A SOCIAL ENTERPRISE

WORKSHEET

1. How would you define “social enterprise”? What is the difference between a social enterprise and a typical business? For which would you prefer to work and why?

2. Why is it important for the Global Problem Solvers to spread the word about their new enterprise?

3. How would you spread the word about a social enterprise? Come up with three innovative ways.

4. What can your community or even country do to encourage social entrepreneurship?