

# FACTivity



## Time Needed

Two class periods

## Materials (for each student or group of students)\*

- Paper (a variety of weights and types of paper)
- Plastic straws
- Wooden Popsicle® sticks
- Toothpicks
- Natural items (sticks, leaves, etc.)
- Glue
- Tape
- Paper clips
- Ruler/measuring tape
- Any other items that you think students may want to build with

In the research presented in this article, the engineers developed a protocol for determining whether different types of wood are useful for making baseball bats. In order to create this protocol, the engineers had to test different types of wood. Similar to the engineers, you will explore different materials to see what type of material and combination of material makes the best tower.

The question you will answer in this FACTivity is:

**What material or combination of materials creates a stronger tower?**

\*Educators - this FACTivity is intentionally open-ended so that students can use their creativity to build and modify the towers. Please feel free to use different materials or present the student with different challenge activities as appropriate.



## Methods

You (or your team) will be provided with a variety of materials. Your challenge is to create the strongest tower with the materials you have. Your tower needs to be 12 inches in height. The way you will test the strength is that each group will use the same textbook to place on top of the tower to see if it holds it.

As you create different towers, keep a detailed list of materials used and a sketch of your design on the graphic organizer provided. After you test your tower for strength using the textbook, make notes about what happened and what you think may improve your design. Create at least three different designs.

Once everyone has had a chance to create at least three tower designs, each student or team can present their best design to the rest of the class. Below are some questions to talk about when you present your design.

What materials did you use?

Why do you think those materials did the best job of creating a strong tower?

What do you think could improve your tower design?

# Batter Up! FACTivity Graphic Organizer

	Materials used	Sketch of design for tower	What happened when the textbook was placed on top of the tower?	What is a way to improve the design?
Tower 1				
Tower 2				

	Materials used	Sketch of design for tower	What happened when the textbook was placed on top of the tower?	What is a way to improve the design?
Tower 3				
Optional: Tower 4				