

## Harness the Wind!

Wind! It doesn't just blow silver tiles on the museum's Wind Wall; it's a natural renewable resource. Engineers develop ways to harness wind to help the modern and natural world. Build your own creation using the design process, materials in your home, and of course, the wind!

### Supplies:

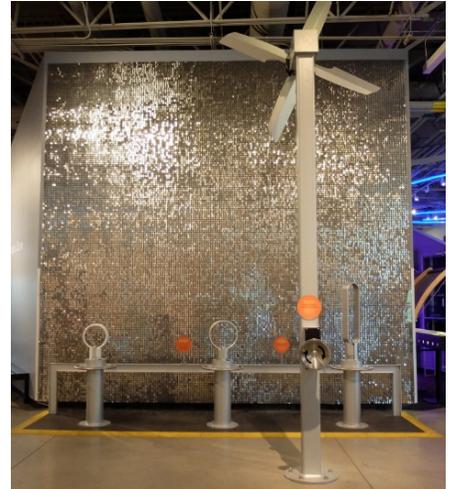
*All supplies are optional – use what you have!*

#### Pre-design Supplies

- Scratch paper or graph paper
- Writing utensil

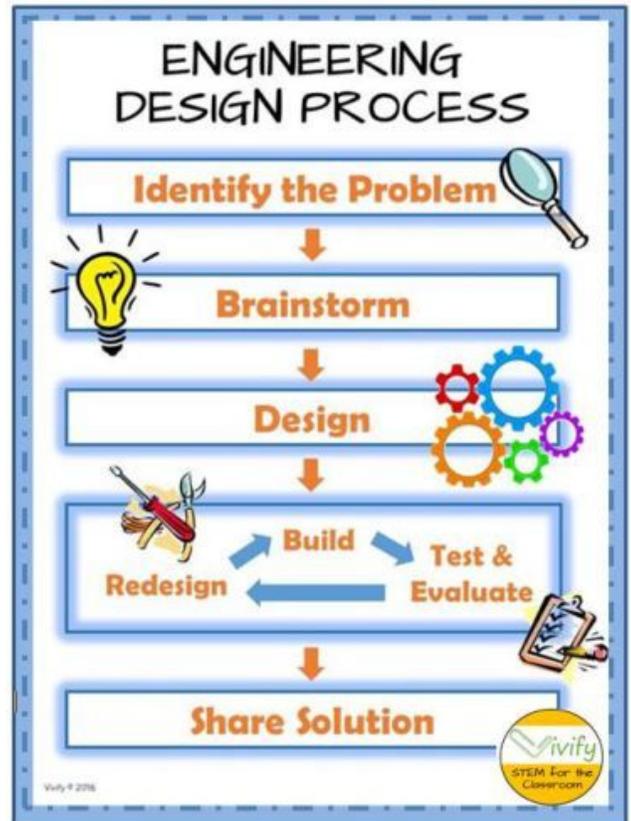
#### Building Supplies

- Plastic bottles and lids
- Tin cans
- Paper scraps or sticky notes
- Pencils or pens
- Straws
- Disposable cups or containers
- Cardboard
- Yarn or string
- Rubber bands
- Natural materials (sticks or rocks)
- Blank CD or floppy disks
- Plastic spoons
- Paper tubes
- Old socks
- Tissue paper
- Scissors
- Tape
- Glue
- Metal brads
- Paper clips
- Push pins
- Magnets



## Instructions:

1. As an engineer, work through the design process to begin building! Follow the design process on the right, sketch out your design, and think creatively about what materials you can use inside your home. Use the following guiding questions to help you:
  - a. What purpose will your design have? What is its function?
  - b. Could your design be multifunctional?
  - c. How will you ensure your design will hold up against heavy winds or other weather?
  - d. How will you know your design was a success?
2. Test your design and adjust as necessary. Share your creation with family and friends through photos or videos!
3. Wind isn't the only renewable resource! What other renewable resources have helped other cultures and countries?
4. Challenge yourself to build a new creation that reflects other sustainable energy sources! What do we utilize here in Fort Collins?



## Wind Technology: More Than Just Power

Not all wind technology has been used to create energy. As early as 5,000 BC, people were using wind to propel boats along the Nile River. Wind-powered water pumps were invented in China, while windmills were used to grind grain in the Middle East in 200 BC. In the late 1800s and 1900s, wind-electric generators were widely used in the United States. In the 1970s, the U.S. began developing an interest in alternative energy sources, and thousands of wind turbines were installed in California.

Check out a timeline of U.S. Wind Energy Technology and see how people and organizations across the country have used wind, including NASA: <https://www.energy.gov/eere/wind/history-us-wind-energy>