

Roller Coaster Engineering Challenge

Using one sheet of poster board, can you design a creative roller coaster that safely carries a marble from start to finish in the fastest time?

Created by: Smart Chick Teaching Resources



Teacher Directions

Materials: (per group)

- One sheet of poster board (any color)
- Masking tape and stapler
- Marble
- Plastic cup
- Scissors

Set-Up:

- Give students the materials needed. You may want to show students some pictures of real roller coasters.
- Provide a cup for the end of the roller coaster (the marble must land in the cup at the end).
- Provide a flat surface for the construction.

Goal:

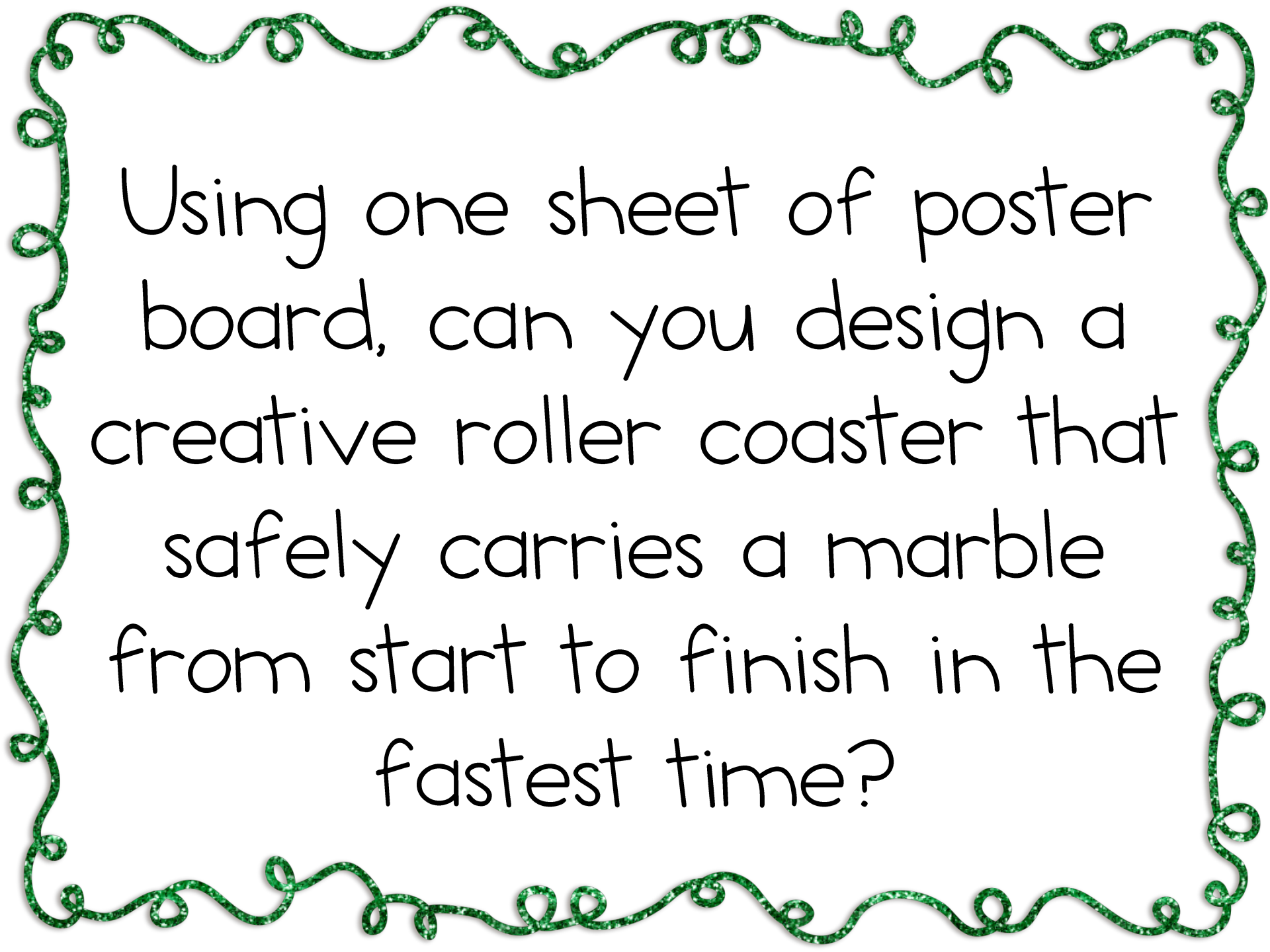
Students will use one sheet of poster board to design a creative roller coaster that will safely carry a marble from start to finish, landing in a cup at the end.





Roller Coaster

Engineering Challenge



Using one sheet of poster board, can you design a creative roller coaster that safely carries a marble from start to finish in the fastest time?

Challenge Rules

- You must use only the supplies provided.
- The structure must be constructed on a flat surface, but you may use chairs or other items to stabilize the roller coaster.
- Your goal is to build a creative roller coaster that can safely carry a marble from beginning to end and land in a cup in the fastest time.
- You may not use any other materials to complete the challenge.
- There are many different ways to complete this challenge. Be creative!

Student Lab Sheet: Roller Coaster Challenge

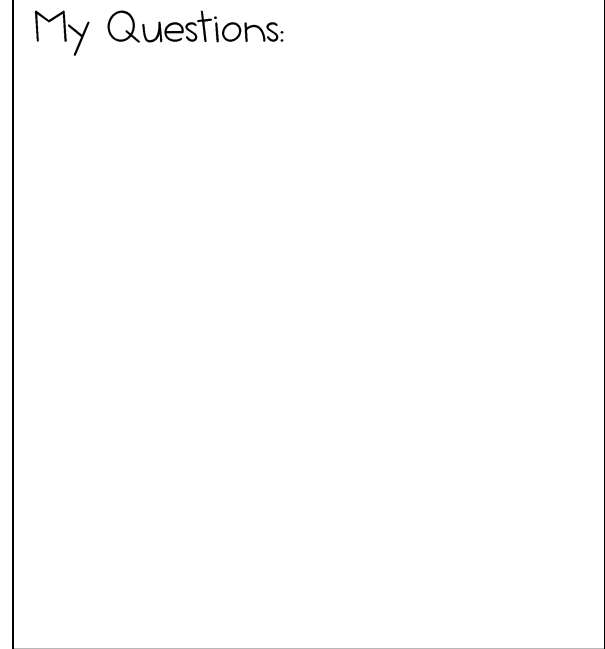
Name _____

Were you successful in this challenge? Why or why not?

What was the most difficult part of this challenge? Why?

What was the best idea you came up with during this challenge?

My Questions:



How long was your roller coaster track? How long did it take your marble to travel the length of the track?

What did you learn about construction and engineering during this challenge?

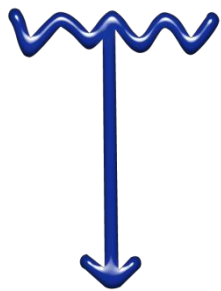
Sketch your solution on the back of the sheet.

Student Lab Sheet: Roller Coaster Challenge

Name _____



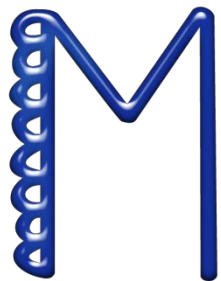
What is the science behind this challenge?



Research this topic using books and/or the Internet and record any information you find.



What was your design solution for this challenge?



What data can you record from this challenge?

Thanks for your purchase!

This engineering challenge activity is one of many that I have created to use in my classroom! I place these challenges, one per table, and the students rotate around the room in order to complete them. There are no right or wrong answers, many different solutions will work! You could also rotate these challenges through a science center. I store everything in a dollar store gift bag!



Borders by:

Ashley Hughes <http://www.teacherspayteachers.com/Store/Ashley-Hughes-38>

Glitter Meets Glue Designs <http://www.teacherspayteachers.com/Product/Dashed-Glitter-Doodle-Badges-Frames-Clipart-56-Graphics-Glitter-Meets-Glue>

