

Challenge 2: Who Built That?

Get Prepared

Challenge Goal: Understand that engineers built the things in their community

Time Needed: One 45-minute session

Before You Begin:

Before the participants come in, set up the tablets so that their browsers are set to www.scholastic.com/sparks.



What You Will Need:

Tablet Flip Book

- **Community Engineering Flip Book**



Materials

- Samsung tablets
- drawing paper
- Engineer's Notebook (from Challenge 1)
- pipe cleaners
- colored paper
- pencils
- tape
- glue

Who Built That?

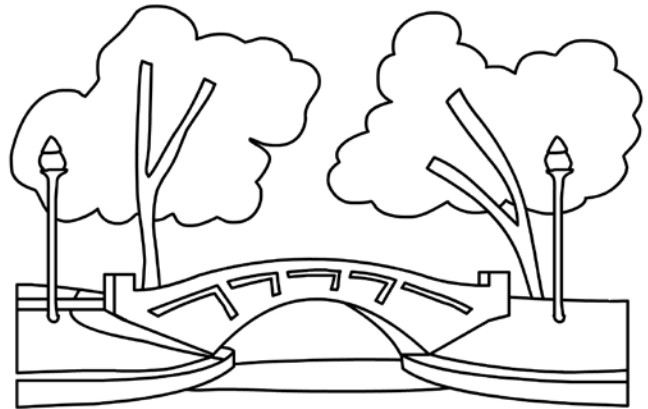
1. Distribute the Engineer's Notebooks. Have participants revisit their "Important Structures in My Community" page. Ask kids what they remember about why the structures on their page are important to the community. Ask: **How did the things in your community get there?** Have volunteers explain their answers.
2. Explain that before a building is constructed, there is a very important person who must create a building plan. That person is an architect. Have participants open the Community Engineering Flip Book on the tablets. Have them tap the number 2. While they look at the picture of the architect, tell them that an architect takes the idea for a community building and draws a plan of what it will look like and how it will work. Explain that architects are people who work very hard to be creative and "big thinkers." They go to special schools to learn how to use art, science, and math to make important drawings that will show builders how to build. The buildings architects draw must be safe and easy for people to use. If time permits, discuss the tools in the architect illustration on the tablet.
3. Ask kids: **After the architect has made the plans, what is the next step?** Kids should say that the next step is to build. Have kids tap the number 3 on the tablets. Tell them that after the building plan is complete, the person who builds is an engineer. Explain that engineers are builders and problem solvers. Some engineers build bridges, cars, airplanes, and spaceships. Other engineers work with computers, medicine, people, and the environment. Look around you. Everything you see in the room you're in, from the desks and chairs you're sitting on to the pencils and pens you use, all involved an engineer at one point or another. In a community, engineers build the buildings, bridges, parks, and other things that people rely on every day. If time permits, review the machines and tools used in the engineer's illustration on the tablet.

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It Takes a Team

1. Tell kids they will now team up to build something for their community. Separate kids into groups of two. Explain that each of them has an important job to do. Together they will decide if they will build a bridge or a building. Note: Give kids these two choices, but if they become excited about building something different, allow them to challenge themselves.
2. Once the teams have decided what to build, they will work together as architectural teams and then engineering teams. Pass out blank sheets of paper. Explain that as architects, they will draw the bridge or building that they will build. Then as engineers, they will use craft materials to make their builds. Encourage teams to discuss the best ways to build their designs before they get started. Remind teams to use their imaginations as they draw, but to make sure that it is possible to build their designs. Explain that if the plan needs to change as the engineer builds, the architect should go back and change the drawing so that it matches.



Reflection Time

Pass out the Engineer's Notebooks. Have kids open their notebooks to page 2 "We Build a Community." Ask them to use page 2 to draw or write what an architect and an engineer do. Have them turn to page 3, "Our Building Project," and copy the drawing their team created into their notebooks. If possible, take a photograph of what each team built, print out copies, and then have kids tape or glue them into their Engineer's Notebooks.