

## Challenge

# DESIGN A SHELTER



Using only index cards and paper clips, design and build a structure that:

- Measures at least six inches tall
- Fits at least three "people" inside
- Holds at least one beanbag on top

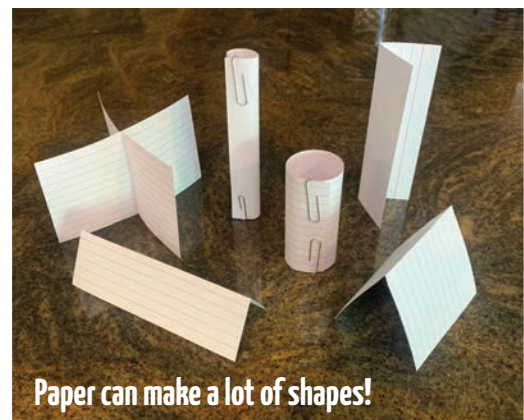


### What you'll need:

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> Index cards | <input type="checkbox"/> Beanbag (or a resealable bag partially filled with rice, beans, or flour) |
| <input type="checkbox"/> Paperclips  | <input type="checkbox"/> "People"—small toy people, animals, or blocks                             |
| <input type="checkbox"/> Ruler       |  |
| <input type="checkbox"/> Scissors    |  |

## What to do:

1. Gather your materials and start designing!
2. Build and test your structure to meet this challenge.
3. Make up your own shelter challenge—design a structure that is even taller, holds more weight, or has a door for people to enter and exit.



Paper can make a lot of shapes!



## Keep on Engineering

Design towers using different materials, such as cups, sticks, twist ties, cardboard tubes and boxes, or even pillows. How tall can you build? Can the tower hold any weight on top?

# OREGON'S FIRST ARCHITECTURE

Early Native American people built homes made from natural materials that were designed to fit their lifestyle, as well as the climate and surroundings of the area in which they lived.

In Eastern Oregon, Native people, such as the Umatilla Tribe, designed lightweight shelters covered with woven mats to match their mobile lifestyle.



Come winter, coastal Tribes lived in plank houses built from cedar or redwood planks. These structures suited the wet climate and a more stationary lifestyle.



The Grand Ronde Plank House. Cedar logs form the support posts, while split cedar planks are used for the walls and roof. Note the size of the posts—they needed very large trees!



Photo: Confederated Tribes of the Grand Ronde