



## Make a Cloud Mobile Activity



*Ready to get started with this activity? To keep track of your progress, check off the instructions for each step below as they are completed. Make sure to check the box of the last step when you're done to receive congratulations for your completed activity!*

**Consider this:** Have you ever looked at power poles and noticed there are many different types? The different types of poles can tell you a little bit about the amount of electricity flowing through the transmission lines. Transmission lines are big, high voltage power lines that bring electricity from where it is made to substations and eventually to your home. Engineers are involved in the planning of where the transmission lines will go and which pole to use.

If the power lines in your neighborhood are over your head they are likely on a pole that looks like a “t” – these poles go deep into the earth to help keep the pole upright. The power lines strung from one pole to the next also help with stability. The higher the voltage, the bigger the transmission pole will need to be, eventually getting to the point a tower is needed. Engineers have come up with a variety of designs to help with stability. The tower needs to withstand high winds, heavy power lines, and all kinds of weather.

Can you design and build a high voltage transmission tower? Can the tower withstand heavy power lines?

### 1. Gather Your Materials

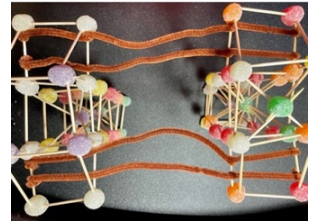
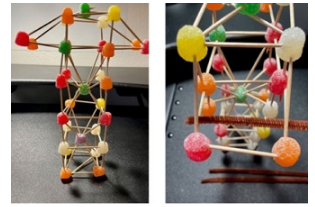
- Spice drops or marshmallows
- Toothpicks (round work best) or pretzel sticks
- Pipe cleaners, string/twine, wire
- Objects to hang from “power lines”





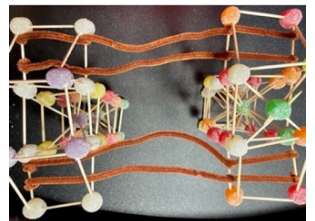
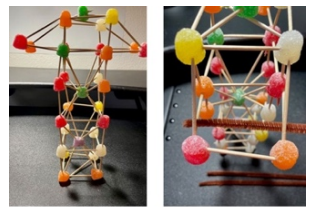
## 2. Construct Your Tower

- Make cross beams near the top.
- Use pipe cleaners as power lines between the towers.



## 3. Make Support Beams and Power Lines

- Make cross beams near the top.
- Use pipe cleaners as power lines between the towers.



## 4. Things to Think About

- Which shapes make the tower stronger? Triangles, squares, rectangles? What shapes do you see in the towers outside?
- How much weight can your tower hold up? Find items in your home to hang from the power line (lego, toy car, etc.)
- Can you blow your tower over, or can it withstand gusts of wind?
- Did it matter which direction the spice drops were placed?
- Did you make it through the project without eating any spice drops? We didn't!

