

## Activity 5: What is the connection between community needs and innovative design?

### Get Prepared

 **What kids will do:** Review examples of technological innovations that benefit society

 **Time needed:** 45 minutes



**What you will need:**

#### Printouts

• **Activity Sheet F: Talk About It!**

#### Materials

• Samsung tablets  
• pens or pencils

**Note:** Kids may use the activity sheet printouts or they may follow along on their tablets at: [www.scholastic.com/STEM](http://www.scholastic.com/STEM).

### Introduce Them to STEM Careers (optional)

If you have extra time, you can start Activity 5 by having kids use their tablets to access the **STEM Career Flip Book**. Introduce the software developer and web developer in the technology section. Explain that technology is a growing field with the ability to influence everyday life. Tell them when they use cell phones, apps, and computers, they are benefiting from the work of software developers and web developers.

Ask them to say what they know about software and web developers. Remind them to reference the **STEM Career Flip Book** if they need more information. (Make sure they understand that software developers design games and computer systems, while web developers design websites and web programs.)



### Engineering in the Community 10 minutes

1. Start this activity by asking: **What guides design in engineering?** Responses should draw on information learned in the previous activity, as well as considerations such as how well a design will function and whether it's visually appealing and cost-effective to build.
2. Remind kids that innovative engineering solves specific problems. When working on a new design, engineers have a particular goal in mind that will offer a solution to a current issue or an unmet need in a community.
3. Explain that community improvement is not just structural. Technological innovations can also benefit

communities. Have kids use their tablets to view three examples of helpful technological innovations:

- **Google Self-Driving Cars (California):**  
To help cut down on traffic accidents, Google created a car that drives itself: <http://nyti.ms/1i5NSHt>
- **Bluefin-21 Submersible (Maryland):**  
An underwater robot helps search for a missing Malaysia Airlines plane that disappeared after takeoff in March 2014: <http://nyti.ms/1iVy2et>
- **Soccket (New York):**  
A new soccer ball generates electricity to provide power in underdeveloped areas of the world: <http://wapo.st/1hE90EW>

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## Activity 5: What is the connection between community needs and innovative design? (continued)

### STEM Challenge! 20 minutes



Break kids into their design teams. Pass out **Activity Sheet F: Talk About It!** for each team to complete as a group. In this activity, kids will share and write down their opinions on what types of engineering improvements they'd like to see in their neighborhoods.

### Use the Tablets! 15 minutes

Based on their teams' responses to **Activity Sheet F: Talk About It!** have kids brainstorm ideas for an innovation that could benefit their community. They can draw on paper or use the **Picasso app** on the tablets to draw sketches of their innovations.



NAME: \_\_\_\_\_

## Talk About It!

What do you think would make your community a better place to live in? If you've got opinions on this matter, now's your opportunity to share them!

**Instructions:** Complete this community survey with your team by talking about the questions below. Write down your team's responses on this sheet or on the back of this page and compare everyone's answers. What do you all agree on? What do you disagree on?

### Our Ideas for Our Community

<p><b>1. Want places to play?</b> Do we have enough places for physical activity (like public pools, sports centers, basketball courts, soccer fields, playgrounds, and parks) in our neighborhood? If not, what types of places would you like to have?</p>	
<p><b>2. Want to fix things that are broken?</b> What things in our neighborhood need to be fixed or replaced (like boarded-up buildings, old streetlights, or uneven sidewalks)?</p>	
<p><b>3. Want to make dangerous areas safer?</b> Are there areas in the neighborhood that are dangerous (busy street corners, dark lots, open construction areas)? What could be done to make these areas safer? Could empty buildings or lots be turned into something great for the neighborhood?</p>	
<p><b>4. What does your neighborhood need?</b> What other things do you imagine could make your neighborhood better?</p>	