

HANDS-ON PROBLEM: *Grab It and Go!*

A. When the team members enter the room, tell them this is a hands-on problem. They have one minute to select the team members who will solve the problem.

B. JUDGE READS TO STUDENTS: (Do not read numbers or phrases in parenthesis.)

1. This is a Two-Part Problem. You will have 4 minutes to work on your solution to this problem and practice in Part I. In Part II, you will have 2 minutes to work for score.

2. You must transport items from a box labeled "For Delivery" to a box marked "Delivered" for score. You will be given a box of materials, labeled "Transport Supplies," to use for transportation devices. Only transportation devices may be used for transporting the materials in the box marked "For Delivery." You may NOT use any of the "For Delivery" items as transportation devices.

3. Once the time begins for Part I, it will not be stopped until the 4 minute time period has ended. Once time begins for Part II, it will not be stopped until the 2 minute time period for Part II ends.

THE PROBLEM IS:

Your team is to transport the materials in the box marked "For Delivery" (*indicate box*) from behind the "Start" line to the box marked "Delivered" (*indicate box*) behind the "Finish" line for score. This is to be done by a relay method. Only ONE item being transported may be carried in any one given area at a time. For example, there cannot be more than one item for delivery in Area 1 at any given time, or more than one item for delivery in Area 2 at any given time, etc.

PART I (*Judge reads this part and then begins timing Part I*)

1. You will have 4 minutes to devise your solution and practice for Part II. You see on the floor five designated areas, numbered 1-5 (*judge indicated's areas*). During Part II, each team member must be in one and only one of the Areas 1-5. One team member will stand in Area 1, one team member will stand in Area 2, one team member will stand in Area 3, and so forth. The team will choose who will stand in which area.

2. After Part II begins, NO TEAM MEMBER MAY CROSS THE PLANE DEFINED BY THE TAPE IN HIS OR HER AREA INTO ANOTHER TEAM MEMBER'S AREA WITH ANY PART OF HIS OR HER BODY. Only the transportation devices and the items being delivered may cross over the lines in Part II. During Part I, you may move freely between areas.

3. Your goal is to transport as many objects as possible from the "For Delivery" box in Area 1 (*indicate area and box*) to the "Delivered" box in the target area, AREA 5, (*indicate area and box*) during the 2 minutes of Part II. You must devise methods to transport the objects, relaying them from Area 1 to Area 2 to Area 3 to Area 4 to Area 5, and into the "Delivered" target box.

4. Only items in the "Transport Supplies" box may be used to transport the items for delivery across the lines and in Areas 2-5. Only ONE item being delivered may be in any one given area at a time. The objects used for transporting the items for delivery may move freely between all areas at any time.

5. The only team member who may touch an item for delivery in Part II will be the person in Area 1 when he or she begins the process of transportation. The item must then be transported only with transportation devices until it is deposited in the "Delivered" box or lands on the floor in an area.

6. You may not move the “Delivered” box in Area 5 in any way at any time. You may not move the “Transportation Supplies” box in any way at any time. You may not move the “For Delivery” box out of Area 1 at any time. You may use the scissors in Part I, but they may not be part of your solution.
7. During Part I, you have 4 minutes to devise transportation devices and practice. At the end of Part I, all materials will be returned to the appropriate boxes in Area 1 before Part II begins.
8. Any item being delivered, which touches the floor in Areas 2, 3, 4, or 5 once Part II begins, will remain where it fell and receive partial score. Any item used for transportation that lands on the floor may be retrieved and you may continue to use it, but the item being delivered must remain on the floor if it falls. Thus, items being delivered may only be retrieved and continue on their way if they fall on the floor in Area 1. Only the team member in Area 1 may directly touch an object for delivery in Part II. If a team member in Areas 2-5 touches an item, it will receive a score of zero.
9. Scoring in Part II will be as follows:
 - 2 points for each object that goes as far as Area 2
 - 3 points for each object that goes as far as Area 3
 - 4 points for each object that goes as far as Area 4
 - 5 points for each object that goes as far as Area 5
 - 7 points for each object that is delivered to the Target Box in Area 5

You will also receive 1-20 points for how well your group works as a team in Parts I and II.

You have 4 minutes to work on your solution. Time begins now. *(Start timer, 4 minutes.)*
(At the end of 4 minutes, return all items to appropriate boxes in the start area before reading Part II.)

PART II: *(Judge reads this portion to team, then begins timing Part II)*

You will now perform your solution for score. Please move to your chosen positions *(wait until team members are in place)*. You have 2 minutes to transport as many items as possible from the “For Delivery” box to the “Delivered” box.

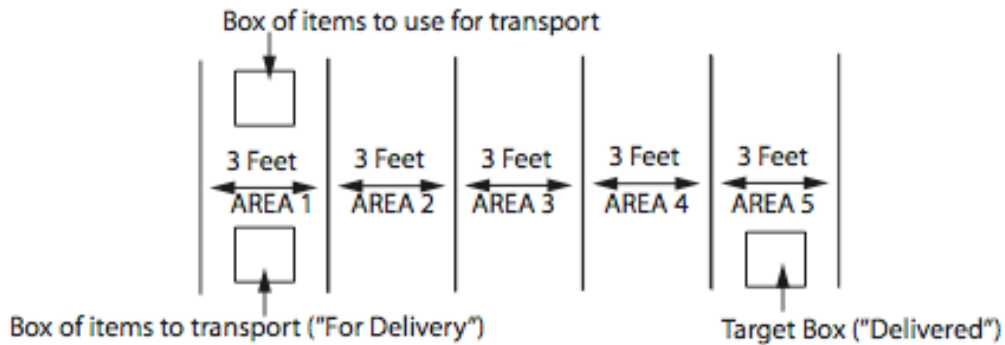
You may not cross the plane of the tape marking your area into another team member’s area with any part of your body.

You may not retrieve any items being transported if they land on the floor in areas 2-5. Only the team member in Area 1 may touch an item for transport to remove it from the box.

You have 2 minutes to deliver the items from “For Delivery” to “Delivered”. You may begin. *(Start timer)*

FOR JUDGES ONLY:

Be sure to give exactly 4 minutes for the team to work in Part I, and 2 minutes to perform in Part II. Before the team enters the room, have the following set up on the floor:



The boxes should be large enough to contain the supplies. (You could substitute large grocery bags, if necessary.) Clearly mark the boxes “For Delivery,” “Transport Supplies,” and “Delivered.”

In the “For Delivery” Box, have the following items:

- 3 ping pong balls*
- 2 large paper clips or binder clips*
- 1 unsharpened pencil*
- 1 soda straw*
- 1 hair comb*
- 1 small can of tomato paste (or similar item)*
- 2 rubber bands*
- 1 plastic cup*
- 1 small stuffed animal (such as a Beanie Baby©)*
- 1 t-shirt*
- 1 ruler*
- 4 marbles*

In the “Transport Supplies” box, have the following items:

- 1 soup spoon*
- 1 ruler*
- 1 8 ½ x 11” sheets of paper*
- 1 12” length of string*
- 1 index card*
- 1 empty toilet paper roll*
- 1 twist tie*

Also provide the team with one pair of scissors (may not part of the solution ,but may be used during Part I)

The team may move the “For Delivery” box closer to the start line and may even dump out the supplies onto the floor in Area 1 (See # 5 and 8 in Part I). Do NOT TELL THEM this unless they ask!!