

# Building for Hurricanes

Intended for upper elementary, tweens, and teens

## Modification and Preparation List

**Adapt this NASA activity for your needs!**

### In-Person Library or Outreach Program

#### Materials:

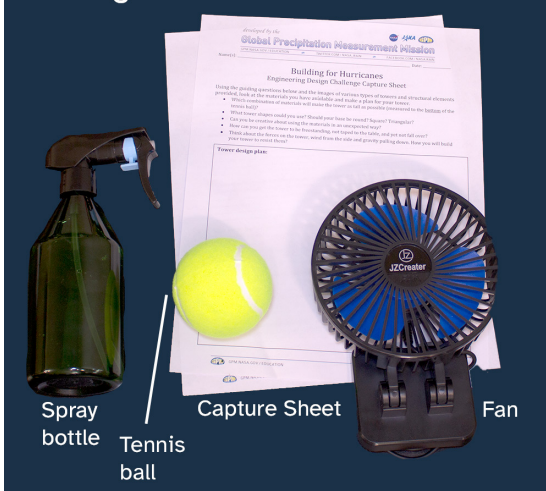
##### Tower building materials such as:

- ① Index cards
- ① Straws
- ① Paper towel or toilet paper rolls
- ① String/yarn/twine
- ① Pipe cleaners/chenille steams
- ① Tape
- ① Empty cereal or food boxes
- ① Insulating foam tubing

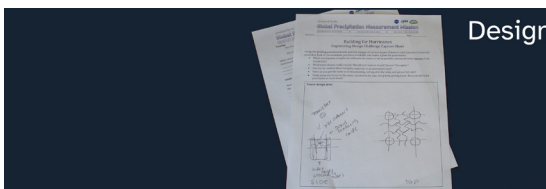
##### Tools to help with tower building:

- ① Scissors
- ① Ruler
- ① Tennis ball (for final test)
- ① [Planning and capture sheets for each group/participant](#)
- ① [Instructions \(final page of Activity Guide\)](#)
- ① Fan to create “wind”
- ① Spray bottle full of water (optional)

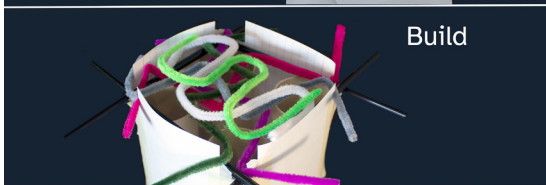
#### Testing Materials



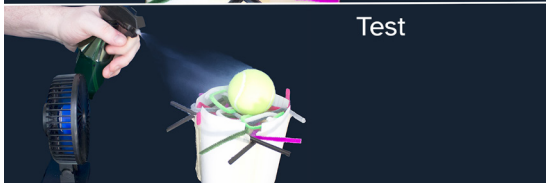
#### Design



#### Build



#### Test



# In-Person Library or Outreach Program (*continued*)

## Preparation:

### 1-3 months prior to program:

- ① Solicit donations of toilet paper rolls, empty cereal boxes, and other materials from library patrons and/or purchase other materials
- ① Prepare and distribute promotional materials for the activity, including flyers, posters, library website, online event calendar, and social media posts.

### Day of the event:

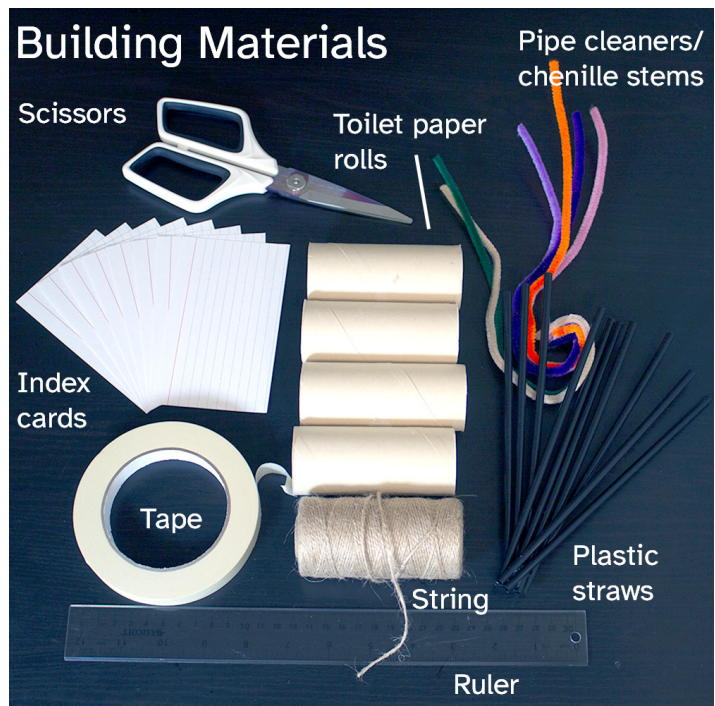
- ① Prepare workstations for participants with adequate supplies, instructions, and capture sheets
- ① Ask program participants to share ideas about what they think might be hazards to buildings during hurricanes (*wind, rain, flooding, debris are all great examples*)
- ① The activity should have three phases:
  1. Planning (*participants design their tower on capture sheet*)
  2. Building (*teams/individuals build their tower from available materials*)
  3. Testing/Analysis (*which was the tallest tower to withstand the force of the “wind”? Did adding “rain” using a spray bottle make the towers less stable?*)

## Take & Make

### Material List (*per kit*):

#### Tower building materials such as:

- ① Index cards
- ① Straws
- ① Paper towel or toilet paper rolls
- ① String/yarn/twine
- ① Pipe cleaners/chenille stems
- ① Tape
- ① Empty cereal or food boxes
- ① Insulating foam tubing
- ① Tape/adhesive labels
- ① Tennis ball
- ① Small spray bottle (optional)



## Take & Make (*continued*)

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### Material List (*per kit continued*):

#### *Tower building materials continued:*

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- ① [Instruction sheet from the Teacher's Guide](#)
- ① [Capture sheet](#)
- ① Bags to distribute kits (*recycled paper or plastic shopping bags work great!*)

### Materials for participants to have at home:

- ① Scissors
- ① Ruler/measuring tape

### Preparation (per kit):

#### *1-3 months prior to program:*

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- ① Solicit donations of toilet paper rolls, empty cereal boxes, and other materials from library patrons and/or purchase other materials
- ① Prepare and distribute promotional materials for the activity, including flyers, posters, library website, online event calendar, and social media posts.
- ① Print instructions and capture sheets
- ① Assemble building materials and instructions in bags to distribute to patrons

#### *Distributing the kits*

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- ① [For best practices on assembling Take and Make kits check out this post on STAR Net](#)
- ① Consider making this take and make an activity an asynchronous virtual program by having participants tag you in social media posts sharing photos of the tower or having them email you photos of their tower being tested!