

Worksheet 2: Building Guidelines

TASK

To design and construct a roller coaster based on the criteria below that results in the greatest total of loop diameter inches at the lowest cost with the most interesting design.

DESIGN CRITERIA

1. The marble must travel the entire length of the roller coaster to be considered.
2. One or more loops may be in the design. The total number of inches of all loop diameters is used.
3. Roller coasters must be self-supporting. (Tape and design enable the roller coaster to stand on its own.)
4. Only materials listed below can be used.

Team Score = Total cost of materials purchased *divided by* total loop diameter inches *added* to the aesthetic rating.

Materials: Your team may use only these materials:

6' pieces of foam tubing

Toothpick(s)

Masking tape (sold by the foot)

Your team may purchase up to 6 pieces of foam tubing.

Cost of Materials:

--Foam Tubing: \$1.00 per 6' piece

--Toothpick: \$0.10 per toothpick

--Masking Tape: \$0.10 per foot

IMPORTANT: Your final score will be based on the total cost of materials purchased (not total cost of materials used in final design).

HAVE FUN & DESIGN WELL!

Sketch your design on the back of this page.