

Spontaneous Problem: Happy Feet!

- A. When the team enters the room, tell them, “This is a Hands-On problem. In an actual tournament you will have one minute to select five team members to compete. The others can leave, or stay to watch, sitting in seats away from the table. If they stay in the room, they cannot assist in solving the problem and cannot talk at ANY time. However, today all team members can participate.”
- B. JUDGE READS TO TEAM:
1. This problem is in two parts. In part one, you will have 4 minutes to develop and practice your solution. You may talk to each other and ask questions during this practice time, however, time will continue. In part two you will divide your team into two groups, the senders and the receivers. You will have 3 minutes to demonstrate your solution.
 2. **Your problem is to develop a visual communication system that uses only the sender's feet to communicate placement of coins on a grid. Senders will use the visual communication method to inform the receivers how to place the coins. When time is up, the grid will be scored.**
 3. The communication system from senders to receivers must be entirely visual. During part two, senders cannot make any sound.
 4. During part two, the senders and receivers will be separated by a screen so that only the sender's feet are visible to the receivers. The senders and receivers will receive a grid. The sender's grid will be marked to show the desired placement of coins. Senders will use the “happy feet” visual communication system to tell their teammates about the grid. As receivers understand, they will place coins on the grid.
 5. Scoring will be as follows (approximately 100 point maximum with 10 point bonus):
 - 2 points for each coin showing heads that is correctly placed for score by the receivers
 - 20 points if the receiver's grid is left blank
 - 0-10 points for teamwork.
 - 1-20 points for the creativity of the “happy feet” communication system.
 6. Penalties deducted from the score will include:
 - 20 points each time senders speak or use anything besides their feet to communicate to the receivers during part two.
 8. Once again, **Your problem is to develop a visual communication system that uses only the sender's feet to communicate placement of coins on a grid. Senders will use the visual communication method to inform the receivers how to place the coins. When time is up, the grid will be scored.**

C. FOR JUDGES ONLY

1. Materials needed for setup: A screen that has a cutout allowing a person's feet to be seen, chairs for team members, stop watch. Grids. Coins.
2. Arrange the room so that senders and receivers are approximately fifteen feet apart separated by the screen.
3. As soon as the practice time is over, have team members move to their positions on either side of the screen. Give the receivers a blank grid. Give the senders the filled in grid and say "Remember, you can't use sound." Say "Begin". Call out "30 seconds remaining" appropriately. At the end of time, say "Stop."
4. The senders may not speak or uses sound while communicating.

Team Copy

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Scoresheet – Happy Feet

# Heads correctly placed	_____ x 2	_____
Receiver's grid left blank? 0 OR 20		_____
Creativity of communication system(1-20)		_____
Subtotal		_____ =
Penalty for speaking or using anything but feet	_____ x 20	_____ -
Total Points		_____ =

Comments:

Scoresheet – Happy Feet

# Heads correctly placed	_____ x 2	_____
Receiver's grid left blank? 0 OR 20		_____
Creativity of communication system(1-20)		_____
Subtotal		_____ =
Penalty for speaking or using anything but feet	_____ x 20	_____ -
Total Points		_____ =

Comments:

Notes for Coaches Only

This is a difficult problem. Sometimes, though, in practice sessions, you can learn more from a failure than from a success. So, if your team has trouble with this one, it may prove good for them in the long run.

1. It is important to follow the rules! For this problem, the communication can only use visual aspects of the feet - not sounds. Explore what the possibilities are: turning around, relative positions, ... What are some other visual communication systems they have seen (Flags, semaphores, traffic lights, smiles)?
2. It can be a good idea to have one team member who is assigned the task of continually rereading the problem to make sure that the team is interpreting the problem correctly. They should be encouraged to ask the judges questions if they are unclear on anything, or if they think one or more of their teammates might be confused.
3. In any communication problem, it is important to clearly identify the items that must be communicated. In this problem, you can do the task if you communicate the location of the coins that are heads. Can the receivers communicate back to the senders? (yes) It might be useful to have a signal for “start over” if things are going totally wrong.
4. It is difficult to make a communication scheme and remember it unless it has some kind of mnemonic memory device or pattern. It is also important to decide early, so you have time to practice. Often many different options are discussed, then finally one is picked. In the second part you might forget parts of the scheme if you decide too late.
5. One of the important features of this problem is the scoring. Note two things: 1.) You can get 20 points if you do nothing. 2.) Tails are not scored!
6. This problem has a short time limit, so your team needs to have a quick decision process. The team needs to be able to efficiently and agreeably decide on a communication system, and make sure that everyone is clear how it will work. The team must plan on leaving time to practice their solution. Practicing is the easiest way to reveal any problems with the communication system (and how well everyone remembers it). It will also help the team figure out who will have what role during the solution.