sphero littleBits

INVENT 4 GOOD

COACHES GUIDE

sphero.com/pages/global-challenge

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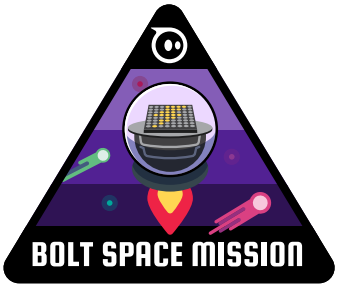
INTRO TO THE SPHERO GLOBAL CHALLENGE

Our mission at Sphero is to inspire the creators of tomorrow. With Sphero Global Challenge (SGC), students are engaging in problem solving, computational thinking, collaboration, and more. The SGC provides an opportunity for students to compete with other students around the world with the top teams from each country invited to participate in a live competition next spring. To see qualifying criteria, please refer to the Competition Rules and Competition Rubrics documents. We believe that this challenge will provide students many opportunities to have fun and build lasting memories. We encourage you, as a coach, to invite as many students to participate as you can. The weekly guides will help all students participate fully, regardless of their experience level.

This coaching guide will give you some tools and the structure to guide your students through the littleBits Invent 4 Good: Mission Earth event. But with your registration, your team can compete in the other events as well, so we encourage you to explore those coaching guides and challenges to see how your students can take advantage of the all-around rubric to have a better chance of advancing to the live competition.



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INVENT 4 GOOD

littleBits Invent 4 Good: Mission on Earth

What comes to mind when you think about inventing for good? At Sphero, we think about problems and invent solutions every day. We think about solutions good for our company and good for our families, our community, our environment, and the planet. We are confident that you are the future change makers and learning to invent for good today will create a better tomorrow for all of us.

Inventors have left a remarkable impact on our world. Without their many contributions to our society we simply wouldnÕt be whee we are today.

Individuals, government, non-profit organizations, and businesses strive to tackle tough problems to make the world a better place each and every day. In your own community, you see your friends and neighbors gathering together to help those in need, clean up a park or playground, or volunteer time to a worthy cause. Now, weÕe inviting you to help too!

Imagine that you and your friends are teamed up and charged with tackling a big challenge to help people, animals, or the planet. What problem would you try to solve? How will it improve your life and the lives of those around you? How will you Invent For Good?

Teams will work together to identify a problem on earth and invent a solution for that problem using littleBits and the invention cycle.

CREATE Gather a team and start brainstorming. What problem will you solve? Who will work on this with you? What will your solution need to do? How will you invent for good?

PLAY! Scope out your idea and design your solution. Gather the materials you need and other elements to create a prototype.

REMIX When youÕe finished designing, test out your solution. Will it work? Are there improvements you could make? Track your observations and try to improve or add more details to your design.

SHARE Create a video and a infographic that outlines the problem you want to address, explain your invention and how you created it, and then describe your remix.

littleBits Invent 4 Good: Mission Earth - Objectives

What comes to mind when you think about inventing for good? At Sphero, we think about problems and invent solutions every day. We think about solutions good for our company and good for our families, our community, our environment, and the planet. We are confident that you are our future change makers and learning to invent for good today will create a better tomorrow for all of us.

Competitors must use littleBits electronics in conjunction with other materials and follow the littleBits Invention Cycle: Invent, Play, Remix, Share, to develop their solution. Teams must showcase their invention, via both video and infographic, to illustrate and explain why it is an effective and efficient solution to their chosen problem. Here are some examples of competition prompts. These are examples to get you thinking about ideas.

Examples:

1. The elderly face a multitude of challenges in their daily lives; what can you do to help them?
2. Our society for the most part was designed with able bodied people in mind; what can you do to make things for accessible for those who have difficulties? (e.g. hearing impairments, visual impairments, missing limbs, etc.)
3. When people get sick they face multiple obstacles; what can you do to help them?
4. Local wildlife shelters take care of sick, injured, and abandoned animals; how can you help them tend to these animals?
5. Our society produces an incredible amount of waste; what can you do to help reduce the amount of waste and/or better reuse items in your community?
6. Education and the ability to attend school is crucial to the life of every child. What can you do to make education more accessible in your community?
7. The recent pandemic has affected many communities in different ways. What can you do to help members of your community most affected by COVID-19?

You do not have to use these prompts and are encouraged to think about additional problems to solve.

MATERIALS FOR COMPETITION

In order to complete all of the missions of theBOLT Space Mission, you will need to have the following items:

Required Materials for Competition:

STEAM+ Kit is the recommended kit for the littleBits Invent 4 Good Event

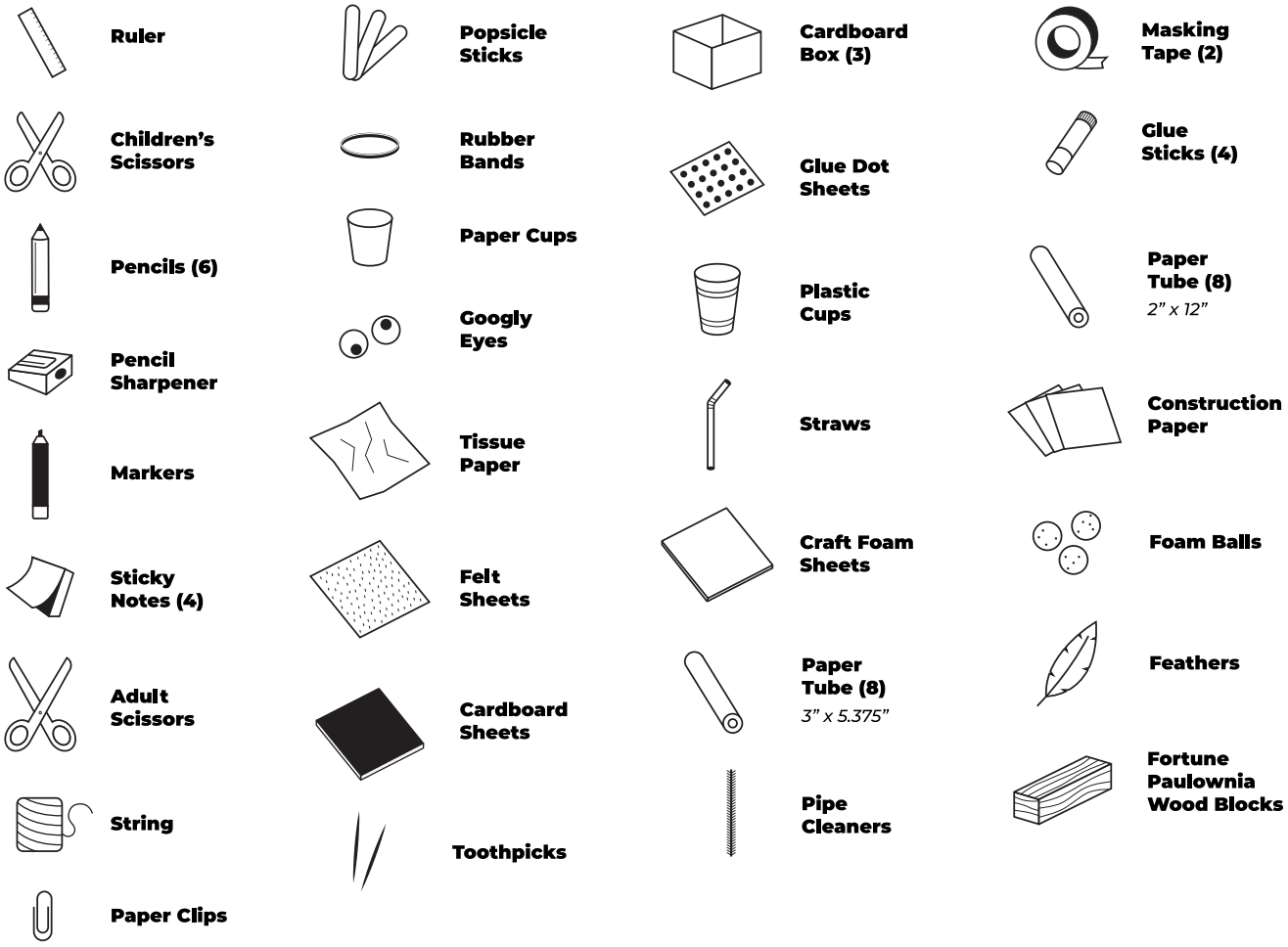
- Other littleBits kits are acceptable, but pay attention to the evaluation rubric to see how Bit usage is evaluated.

Various Craft Supplies to build with (all available in the Sphero Craft Pack)

Recommended and additional items for completion:

Access to FUSE app

Sphero Craft Pack



SUBMISSION GUIDELINES

Teams will be required to submit three items. Please see the SGC rules and rubric documents for specifics on what should be included and how each submission will be evaluated and judged.

1 littleBits schematic

a. A workspace from the FUSE app for each littleBits invention used with callouts to identify how each bit is used as part of the mission objective

OR

b. A picture of your invention with callouts to identify each bit and how it is used as part of the mission objective.

OR

c. A detailed drawing of your invention with callouts to identify each bit and how it is used as part of the mission objective.

2 Invention Video

a. A way to showcase the problem and solution that students come up with

b. Video must be at least 90 seconds and no longer than 180 seconds in length

c. Videos must be in .mp4 or .mov file formats

3 Invention Cycle Infographic

a. Infographic must be submitted as a .pdf file

b. The size of your infographic must be 24” x 36”

c. You can use one of the supplied templates for your infographic or you can create your own

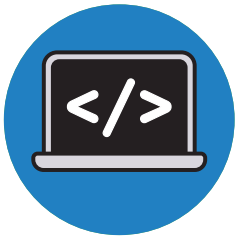
c. An infographic is a visual representation of an idea, process, or a dataset. You are responsible for creating an infographic that demonstrates the learning process over the course of the event.

Between the video and infographic, students should address:

- A clear definition and outline of the chosen problem and why it has been chosen.
- Analysis of the problem and research on existing and/or attempted solutions.
- A detailed explanation/demonstration of how the team's invention works and how it addresses and/or solves the chosen problem.
- Details/demonstrations of the iterations that led to the final invention (both failures and successes)
- A clear list of the Bits chosen for the invention and their functional purposes.
- A description or demonstration of how coding was used enhanced the invention.
- Given more resources (time, materials, education, etc.) what future iterations would the team embark upon to improve and/or enhance the invention.

TEAM ROLES

We highly encourage students to work in teams of 3-5 to help promote collaboration and team-work, and it will also help distribute the workload evenly. As a part of the competition, we recommend that students take on a role for the competition (or switch them for each mission objective) so that they feel like they are contributing evenly to the competition. Suggested roles could include, but are not limited to:

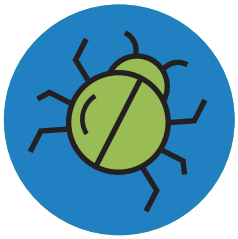


Programmers

Programmers are responsible for making sure that your littleBits inventions do what they are supposed to do when including code as a part of your solution.

Engineers

The engineer is responsible for building inventions, finding solutions for bringing ideas into prototypes, and making an invention help solve the problem.



Debuggers

The debugger is an expert at troubleshooting. They are responsible for asking questions and coming up with procedures for solving problems with the code and/or engineering.

Mission Manager

The mission manager is a leader. They are great at bringing the team together to come up with plans and lead brainstorming sessions. . Mission Managers should also be experts in the rules of the competition to ensure the team is in compliance with all of the rules and regulations.

Designer

The artist/Creative team gives your mission and objectives that extra flair! Artists have an eye for making things beautiful and awesome. The designer can also be the videographer and help with coordinating the infographic for final submission.

How to Use the Coaches Guide

This coaches guide will help you navigate your students through each objective of the littleBits Invent 4 Good: Mission Earth event. This guide can be used as a template for lesson plans if you are incorporating the competition into your daily teaching plan, but it can also be used with after-school clubs. There isn't a required amount of time that you should spend on the completion of each objective, so you can proceed through the timeline at a pace that suits your students' needs.

Because the littleBits Invent for Good: Mission Earth event is very open-ended, you will have a lot of discretion on how to guide competitors through the event. For example, you may find that students need to spend more time working on brainstorming meaningful solutions. In this scenario, you would use Agenda #5 (modified if need be) several times until the team comes to a good conclusion on their problem to solve.

As you are guiding your team through the process of the event, be sure to reference the Official Rules document and the Evaluation Rubric. These documents will be the source of the most important information that a team can have. Additionally, please utilize the Sphero Community Forum to join the conversation with other coaches and see official answers to frequently asked questions from the Game Design Committee.

RECOMMENDED MEETING SCHEDULE

Planning out your Competition Season Schedule

If you are working with students who are beginners in inventing with littleBits, , we recommend a minimum of 10-14 team meetings to address the learning needs of the students with programming, circuit building, and working with submission for judging. If you are incorporating Sphero Global Challenge into your lesson plans, you can adjust accordingly to fit your learning needs and timeline.

1. Form and name team
2. Intro to the Invention Cycle
3. Choose a problem to solve
4. Research problem
5. Brainstorm and Create
6. Play
7. Play (repeat as needed)
8. Play (repeat as needed)
9. Remix (repeat as needed)
10. Remix (repeat as needed)
11. Share (work on submission)
12. Share (work on submission)
13. Share (work on submission)
14. Share (work on submission)

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INVENT 4 GOOD

MEETING AGENDAS

AGENDA #1

Teamwork Makes the Dreamwork

Mission Objective: Intro to the Sphero Global Challenge

Time Required: 45-60 minutes

Supplies Needed

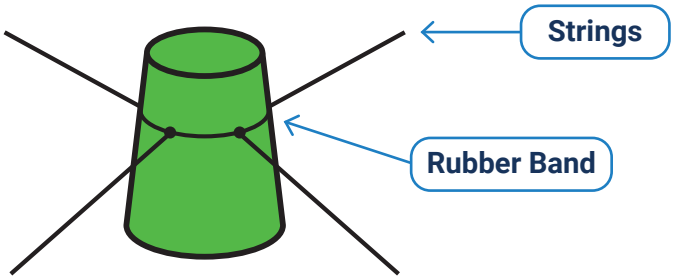
- Craft Supplies:
  - Rubber Bands
  - String
  - Cups
- Sphero Global Challenge Launch Video
- Sphero RVR & littleBits

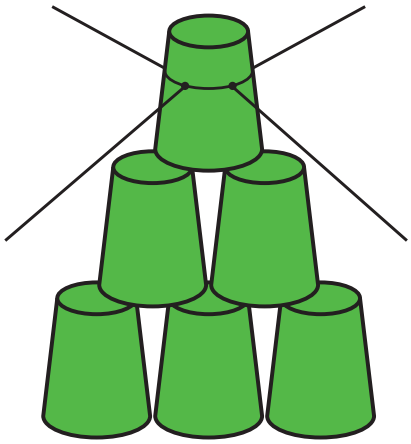
Learning Objectives

- Students will be able to identify goals of the Sphero Global Challenge.
- Students will be able to work as a team to achieve a goal.

1 Warm-Up

Using craft supplies create the following set up for your teams:





Using only one hand, students must work together to build Cup structures

1. Pyramid
2. Tallest structure in 60 seconds

2 Steps

Gather all of the materials and provide a way for students to view the **Sphero Global Challenge Launch Video**.

Discuss:

- What is being asked of you?
- What mission objectives do you anticipate being the most difficult?
- What mission objective looks like the most fun?

Explore:

Read through each of the challenges as a group and refer to the grading rubric as you read the challenges.

Discuss:

- How does each mission objective get evaluated?
- Are there points in which you can earn bonus points? How does that work?

Read through the different roles on page {#} of the Coaches Guide.

Take time to lead a discussion on how the team will contribute to the challenges:

- As a team, how do you want to handle different roles and responsibilities in the challenge?
- Is there a role that you are excited about? Is there a role that you aren't as enthusiastic about?
- Does your team want to keep the same role the whole time, or do you want to switch roles for each mission objective?

3 Wrap-Up

Share the suggested roles (or roles that you came up with on your own) and ask students to jot down their ideal role, or a backup role.

Teacher Tip

Use the feedback that students provide in this exit ticket as a way to structure the team going forward. If students have naturally selected a variation of all of the roles, you've got a well-rounded team. If everyone on the team wants the same role, you may need to spend some time planning out how each team member can participate in their ideal role over the course of the whole Mars Mission challenge.

AGENDA #2

The Invention Cycle

Time Required: 45-60 minutes

Supplies Needed

- STEAM Student Set or STEAM+ Class Pack
- Paper
- Phillips-head screwdriver
- Timer

Learning Objectives

- Create a circuit containing a power source, inputs, outputs and wires
- Identify and explain the value of each phase of the Invention Cycle

1 Warm-Up

Introduce the lesson objectives and the concept behind the challenge:

You can begin the lesson with some of the following questions to frame the activity:

- What do engineers and designers do?
- How do they figure out what to make?
- How do they make sure their projects work?
- What happens if the project doesn't work?
- How do they get better at the work they do?

Explain to the students that they are going to use Bits to complete a short engineering design challenge so they can experience how engineers and designers work.

Introduce the challenge to the students:

Using Bits and the provided craft materials, groups will need to move as many paper balls from one square (starting square) to the other (goal square). Each team will be given 15 minutes of work time to create and test their inventions. The final test will happen after this period. Each group will have one minute to move as many balls as they can from their starting square into their goal square.

Teams must agree on the following rules:

- They can only use their Bits and the construction materials provided.
- Balls can only be sent to the goal square if a littleBits circuit is causing them to move. Students cannot touch the balls on their way to the goal (e.g. students can use the Bits to push, throw, or carry balls to the goal, but can't throw or carry the balls themselves)
- At any point, students can add more balls to their starting circle.
- Balls must be in the goal square at the end of the one minute in order to be counted.

2 Steps

Create:

Now the students will begin the challenge. Once each group is familiar with the rules, pass out the Bits and materials, start a timer with 15 minutes on the clock, and announce that teams may begin building. Either place the timer in a prominent place, or announce the time every five minutes so teams can try to pace themselves appropriately.

Walk around the room and observe how the groups work. These observations will be helpful during the next step when the class discusses their process. **Here are some things to keep your eyes open for:**

- How do the groups start working? Some may begin by planning, while others will dive in and start with hands-on experimentation.
- Do the groups try to execute one single plan or do they experiment with several different approaches to determine what works best?
- How do groups decide what to build or what changes to make?
- How often are their experiments unsuccessful? Do they get discouraged?
- How often are their experiments successful and kept as part of the project?

When the timer goes off, have each group collect the paper balls and prepare for their one-minute challenge.

Play:

Run the one-minute challenges. You can use half of the students as timers and counters, while the other half try to move balls to the goal squares, and then flip the groups. Alternatively, you can have each group go one at time so all students get to watch each invention perform.

Share + Remix:

Now you will hold a discussion to discuss the process. Once all the one-minute challenges are complete, gather the students together. The goal of this discussion is to have the students reflect on each group's design and engineering process so you can draw connections between their methods of working and the littleBits Invention Cycle.

Create four empty columns on a whiteboard (or use four large sheets of paper). Each column will help explain a step of the Invention Cycle, but don't label the columns yet.

In the first column, you will put responses relating to the Create phase. To get students thinking about how they got started, you could ask:

- How did you come up with ideas for what to build?
- How did you decide what to do first?
- Were everyone's designs the same?
- Was your project complete after putting it together the first time? Why not?

In the second column, you will put responses relating to the Play phase. To get students to think about how they used and tested their prototypes, you could ask:

- When was the first time you used what you were working on? Did you ever give it a test? How did it go?
- Why is it important to test what you are working on?
- What could you do with what you learn from testing?
- Did anyone's invention not work the way they hoped when they played with it?
- Was your invention complete after using it the first time? Why not?

In the third column, you will put responses relating to the Remix phase. To get students thinking about how they experimented with and improved their inventions, you could ask:

- Did anyone make changes or improvements to their inventions after they played with them?
- Did anyone try more than one approach/method?
- What was the weirdest idea you tried? What did you learn from it?
- How many different ideas do you think you tried?
- How did you decide which method was the best?
- Why might you want to try more than one way of doing something?

In the fourth column, you will put responses relating to the Share phase. To get students thinking about how to share and why it is important, you could ask:

- After seeing what others have done, do you think you could do it even better now?
- Were there ideas others had you would like to try?
- Did anyone have something to say to you about your invention, maybe some praise or a suggestion?
- Why might you want to share the work you've done with others?
- Why might you want to listen to others share what they've done?

Remix:

Allow students an additional 10 minutes to remix/improve their inventions and run the trial again. Record the second trial scores for each team on the board. Subtract the second trial from the first trial to get each team's "growth score" (how well they improved between each trial).

3 Wrap-Up

Now you will summarize and connect the lesson to the Invention Cycle. Once all the columns are filled, verbally summarize the main ideas in each and draw attention to what they went through as a process. **For example:**

In the first phase they created a bunch of ideas, picked one of them, explored the Bits to see how they could help, and created a prototype of their idea. After summarizing, write **Create** at the top of the first column to highlight these ideas.

Next, they tested their idea by playing with it. They learned which parts of their ideas were on the right track and which parts still needed work. Some of the inventions might not have worked at all, but these "failures" weren't actually bad. They helped the students understand their inventions in a better way. After summarizing, write **Play** at the top of the second column to highlight these ideas.

After playing with and learning about their invention, they made changes and tested those out. Sometimes these changes were small improvements. Others might have pushed aside their old model and tried a totally different approach to the problem. Each time they tried new combinations of Bits and materials, the groups got smarter about the invention, and the inventions got a little better. After summarizing, write **Remix** at the top of the third column to highlight this.

The term **"Remix"** is common in the popular music industry, but kids may not be familiar with it. To clarify, you could explain that "-mix" means to put things together (like mixing ingredients in a cake batter) and "re-" means again (like renewing a library book). So remix means to put things together again.

When the challenge time is up, give students a chance to walk around and see what others have done. They could see the strategies others used, ask questions, and offer comments or suggestions. Sharing helps students feel proud of their work and os a source of fresh new ideas and inspiration. Some may even want to take these new ideas and keep working. After summarizing, write **Share** at the top of the fourth column to highlight this.

AGENDA #3

Brainstorm

Time Required: 45 minutes

Supplies Needed

- Notebook
- Paper
- Pens

Learning Objectives

- Students will work with their group to identify problems that require solutions.

1 Warm-Up

- Take a good look around. Think about what you see. Are you in a building, at home or perhaps outside? How did you get to this place?
- Now imagine this same space without engineers and without inventors. What would be missing? Would you even be in this place without transportation?
- Inventors have left a remarkable impact on our world. Without their many contributions to our society we simply wouldn't be where we are today.
- Individuals, government, non-profit organizations, and businesses strive to tackle tough problems to make the world a better place each and every day. In your own community, you see your friends and neighbors gathering together to help those in need, clean up a park or playground, or volunteer time to a worthy cause. Now, you're being invited to help too!
- Imagine that you and your friends are teamed up and charged with tackling a big challenge to help people, animals, or the planet. What problem would you try to solve? How will it improve your life and the lives of those around you? How will you Invent For Good?

2 Steps

Lead students through a brainstorm session or conversation around the following prompts. Give about 4-5 minutes for each prompt:

1. Think of your grandparents and elderly relatives. The elderly face challenges in their daily lives; what can you do to help them?
2. Our society for the most part was designed with able bodied people in mind; what can you do to make things more accessible for those who have difficulties? (e.g. hearing impairments, visual impairments, missing limbs, etc.)
3. When people get sick they face multiple obstacles; what can you do to help them?
4. Local wildlife shelters take care of sick, injured, and abandoned animals; how can you help them tend to these animals?
5. Our society produces an incredible amount of waste; what can you do to help reduce the amount of waste and/or better reuse items in your community?
6. Education and the ability to attend school is crucial to the life of every child. What can you do to make education more accessible in your community?

Think about the above problems you identified above. The most radical solutions come from identifying problems that we see as the most worthy to be solved. What problems did you identify that you feel most passionate about?

Have students individually identify the problem that they care the most about. Have them prepare a short 60 second elevator pitch to suggest to their team why the team should solve their problem. For them to think to prepare for the elevator pitch, have students use these sentence starters if they need assistance in delivering their pitch:

- The problem I believe our team should solve is...
- I am passionate about this problem because...
- There are a few things that we could do to solve this problem.
  A few ideas I have that we can start with are...

3 Wrap-Up

After students have shared their elevator pitches, give students a few minutes to think about all of the problems that they have thought of solving. It's important that students feel that they have time to think about all of the prompts before choosing a problem to solve, or a way to invent for good. Wrap up by sharing that the next meeting will be devoted to choosing a problem to solve. It should give them an opportunity to think about things before the next meeting.

AGENDA #4

Research the Problem

Time Required: 45+ minutes

Supplies Needed

- Notebook
- Pencils
- Internet enabled device (computers work best for researching)

Learning Objectives

- Students will come to a consensus on a problem to solve.
- Students will research the problem to formulate an understanding of the issues related to the problem.

1 Warm-Up

Remind students what they did in the last team meeting. They brainstormed problems of our world, and gave pitches for which problem to solve.

If students all had similar pitches to end the last team meeting or wanted to solve the same problem, start off the meeting with a discussion of unifying their ideas to have the same problem to solve.

If students were all different with which problem they wanted to solve, they'll need to come together as a team to decide which problem is worth solving. You can move into the research phase with students each researching their own problem to see what they can come up with, but it would be better for them to be unified in their vision of what to solve.

2 Steps

It's time to do some research! There will probably not be a single answer which makes these research questions effective, but they will help you understand what solutions you can come up with.

- How do you know this is a problem?
- Who are the people that this problem affects directly? indirectly?
- What solutions have people tried to solve this problem?

What other questions can you think of? Jot down your questions in your engineering design notebook and research the answers.

Teacher Resources:

Feel free to implement your own research practices into this lesson, but below are a few resources for you to help direct your students in their researching:

- **Reference and Research Apps and Websites** (Commonsense Media)
- **Kid Safe Browsers and Search Engines** (Commonsense Media)
- **Factmonster.com**

3 Wrap-Up

If students are finished with their research, have them start thinking about solutions to the problem.

- What tangible inventions can you create to support your problem?

AGENDA #5

Brainstorm and Create!

Time Required: 45+ minutes

Supplies Needed

- littleBits STEAM+ kit (or similar Bits)
- Sticky notes
- Craft Supplies

Learning Objectives

- Students will create an invention to solve a problem.

1 Warm-Up

Since your last meeting, hopefully students have thought some more about the problem that they are looking to solve. As a brainstorming activity, you will be coming up with as many possible solutions as possible to solve the problem. We want to fill the wall with as many ideas as possible, even if they seem crazy.

Sticky Note Brainstorm

- Give students sticky notes
- Make space on a wall for students to place their sticky notes
- Give students 5 minutes to fill out as many possible solutions to the problem on the sticky notes.
- Bad ideas, good ideas, crazy ideas, all of the ideas you can think of - put them on the wall.

2 Steps

Now that you have brainstormed some radical ideas, let's start putting things together—literally. Look through the brainstorming sticky notes and find some that you think are possible to create something from.

Using the littleBits kit that you have access to and some craft supplies, take some time to invent one of the solutions from your sticky note brainstorming.

Your team can work together to build one invention, or team member can work on individual ideas as well. The idea is that students are prototyping and putting something together that will spur creativity.

3 Wrap-Up

WIth about 10 minutes left in your meeting, have students document their inventions in case they have to be disassembled. Give time for cleaning up.

AGENDA #6

Play

Time Required: 45+ minutes

Supplies Needed

- littleBits STEAM+ kit (or similar Bits)
- Craft Supplies

Learning Objectives

- Students will scope out their ideas and design a solution.
- Students will build a prototype invention for their solution.

1 Warm-Up

Now that you've got some ideas in your brain, it's time to start scoping out your ideas and designing your solution. You will be putting things together to create a prototype. The previous team meeting was filled with brainstorming and the beginning stages of creating your invention to solve a problem. Today will be geared towards continuing the creation of their solution.

2 Steps

Have students grab all of their materials and supplies (possible inventions saved from the last meeting if applicable).

Give students the flexibility to work through their creations as a team, letting things organically take shape. If students are struggling with what to create or if they get stuck at some point, here are a few questions to help prompt them in their work:

- What is the problem you are trying to solve? Can you break it down into smaller problems?
- Who does your solution target? Are there multiple groups of people? Will solutions be the same for each group?
- What supplies do you need to build your invention?

This stage of the invention cycle can take several meetings, but the overall goal is that students will have a workable prototype for their invention to be able to test out in the remix phase of the cycle. As the coach, you should consider whether the team is spinning their wheels on the same ideas, or going down a rabbit-hole and need to be reigned in.

If students are utilizing any coding as part of their solution, this phase will generally take longer so that they can program, test, and debug.

3 Wrap-Up

You will want students to clean up before they leave, so have them wrap up their projects or get to a stopping point so they can return to things later.

AGENDA #7

Remix

Time Required: 45+ minutes

Supplies Needed

- littleBits STEAM+ kit (or similar Bits)
- Craft Supplies

Learning Objectives

- Students will gather feedback on their solution prototypes.
- Students will synthesize feedback and come up with ways to adjust their inventions.

1 Warm-Up

Ask students how they'll know if their solutions will work? Inventors often work on their solutions by asking for feedback from other users. Who do you think can provide useful feedback on your solution?

Even if students can't directly get feedback from the user group their solution is intended to support, can they find other unbiased sources for feedback? Other teachers, the principal, other students, siblings, etc.

2 Steps

Have your team go out and seek feedback from other users about their invention. If the invention isn't mobile, see if they can bring people to their inventing space, or go out and conduct feedback interviews. The idea is to get some feedback and to maybe find other things that could be adapted based on things students didn't think of.

Feedback Interview Questions:

- Have you ever experienced the problem_____? (describe the problem, but keep it general)
- What effect does this problem have on you? (if applicable)
- One of our thoughts of how to solve this problem is to _____ (describe your solution).
- What do you think about our proposed solution? What would work well? What do you think we are missing?

After students have conducted some user testing on their invention prototypes or conducted feedback interviews (or both!), have them reassemble and discuss the feedback they received.

The remix portion of the invention cycle is designed to help students identify what could be improved upon after the create and play.

3 Wrap-Up

The remix phase is really important. Students should be able to explain how they are making decisions based on how an invention works for different users. They will also need to be able to explain how feedback is changing their invention over the process of the invention cycle.

AGENDA #8

Share - Work on Submissions

Time Required: 45+ minutes

Supplies Needed

- littleBits Inventions
- Filming Device

Learning Objectives

- Create a video submission that you can share with Invent For Good community. The video should be no more than 3 minutes in length and outline the problem you want to address, explain your invention and how you created it, describe your remix and include a visual of your journal.
- Along with your video, create a SHARE poster that describes how your team followed each element of the cycle from CREATE, PLAY, REMIX, and SHARE.

1 Warm-Up

Now that you have gone through most of the invention cycle, it's time for one of the most important parts of the cycle, which is to share your invention with the world!

Here's a background of what you should be thinking about today:

Create a video submission that you can share with the judges for the Sphero Global Challenge. The video should be no more than 3 minutes in length and outline the problem you want to address, explain your invention and how you created it, describe your remix and include a visual of your journal.

Along with your video, create a SHARE poster that describes how your team followed each element of the cycle from CREATE, PLAY, REMIX, and SHARE.

2 Steps

Students should put together an outline for how they are going to address the prompts in the Sphero Global Challenge Rules document.

Video

As part of the outline, have students write scripts for how they can talk about their invention.

After students have an outline and a script, they should practice it. Don't just film it right away! Give them time to become comfortable with what they are saying so that filming goes more smoothly.

Infographic

Students will be creating a shareable poster that will highlight the invention cycle. It can be digital or physical.

3 Wrap-Up

This agenda is designed to help guide towards working on the final submission. If students need more time, adjust the meeting agendas going forward to include what is needed for students to work on their submissions:

- TIme for working on the infographic
- Time for working on compiling their video
- Time for recording their invention
- Time for documenting the Invention Cycle