

Marble Roller Coaster

Objective: Design a safe, stable marble roller coaster that earns the most points.

Point System:

- Flat: 1 point
- Hill: 2 points
- Loop: 5 points
- Gap jump/Drop: 7 points

Your Materials:

- 10 markers
- 15 rubber bands
- Tape
- 5 plastic cups
- 4 foam cups
- 12 popsicle sticks
- 20 pieces of paper
- 1x6ft, 1x4ft, 2x3ft, 1x2ft insulation tubing

How To Make Your Roller Coaster Track:

- 1) Cut a strip of paper
- 2) Fold the paper into three sections to form “walls” of your track
- 3) Cut the walls into small sections
- 4) Tape the walls together according to how the track will bend (you can make a hill, loop, drop)
- 5) Experiment with different types of tracks to form your roller coaster!

Questions to Think About:

- How does transfer of energy help the marble to move through the roller coaster?
- Where does the marble have its maximum and minimum velocity?
- How would a larger or smaller marble affect your design?
- What were some obstacles you had to overcome in your design process?