

## **HANDS-ON Problem: You need Bob's approval 12/1/05**

Tell the team: This is a hands-on problem. You have one minute to decide which 5 team members will participate in solving the problem when actually competing at the competitions, but for today, all members may solve this problem.

JUDGES READS: This is a two part problem. In Part 1, you will have 5 minutes to build solutions and practice with the materials. In Part 2, you will have 3 minutes to accumulate score. Any materials damaged during Part 1 will NOT be replaced for Part 2.

Your problem is to build a tower out of the items provided. You must build your tower within the marked off Tower Area, and your tower must be touching inside the Tower marked off area after the tower falls to receive score.

When part 2 begins, you will have 3 attempts to get Bob's approval for score. Bob is a Bobble Head Doll. You will push your tower over with the stick provide by the judge. The problem is to have the tower fall on Bob and to get him to shake his head. Bobs head must move from direct contact with the tower to get credit for that attempt. If Bob's head moves, it will be considered as Bob giving his approval and you will be scored for that attempt.

To receive score, your tower must be completely within in the marked off Tower Area when built, and it must remain touching the taped off area when it has completed the attempt. You will be given materials to use. Nothing else may be used.

Score will be as follows:

Each one-inch of height of your tower will receive 2 points.

If you get Bobs head to move by having the tower fall on his head, you will also get 5 points for every inch of distance that Bob is away from the taped off area, but the tower must remain touching within the taped off area to receive score for the hit. You will be given three attempts for score. All three attempts will count for score.

Give teams the following materials:5 pipe cleaners, 2 sheets of paper, 3 paper cups, 1 soda can, 6 mailing labels, 3 small pieces of cardboard, 1

piece of string, (1) 6" piece of masking tape, 5 soda straws, 5 toothpicks

Judges: The list of items given to the team to solve the problem may be altered. If you don't have a Bobble Head Doll, a desk type bell, or anything that can be made as a target, will do.

The towers height should be measured for every attempt, because nothing stated that it had to remain the same for every attempt.

When in doubt, give them credit for the attempt.

The tower doesn't have to stay intact to get credit for score, but some part of the tower must be touching inside the box after they knock it over.

Let them get creative, but don't let them get reckless or out of control.

Have fun and enjoy.

Ask them questions about their attempts and what they could have done different. They will love to share.