



ICEBREAKER

REACHING NEW HEIGHTS

In this virtual meeting icebreaker participants work together to design a simple structure and then test their design and communication skills.

Time needed About 15 minutes

Materials Each person will need the following materials:

- 12 similar sized paper or plastic cups OR
- Paper and pencil

Getting Started

Think about what you know about the design process. Some of the biggest components of the design process is brainstorming and teamwork. In the virtual world communicating can be difficult, making teamwork difficult. With this activity your group will reach new heights...but only with effective communication.

Steps

1. Gather 12 plastic/paper cups (if not available you can use pencil and paper).
2. Form groups with a 3-person minimum.
3. Take 5 minutes for each group to talk through the design of the tallest structure possible using only the 12 cups – without touching the cups. Each group member should try to have an identical understanding of the design. (If not using cups, wait to begin sketching.)
4. Take 3 minutes **WITHOUT TALKING** for each person to build their group's designed structure. (You can sketch what the structure would look like if you don't have cups.)

5. Compare structures/drawings to your group members and see how well they match with each other.
6. See which group was the closest!
7. Change the design scenario to be the best structure to withstand a person blowing on it.
8. Repeat steps 3-5 with 2.5 minutes for planning and 1.5 minutes for building.

Think and Discuss!

- How did you redesign your structure when you were given different constraints?
- If more time was allotted, how would your design change?
- What would you add/take away?
- How could you be more effective in communicating design information?

Applications

What you just did, finding the best process to build a tower during the time constraint, is what industrial engineers do. Their job is to figure out the most effective processes to complete a task.

This icebreaker was created by 2020 EngineerGirl Ambassadors Izabella Pollett, Diya Agrawal, and Sarah Amacker