



2017 6th Annual Global

Invent It Challenge



Smithsonian



Think about a real-world **environmental** issue and come up with a planet-friendly solution.

TIPS!



Invention is all about solving problems, so the first step is to identify a problem facing our planet or challenge you want to work on. (This is sometimes the hardest step in the invention process!) Look around you – what environmental challenges do you see at home, school or in your community? Ask friends, teachers, and family members about environmental issues that are important to them. Look at your local newspaper to learn about the environmental issues that people in your community are talking about. Observe the world around you and write down any problems you see facing the natural world. You can also try searching the Internet to learn more about environmental issues in other countries. Talk to someone who works in the environmental science field, like a nature conservationist, recycling officer, waste management officer, or ecologist. If possible, talk through what you've discovered in partners and groups with other students to spark more ideas. The best invention ideas often address problems that affect lots of people.



If you've identified an environmental problem that affects many people around you (or even around the world), you're probably not the first inventor to try to solve it! Don't let this discourage you. Instead, do some research to learn how others have addressed the problem. What do you like about their solutions? What do you think you can improve? How can your invention be different? Many inventions build and improve on ones that have come before. Think carefully about who your invention helps and make sure your idea clearly solves the identified problem. Identify specific features and benefits of your invention that builds on inventions of the past.



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Once you have a basic concept of what your invention will be, make some simple sketches of your idea. These do not have to be perfect or artistic. Sketches simply help you take the idea in your head and put it on paper. Sketches can help you think through not only what your invention will look like, but how it will work. You may want to make several sketches of your invention – from the front, side, looking down from above, or from the inside to show how it works. Be sure to label your sketches to explain how the various parts and pieces function.



For many inventors, this is the most fun part of the invention process! This is where you create a prototype, or model, of your invention. Using your sketches as a guide, you'll build your first prototype. Remember, this doesn't have to be perfect or even work! It's just the next step in the process and allows you to take your concept and put it into three-dimensional form. When you are building your model, make your invention as eco-friendly or sustainable as possible by using materials that you already have. Remember the model does not need to actually work, but it should show others what the pieces and parts look like. Capture video or photos of the steps you take building your prototype or model.



Once your prototype is finished, ask friends, teachers, parents, and neighbors to try it. It's even better if you ask people you interviewed in the Think it step or someone who is affected by the environmental challenge you're trying to solve. What do they like? What suggestions do they have for making your invention better? Be sure to write down what they say about your invention so you have good notes for the next step of the process. If possible, perform some experiments to find out how well your prototype works. Write down the results of each test.



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Using the feedback you got in the Try it step, identify ways you can improve your invention. Do you want to modify the design or change the materials it's made from? Do you want to add a new part to your invention, or take something away to make it simpler? How could you make your invention more environmentally friendly? Many inventors try and tweak and then try again to keep improving their idea until they get it just the way they want it!



Once you have your final invention idea, you want people to start using it! How will you convince others to use your invention? Create a “fact sheet” or a video or written pitch about your invention. What environmental problem does it solve? How is it different from other inventions? Who is your “target audience”? Who should use your invention? How does it work? Answer these questions to explain how your invention will lead to a healthier future for our planet!

GOOD LUCK!