

HANDS-ON PROBLEM: *Up a Tree*

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:

1. You will have six minutes to work on your solution to this problem. Your structure will be scored at the end of the six minutes.

2. You will be given a bag of materials and a pair of scissors. You may use any of the materials for your solution, but may not use the scissors as part of your solution. You may not use the sticky labels on the "trunk" of the tree.

3. Once the time begins, it will not be stopped.

THE PROBLEM IS:

You are to build a tree using the base and the dowel for your support. These are the "roots" and the "trunk" of your tree. You may add materials in any way you wish, except that you may not use sticky labels on the "trunk" of the tree. Your tree must stand upright -- trunk must remain 90 degrees perpendicular to the work surface -- without any team member's touching it for at least 10 seconds after your six minutes ends, in order to receive score. Once time ends, no one may touch the tree. You will receive points as follows:

Each inch of length of a branch: 1 point

Each metal washer attached to a branch: 1 point

Each jingle bell attached to a branch: 2 points

Each marble attached to a branch: 3 points

Each funnel attached to a branch: 4 points

Each notepad attached to a branch: 8 points

Each can attached to a branch: 10 points

FOR JUDGES ONLY:

Be sure to give exactly six minutes for the team to work.

Before the team enters the room, have all materials they will use for the branches in a paper sack. Have the "tree trunk" preassembled and ready for use on a table or countertop. This should be a 3/8" or larger wooden dowel about 16"-18" in length inserted into a small (5"x5") wooden base (or anything similar that is sturdy enough to support weight.)

The team may make vertical supports for branches (the problem doesn't say the tree must stand ALONE: only that a TEAM MEMBER may not support it.) Do NOT TELL THEM this unless they ask!!

Give the team the following materials for building branches (or whatever materials are comparable that you have available):

*1 8 ½ x 11" piece of paper
1 paper clasp
2 sticky labels (not on trunk)
2 index cards
1 envelope
4 twist ties
3 rubber bands
4 paper clips
3 plastic funnels (such as sold at dollar stores)
2 unopened small cans tomato paste
6 coffee stirrers
8 soda straws
10 skewers
10 " masking tape
Scissors (not part of the solution)*

They may use the paper bag as part of the solution, but do not tell them this unless they ask.

Be sure the "tree trunk" is on a flat, level, solid surface.

Be sure the team members remove their hands when the buzzer sounds.

You will need a tape measure to measure the length of each branch (from the outside edge of the "trunk" to the end of the branch.)

Between teams, you will need to remove all items from the trunk, so it is "clean" for the next team. (This is why no sticky labels on the trunk!) Also, you will need to reuse the funnels, the tomato paste cans and the scissors.

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