

Hands-On Spontaneous Problem: High Up Choices

- **A.** When the team members enter the room, tell them, "This is a verbal problem. All team members may compete. Those who choose not to participate must sit quietly in these seats (indicate seats) and watch or leave the room. They cannot participate in any way."
- **B. JUDGE READS TO TEAMS:** (Do not read material in parentheses.)
 - (1) This is a one-part problem. You will have 7 minutes to discuss and build.
 - (2) There materials to use to solve the problem *(point to each)*. Nothing else may be used and you are not allowed to change the setup. There are three scoring objects on the table. Your team may choose only one of them to add additional points to your solution.
 - (3) Your problem is to use only the materials provided to build a structure as tall as possible that will be scored on height. The team may choose one of the scoring objects to rest on top of their tower to receive additional points.
 - (4) You may ask to be scored at any time. If a scoring object is being used, it must be added to the top of the structure before you ask to be scored or time is called.
 - (5) You may not destroy any of the three scoring objects.
 - (6) You will be done when time is up or you have asked to be scored.
 - (7) You will be scored as follows:
 - A. 5 points for every inch of height
 - B. You may choose one of the three scoring objects
 - a. 5 points
 - b. 10 points
 - c. 15 points
 - C. You will receive 1 to 10 points for the creativity of your structure.
 - D. You will receive 1 to 10 points for how well your team works together.

(After reading the entire problem aloud, repeat the items in boldface. Begin by saying, "I repeat." After reading boldface items, say "Begin Part I Practice time now. Then, for Part II say "Begin Part II Solution time now)

C. FOR JUDGES ONLY:

- 1. Judges should discuss and practice solving the problem before the first team competes. Make any necessary decisions and or notes. All decisions must be applied uniformly to all teams.
- 2. Practice reading the problem out loud before the first team competes. When reading to the teams, illustrate the problem by pointing to items.
- 3. Place two copies of the Team's Copy of the problem in full view of all team members before you read the problem to them. They may use them as a reference during the competition.
- 4. Set up the competition area with one table in the center of the room. Place the materials on the table in clear view. In a table off to the side set up the three scoring objects. Clearly label in front of each object which one is 5, 10, 15 points (tape, index cards).

5. Before the team enters the room, place a set of the following materials On table one:

2 sheets of paper
6 index cards
20 spaghetti noodles
15 paper clips
1 cu. in. of putty
3 plastic spoons
2 paper cups
2 paper plates

- 4 straws - 12 inches of masking tape

- 2 unsharpened pencils - 20 toothpicks

- 6. Have three different scoring objects. Make sure the three objects are different in weight and size. Pick things that will be difficult to place on top of the tower. For example you could pick: (ping pong ball, golf ball, baseball) (wooden toy block, barbie doll, stuffed animal) (pair of scissors, screw driver, stapler)
- 7. As long as the scoring object is not touching the table and only touching their structure, it can count as being on top. The scoring object does not have to be the highest point. Teams also do not have to pick a scoring object if they do not want to.
- 8. Have a measuring tape or yard stick ready to measure the structure when the team calls time. If the structure stands for at least 3 seconds after time is called or they ask to be scored, the measurement can be made. If the structure falls after three seconds, the judge can lift up the structure to the height it was before it fell.
- 9. Be sure to give each team exactly 7 minutes to build and test their solution. Warn the team when 2 minutes and 1 minute remain.
- 10. When scoring **creativity of the solution**, assess how the team uses the materials to build their structure, variety of ideas considered, etc. When scoring **how well the team works together**, consider the extent that all team members are involved in developing the solution: Did the team delegate duties? share ideas? Did the team members value one another's input?
- 11. If it is obvious that the team does not understand the problem, you should provide information to clarify the problem's intent and its limitations. **Do not offer tips on how to solve the problem.**

Team Copy

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 - i) 5 points
 - ii) 10 points
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 - d) You will receive 1 to 10 points for how well your team works together.