

THERE AND NOT BACK AGAIN

Challenge: Your **TASK** is to make a machine that will allow a pendulum to pass once, but stop on the return swing.

Time: You will have 10 minutes to use your **IMAGINATION** to build your machine and then 2 minutes to score points with your machine.

Set-up: On the floor is a stand with an attached pendulum. There is also a table of materials and a pair of scissors.

Procedure:

Part one (10 minutes): Use the materials on the table to build a machine that will be able to stop the pendulum on the return swing. All of the materials provided may be modified. The scissors may be part of your machine but may **not** be modified. The pendulum may not be modified. No materials or part of your machine may be attached to the pendulum. You may test your machine on the pendulum during this time but no scoring will occur until part two.

Part two (2 minutes): One member of your team will raise and release the pendulum. The pendulum may be raised to any height allowed by the string on the pendulum. The team member must release the pendulum without applying any additional force to the pendulum. You may not touch any part of your machine once the pendulum has been released. If the machine is touched you may restart the attempt but no scoring will occur. The team will have up to three attempts to score points. Only the attempt with the highest score will be counted.

Scoring: You will receive

- A. One point for every inch of height from the floor for the max height of the swing. If the pendulum does not cross the line no points will be scored.
- B. Two points will be deducted for each inch of height for the max height of the return swing. If the pendulum does not cross the line on the return swing no points will be deducted.
- C. Up to 20 points for how creatively you use your materials.
- D. Up to 20 points for how well your team works together.

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Materials:

1 Pieces of Paper

4 Rubber Bands

10 Straws

2 Popsicle Sticks

Tape