

Roller Coaster Building

TAILS AND TALES™

15-minute STEAM
2021 Summer Reading

1. Cut off the outer lips of the plates and crease them along the middle to make “tracks” for the marbles
2. Cut the paper strips into different sizes so that you can turn your tracks different directions
3. Tracks should be taped to the top of medium-sized plastic cups
4. The cups can be taped together so that you can gradually reduce the height of the tracks from beginning to end.

Hints & Tricks--

For best results, purchase paper plates with prominent “lips” around the outer edges that are not too thick to cut. (Styrofoam plates do not work well because they will break when bent.)

Tape your cup towers down to the table or a posterboard to stabilize the roller coaster
If any drops in the roller coaster are too steep, the marble may fall out.

Scientific Concepts

Friction--surface resistance to motion

Gravity--force of attraction of objects to the center of the Earth

Kinetic Energy--Working energy when objects are in motion

Potential Energy--stored energy in an object or system



Scientific Observations

Here are some things to think about during & after you build your roller coaster:

- Did my marble make it from the top all the way to the bottom and stay on the track?
- Which part of my design worked well?
- Which part of my design did not work well?
- How can I improve my design?



Taken in part from <https://teachoutsidethebox.com/2017/04/best-stem-challenge-ever/>



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