2005 REGIONAL TOURNAMENT

Hands-On Spontaneous Problem: VERTIZONTAL STRUCTURE

- **A.** When the team members enter the room, tell them, "This is a hands-on problem. You have 1 minute to select the five team members who will compete. The others must sit in these seats (indicate seats) and watch or leave the room. They may not assist in solving the problem and may not talk at any time."
- **B. JUDGE READS TO TEAMS:** (Do not read material in parentheses.)
 - (1) You have 8 minutes to solve the problem. The judge will warn you when 2 minutes and when 1 minute remains. You can ask questions and talk to each other at any time.
 - (2) You have materials to use to create your solution (*point to materials*). Nothing else can be used.
 - (3) Your problem is to build a structure and make it as long as you can.
 - (4) Your structure can be measured as it rests on the floor or as you hold it in the air. You will make this decision before you are scored.
 - (5) If you choose to rest your structure on the floor, the entire structure must move along the floor without breaking when you pull on one end. If any parts break off, they will not be included in the length.
 - (6) If you choose to hold your solution in the air, you can touch it in only two places. The distance between the inner points of where you are touching will be considered the length. Your structure may not touch anything else.
 - (7) You can ask to be scored at any time. Competition is over when you ask to be scored or when time ends.
 - (8) You will be scored as follows:
 - (a) If your structure rests on the floor you will receive 1 point for every inch in length.
 - (b) If you hold the structure in the air you will receive 2 points for every inch in length.
 - (c) You will receive 1 to 10 points for the creativity of your solution.
 - (d) You will receive 1 to 10 points for how well your team works together.

(Repeat items in boldface. Begin by saying, "I repeat.")

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 in full view of all team members before you read the problem to them. They may refer to them during the competition.
- 4. Give each team the following materials:

10 toothpicks 8 adhesive mailing labels 1 paper plate
4 plastic straws 3 small rubber bands 8 paperclips
2 unsharpened pencils 1 sheet of paper, A1 or 8½"x 11" 4 cotton swabs

- 5. Make sure the room is clean before each team enters. Have trash bags and a wastebasket on hand for cleanup.
- 6. Be sure to give the team 8 minutes to solve the problem. Warn the team when 2 minutes and again when 1 minute remains
- 7. When competition ends or the team asks to be scored, instruct team members to choose if the structure will rest on the floor or if they will hold it in the air.
- 8. Use a string to measure the structure. Be sure to hold the string taut as you measure. Mark the structure's length with a piece of tape on the string or by pinching the string, then measure the length of string after the team leaves the room. Round down to the full inch.
- 9. If the structure rests on the floor a team member must pull it so it moves. There is no minimum for how far it must move. If a part becomes disconnected, do not count it in the length. Measure from where the team member touched it while pulling to the farthest point that moved before becoming disconnected.
- 10. If the team holds its structure in the air, the length is determined by measuring from the inner points of where the team holds it. Measure from point to point and ignore any sagging or bowing of the structure.
- 11. When scoring creativity of the team's solution, consider use of materials. When scoring how well the team works together, consider the extent that all team members are involved, if they value one another's input, etc.
- 12. If it is obvious that the team does not understand the problem, you may clarify the problem's intent and limitations. Do not help teams solve the problem; help them understand it.