2012 REGIONAL TOURNAMENT

Hands-On Spontaneous Problem: Flip A Switch

- **A.** When the team members enter the room, tell them, "This is a hands-on problem. You have one minute to select the five team members who will compete. The others must sit quietly in these seats (indicate seats) and watch or leave the room. They may not participate in any way."
- **B. JUDGE READS TO TEAMS:** (Do not read material in parentheses.)
 - (1) You have 6 minutes to discuss the problem, practice, and create your solution. The judge will warn you when 2 minutes, when 1 minute, and when 30 seconds remain. You are allowed to ask the judges questions, but time will continue.
 - (2) Your problem is to use materials to flip this switch while standing as far away as possible (point materials and demonstrate flipping the switch with your hand).
 - (3) The switch is considered flipped when it is in the opposite direction as it is now. You are not allowed to touch the switch with your hands.
 - (4) You will use these materials to flip the switch (*point to materials*). Nothing else can be used, and you are not allowed to damage items marked with a yellow label.
 - (5) You will decide how far away you will stand when flipping the switch.
 - (6) You will be scored when time ends or when you ask to be scored. Once you ask to be scored, a judge will place a marker in your chosen location. You are allowed to make as many attempts as time allows from that location, but you must remain behind the marker.
 - (7) You will be scored as follows:
 - (a) You will receive 1 point for every inch between the switch and the marker at the chosen location.
 - (b) You will receive 1 to 15 points for the creativity of your solution.
 - (c) You will also receive 1 to 10 points for how well you work together.

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

C. FOR JUDGES ONLY:

- 1. Discuss and practice 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, judges should illustrate the problem by indicating items and portraying actions.
- 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. Select a room that has a light switch installed vertically so teams have to push the switch either "up" or "down."
- 5. Before the team enters the room, place the following materials on a table:

2 plastic cups, 10-14 oz.

10 wooden toothpicks

4 rubber bands

6 plastic straws

2 pieces of string, 4"

2 cubes of clay (app. 1 oz each)

6" masking tape

4 metal paper clips

4 Q-tips

4 pipe cleaners

*2 unsharpened pencils

- 6. The team can practice and stand anywhere in the room. When it asks to be scored or when time ends, place a small piece of tape or something similar as a "marker" where the teams choose. Measure the distance between the marker and the switch after the teams leave the room. Be sure to remove the marker once you have measured.
- 7. Be sure to give each team exactly 6 minutes to create their solution. Warn the team when 2 minutes, when 1 minute, and when 30 seconds remain.
- 8. When scoring **creativity of the solution**, assess use of materials, variety of ideas considered, and the final solution. 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?
- 9. 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**.

^{*} Mark with a yellow label.

Team's Copy

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