

LET'S BUILD A

ROLLER COASTER!

Last time you went on an amusement ride, did you realize it took engineers to design such thrill-producing rides and keep them safe?

Different types of engineers work together to build roller coasters. For instance, mechanical engineers might design the loops and drops while structural engineers oversee the structural aspect of the design. How would you support a structure that stands 300 feet tall, has twists, turns and loops, and reaches speeds of 90 miles per hour?

SUPPLIES NEEDED

- Marbles
- A paper cup
- Foam pipe insulation- about 6 feet, cut in half
- Masking tape
- Toothpicks
- Support materials- such as: cardboard tubes, dowels, large tongue depressors, boxes, books, etc



the amount of track for your roller coaster.

- Your car is the marble. It needs energy at the beginning of the coaster so it can make it through the entire course. How should the tubing for the beginning of the coaster be positioned? Use your supplies to create a starting point.
- Use the tube, tape, toothpicks and supports to build the rest of the roller coaster, remember to include at least one hill and perhaps a loop.
- Place the cup at the end of the

course. The challenge is to get the marble to land in the cup.

- Place your marble at the beginning of the roller coaster and let it go. Did it work?
- If not, work with your team to figure out what went wrong, make adjustments, and give it another try.

Once your roller coaster works, try making changes:

- Make the starting point higher
- Add more curves or loops.

LET'S GET CREATIVE

Design and build a roller coaster with a marble serving as the car. Your roller coaster must contain at least one hill and end in the cup.

- Work as a team.
- Cut the foam tube in half along its length. Cutting it in half doubles

DISCOVER



ENGINEERS WEEK

FEBRUARY 21-27, 2016

www.DiscoverE.org

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