



TEAM MEMBERS: _____

Engineering in Our Community

If you want to see engineering in action, all you need to do is look around! When you walk through your neighborhood, what types of engineering projects might you spot? Maybe new bike lanes are being built. Buildings might have ramps for people with disabilities. There could be street signs with flashing lights to warn drivers to slow down in school zones. Engineering can be found everywhere!

Instructions: As a team, list the types of engineering you've seen in your neighborhood in the middle column of the chart below. Then think of engineering projects that could improve people's lives in your community, and write those in the last column. Imagine what your ideas could do!

Types of Engineering	Our community has...	Our community could use...
Public Buildings (like museums, town halls, post offices, libraries)		
Structures (like bridges, water towers, dams)		
Technology (like lighting and traffic control)		
Utilities (like sewage systems, storm drains, electrical lines)		
Public Facilities (like parks, piers, recreational areas)		
Transportation (like roads, bike paths, sidewalks, buses, trains)		



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3D City

Maps are very useful, but the view they show of the world can fall, well, flat. Engineers draw their ideas, then build 3D models of their sketches. This allows them to see what their designs will look like in real life.

You've mapped out your community, so why not bring that 2D world off the paper? Follow the step-by-step instructions below to build a 3D model of your community.

Session 1: Planning the Model

Step 1: Choose Your Area: Choose whether you'd like to build a whole block or just the front of one block.

Step 2: Map Out Your Model: Use the space above to draw in the streets, building lots, parks, and other features you will include on your model.

Step 3: Consider the Scale: You want structures in your community to be proportional to those in real life. Decide the appropriate size of the houses, trees, and other structures in your community. Select dimensions for those items and write them in the chart below.

	Height	Length	Width
Houses			
Trees			
Other Structures			

Session 2: Drafting the Model

Create Your Foundation: Cut a piece of cardboard to the size you'd like to have for your model. Then use your model sketch as a guide to draw in the streets, buildings, and other structures you will include in your model.

Session 3: Building the Model

Build the Block: To build your community, cut pieces of cardboard and tape or glue them together to shape buildings' walls and roofs. Think about structures like bridges or water towers. How can you build your community out of the materials at hand? Add finishing touches to make your 3D model more realistic. For example, show grass or parks by coloring these areas green or by covering them with a piece of green construction paper.