



Students, TO USE THIS DOCUMENT, you MUST make a copy for yourself:

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Coaster Planning Document

Engineering team member names:

Challenge: To create the maximum thrill ride that is a safety-approved roller coaster using the [Design a Roller Coaster](#) Bonus questions:

- 1. Which is longer, a meter or a foot? (a meter stick or a 12-inch ruler?)
- 2. How many inches are = 1 meter?

Part 1

Directions: The first document and carry out three trials, before completing Parts 2 and 3	Trial 1	Trial 2	Trial 3
1. Height of the first hill (80 m, 60 m, 40 m)			
2. The shape of the hill (slope, angled slope, obtuse slope) Explain why you chose this shape and not the others:			
3. The height of the 2nd hill (70 m, 50 m, or 30 m) Explain, using science vocabulary words, why it			

can't be 80 m like the beginning:			
4. Which loop is your choice (perfect circle, elliptical loop, no loop) Explain how the shape determines the safety:			
5. Run it and indicate your safety ratings of each trial: (thumbs up or down)			
6. The Fun rating: (thumbs up or down)			
7. What suggestions were made in the safety inspection:			

Part 2 Evaluation:

From your 3 trials, write in full sentences what you learned about:

<p>1. What difference does the height of the first hill make:</p>
<p>2. Why you chose the shape of the first hill:</p>

3. What difference in potential and/or kinetic energy does the exit path make:
4. Why did you choose the height of the second hill:
5. What difference did the different loops make? What happened?:

Part 3: If you were asked to coach another team, what advice would you give without giving them an answer.

1. When planning the Height of the first hill think about:	
2. What word would you use to help them think about the following (Potential or Kinetic energy): <ul style="list-style-type: none"> the second hill the Exit path: 	
3. What they should think about to make sure their coaster gets to the top of the second hill:	
4. What should they think about when planning the shape of the loops:	
5. Safety rating tips:	
6. Fun rating tips:	

Part 4. Take a screenshot of your final design and paste it below.