

BPA

SCIENCE LAB



Build a Tower

Grades K-4

Learning objective: Students will develop teamwork skills as they work together to design and construct a tower, problem-solving along the way. These are key skills needed in engineering and scientific disciplines.

Supplies you will need

★ One large handful of popsicle sticks

★ One roll masking tape

★ Paper and pencil

Instructions

1. Have the students form teams of 3 to 5 kids.
2. **Ask:** Who knows what a transmission tower is?
3. **Explain:** The purpose of a tower and BPA's role in designing and building them. Show pictures/schematics.
4. Distribute materials to each team.
5. Instruct the teams to work together to "design" a tower by sketching it on paper. Encourage them to work as a team, as engineers do, and explain their ideas and listen to each other. Allow about 5 minutes for this job. Move around the room to encourage them.
6. Next, instruct the kids to build their tower, using popsicle sticks and tape to hold the joints together.
7. For Kindergarten through 2nd graders, demonstrate the first step for them. Show them how to create a flat square from the sticks (*see diagram*). This will lay flat on the table and serve as the base of their tower.
8. Allow 10 to 15 minutes of "building time." Move around the room asking questions, providing ideas and encouragement.
9. If time allows, the students can string "conductor" along their line. Use the roll of string and let them unroll it and attach with tape to each tower.
10. **Optional:** Have each team deliver an "engineering report." Ask one team member to talk about their design, what worked and what didn't. Thank them for being great engineers!

