

HACK

Make the Change you Want to See

Buildings, furniture, our stuff - most things around us are the way they are because someone decided they should be that way. It's easy to accept our surroundings the way they are without thinking about it. But in reality, you can have a big impact on your surroundings like at home, school, or in public space. Explore this idea with us!

Materials:

- Pen/pencil
- Paper
- General prototyping materials

Learning objectives:

- Design
- Prototyping
- Design presentations/pitch
- Considering physical changes to your environment

Time required: 60+ Minutes

Context

Mahatma Gandhi said, “Be the change you want to see in the world.” The world, to many of us, seems really huge and difficult to change... but what about changing a piece of your world? The world you experience on a day-to-day basis? This “world” is much smaller, and you’re a much bigger part of it!

It can be easy, especially as a kid, to accept things the way that they are since that’s the way they seem to have always been and making any changes might seem out of reach. Here’s the secret: you have the power to make tangible changes to your physical space. It usually takes some work, perseverance, and permission. But it’s pretty cool to make something that directly improves your life and/or the lives of people around you. We’ll start small for this project. Even small changes can have a big impact and can get you familiar and comfortable with the process.

There are a few major steps to follow. We’ll get into more detail but here’s the overview: You come up with the idea, figure out and test the details, make a plan, present that plan (for permission, support, buy-in), and then once all the pieces are in place, implement the plan. Simple, right? Let’s give it a shot!

Activity

1. Pick an environment to focus on. Your home is probably easiest, but you could also pick your school (medium-hard) or public space (hardest).
2. Observe your environment, and look for areas of opportunity. Areas of opportunity are things that

are not working very well now or could be working better. This could be something physical in the space, like an empty corner that's not being used or could look nicer, or a big empty spot on your wall, etc. Or, it could be something behavioral, like if your mom always loses her keys or your brother always forgets his lunch. Make a list of the areas of opportunity that you observe (find at least 5).

3. Pick the (5) areas of opportunity that you are most interested in.

4. Brainstorm (sketch, write, prototype) ideas for how you could improve those areas/address those issues. The ideas you brainstorm should be something physical that you could hypothetically add to or change about your space. Come up with at least (10) ideas total. This type of brainstorming (coming up with lots of ideas) helps us to strengthen our creativity "muscles" and gives us a lot more options to choose from.

5. Choose (1) idea to move forward with. When you're deciding something like this, you need to balance a few things to see which is best overall. Here are things to consider while you're deciding:

- a. How excited are you about this idea? More excited = more convincing
- b. How much will it improve your/everyone else's life? Bigger impact = more convincing
- c. How much money/time will it take to make this change? Would you need to buy any materials or do you already have what you need? Easier + cheaper/free = more convincing
- d. How much time are you willing to devote

to this idea? The more dedicated you are = more convincing

- e. Who should you talk to to get the permission and buy-in that you need? Once you get other people on board, they might be able to help implement your idea.

6. For that (1) idea you chose, develop a prototype - preferably in full scale (at the size it would be in real life). Figure out the major details with this prototype. It's ok if you aren't sure about some aspect of it yet. The details to figure out may include:

- a. What is the thing you want to make or install?
- b. How is it going to work? (Be able to demonstrate with the prototype)
- c. Where will it be located? (Not only where, but at what height or specific location?)
- d. How will it look? Regardless of what you're making, the look of it is important!

7. Nice! Now we need to do a little more planning. These questions get into a lot of detail, and it's ok if you don't know all of the answers yet. Also, your project might be super simple (like hanging a hook near the door for keys to go on) so some of these questions might seem unnecessary. Do your best to develop answers to the following and write them down:

- a. Why is this project important? How will it make things better?
- b. What materials do you think you'll need?
- c. If possible, how much will the materials cost? (You can usually research online to

figure this out, like at a hardware store's website)

- d. How do you think you are going to make it?
- e. What tools will you need? Do you already have access to them and know how to use them?
- f. What permission do you need? What help will you need from other people?
- g. How long do you think it will take?

8. Okay, now that you've thought about and planned your project, you need to pitch it to whoever you need permission from. Spend a few minutes prepping your pitch. Here's a format that is usually clear and effective that you can try:

- a. Describe the area of opportunity that you observed (do this with empathy) that you wanted to help out with. ("I noticed that...")
- b. Explain your "big" idea and the impact that you think it will have. ("I came up with the idea of making/installing a _____ so that we could _____") Show them your prototype - preferably in the location where the project would actually go.
- c. Describe the project in more detail (pointing things out on your prototype), and some of the features of it that you're excited about ("What I'm imagining is that it could have a _____ and _____ and we could put it _____")
- d. Then describe what you need in order to do the project, and especially what you need from them ("I wanted to talk to you to get your permission to do it, and because I need help getting _____ and making _____")
- e. Finally - ask what they think and if they'd

be open to helping you out! Remind them of the impact that you expect your project to have. Agree on what the first step will be, and when that will happen.

9. Once you have prepared your pitch, ask if you can talk to them for a few minutes about an idea that you have, that's part of an activity you're doing. If you want to, you can tell them that you'd prefer if they listen to while you explain it, and save questions until the end. Now that you have their attention: pitch it like it's the best idea in the universe. Hopefully, they'll be super excited about your idea! But be prepared for negativity and questions about why it won't work: many adults are programmed to think this way and it's not their fault. If that happens, stay calm and take a deep breath. Do your best to answer their questions and advocate for your idea. Don't be afraid to say "I'm not sure yet." Here are some responses that might come in handy if you find yourself facing a tough crowd:

- a. "I haven't figured that part out yet."
- b. "Do you have any ideas for how that could work?" or "How would you do it?"
- c. "Maybe we can ask the people at the hardware store how they would do it?" or "Maybe _____ can help us figure that part out?"
- d. "I know that there are a lot of reasons why this might not work. Can you help me figure out what we would need to do to make it work?"
- e. "Let's prototype it to test that out"
- f. "The worst that happens is _____. I think it's worth trying."
- g. "What would you need to see in the design to

approve us implementing it?"

10. If needed, revise your design based on the feedback you got and the conversation you had. Make sure you address their concerns. Then present your idea back to them once you've made those changes. You can involve them in the process - usually, if people feel more involved, they are more likely to support the idea (this is called "buy-in").

11. Implement your idea! Make it happen! Depending on the size and complexity of your project, this may require determination and persistence. Wild cards usually happen. But stick with it! Make the changes you need in order to get it done.

12. Celebrate that hard work, and watch other people enjoy the improvement you made!

Reflection

What did you do to make the flimsy paper into a bridge that could hold weight?

How much weight did you expect your bridges to hold?
How much weight did they actually hold?

Did you notice any difference if you stacked your weight all in the center of your bridge, verses spreading the weight out across the bridge? Why do you think that might make a difference?

Happy Making!

-Team Hack

