

# Techbridge Girls@Home

## Paper Towers Design Challenge

Techbridge Girls is committed to supporting our community by providing access to high-quality at-home STEM activities for our girls and curating resources for families and educators. The below activity was designed to empower girls to lead fearlessly by learning and teaching others while sheltering in place.

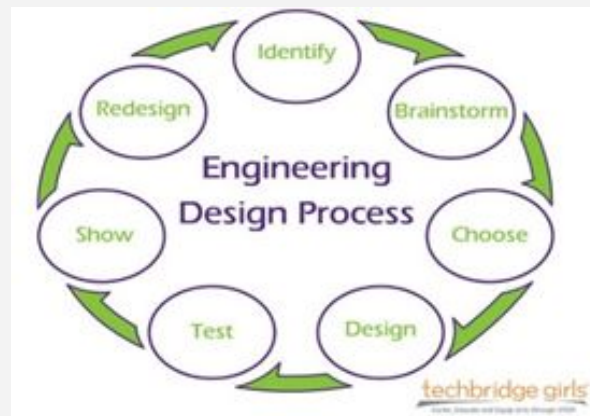
Techbridge Girls challenges you to build a tower or structure that can hold as much weight as possible!

### 1 Get your materials.

Source materials around the house, such as recycled paper (it can be printer paper, lined paper, notebook paper, whatever you can find), recycled newspaper, tape, and heavy (and flat!) objects for testing such as books, binders, or notebooks.

### 2 Build your design.

Remember, at Techbridge Girls, we always consider the Engineering Design Process before we begin building. First, brainstorm what makes a structure stable. What shapes come to mind? Are there any buildings or structures in your neighborhood that are both tall and stable? Using this as inspiration for your brainstorm, choose a design, build, and test!



Bend, fold, and roll recycled paper to design your tower. Make sure your tower is free-standing and not taped to any surface (table, countertop, etc.). Test your design by adding a book to the top of your tower. Can you redesign your tower so it can hold two books? Three?

**ASK:** What can you do to the paper to make it stronger? Have you discovered what shapes are strongest? If there are two towers being made, how could you combine your towers to hold more weight? What step of the Engineering Design Process is your favorite? What is the hardest?

### 3 Share!

With permission from your parents or guardians, please post a photo of your completed project on Facebook, Twitter, or Instagram, and tag @techbridgegirls so we can see your great work!

**CAREER CONNECTION:** Structural engineers design buildings, bridges, and structures that are safe and stable. The average starting salaries of structural engineers are about \$60,000, and average salaries after 5 years are about \$90,000.

We are proud to support our girls' STEM journeys by providing resources to overcome barriers and to thrive and lead in STEM.