

Small Group Challenges

Challenge 1: Test your structure building!

Work with your small group and use one of the sets of materials below to complete the following challenges:

- A. Build the tallest free-standing tower you can.
 - o Can your tower support the weight of a glue stick?
- B. Make a bridge to span a distance of 30 centimeters that the cable car can cross without breaking it.
- C. Build a table that will support the weight of a book.

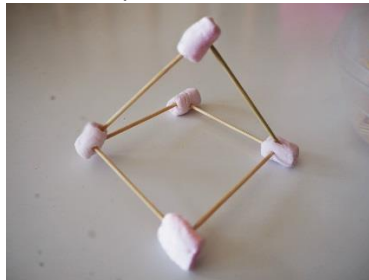
Newspaper & Tape:

- o 6 sheets of newspaper
- o 4 rounds of masking tape



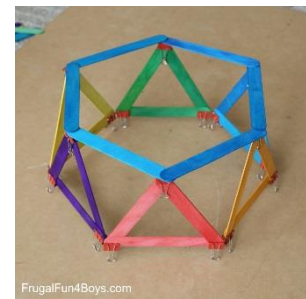
Marshmallows & Toothpicks

- o 20 marshmallows
- o 25 toothpicks



Binder Clips & Craft Sticks

- o 15 craft sticks
- o 8 binder clips

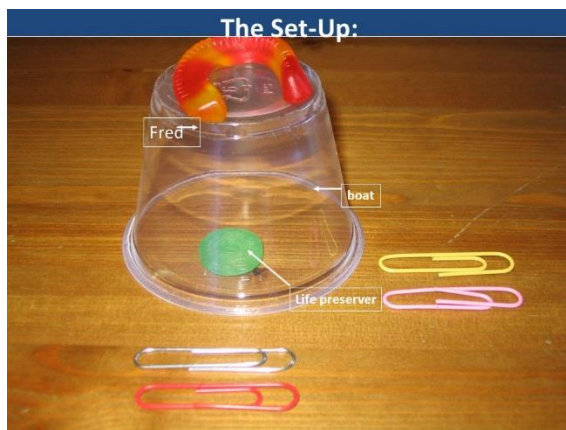


Tips:

- What shapes can you make with your materials?
- Which of these shapes are strongest? (Wobble them to find out!)
- Map out a plan before you begin building!

Challenge 2: Save Fred!

Fred the Gummy Worm has been spending his summer boating on the Great Lakes. But he's not too bright (after all, the brains of worms are pretty small 😊) He's never learned how to swim and he never wears his life preserver. The worst has happened! His boat has capsized and he's stuck! Fortunately, his life preserver is in the boat, but unfortunately he does not know how to reach it without falling off and drowning.



Problem: How can you and your small group save Fred using only 4 paper clips? You may not touch Fred, the boat, or the life preserver directly with your hands!

Materials: Gummy Worm, Gummy life preserver, 1 plastic cup, 4 Paper Clips

Challenge: Set up the challenge as shown in the picture and work with your group to save Fred! Fred must get in his life preserver, flip his boat, and get back in.

Rules: Fred, the boat, and the life preserver can be touched only with the paper clips. NO HANDS!