

Put your imagination and engineering skills to the test with Cardboard City! Today's cities are highly varied throughout the world, ideally to best suit the needs of their residents. Each has different services, layouts, features, and styles. A cardboard city of your own design can become anything you desire!

### MATERIALS

- · Piece of black construction paper
- · Cardboard
- · Tape
- · Scissors
- · Scrap paper
- · Markers
- · Science notebook or paper
- · Something to write with
- **Optional:** Additional materials and supplies you have. Ideas include hole punch, twist ties, paper cups, egg carton, fabric pieces, cardboard tubes, yarn, etc.

### PROCEDURE

- Decide on who the residents of your city will be.
  Will you create a city for future humans? Your stuffed animals? Rabbits?
- Consider what your city's residents might do on an everyday basis. List these in your science notebook.
- Determine what features your city will need for your residents to be able to do each of these things.
   For example, do your city's residents go to work?
   Where do they get their food? Next to each daily task, write down what else your city needs to support this (examples could include a grocery store, a post office, or a gas station).

Experiment continued on next page...

# 🚱 🗿 💆 @pacsci

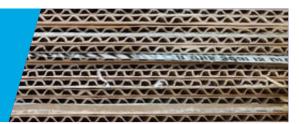
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#### Go **BIG**, like this city at PacSci's Tinker Tank!









### PROCEDURE continued...

- Consider the utilities that your residents need.
  For example, those living in your city will probably want to brush their teeth every day. Therefore, your city will need a way for its residents to access water, like a water tower or a reservoir. The same will apply for electricity, trash dispos al/recycling, and transportation systems.
- Some other city systems to consider: housing, street layout, parks and nature areas, and entertainment or cultural experiences.
- Once you have some basic needs in mind, it's time to begin building! Use your materials to begin to build your city. You might start with what you think your residents will need the most or just what sounds the most fun to build!
- Cardboard cities work really well when created over a period of a few days. You will want to consider where you build your city so that you can leave it up and add to it over time. When building city structures, one idea will lead to another and soon your city will be a growing, interconnected hub!

#### Does your city have a landmark?



#### Or a transportation system?

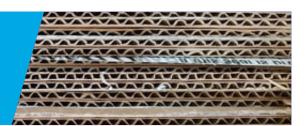




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### **DID YOU KNOW**

City planning can be used to help combat climate change. For example, the city of Zurich in Germany has modified their public transit system so that there are fewer cars on the road, meaning less pollution and decreased carbon dioxide production. Copenhagen, Denmark has prioritized creating sustainable architecture which includes creating buildings that recycle rainwater, grow plants, and manage waste efficiently. How can you take these concepts and apply them to your cardboard city?



Streetcar in Zurich, Germany

Roof-top garden



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## K-2 GRADE EXPLORATION

Here are some questions you can explore together:

- · Do you live in a city? A town? Outside of a town?
- What kinds of buildings exist near where you live? How do you usually get there?
- · How will residents of your city get around? Build something to take them from place to place.
- · Where in your city will you grow good, healthy food?
- · What will you call your city?
- Explore materials and shapes when building structures.
  What materials will make the strongest structure? How can you use tape to make them stronger? What shapes work for building strong structures? Explore triangles, squares/rectangles, and even circles.



Show us how you're being curious! Share your results with us.

