

# Roller Coaster Design Challenge



## Explore

**Most Anticipated Roller Coasters of 2020**  
(North American Parks)



## Your Task

Watch the video and think about the design of the roller coasters.

## Explain

Watch at least one of the videos and read at least one of the articles.



## Your Task

After watching the videos and reading the articles, consider: What do you think is important in roller coaster design? Record your ideas below:

Can you find other articles/videos/pictures that will help you with your design? If yes, add the site and what you learned below:

[How Roller Coasters Work](#)

[Roller Coasters Explained](#)

Apply

Now, go to Design a Roller Coaster and design your own coaster.

[Design a Roller Coaster](#)

Your Task

Copy the picture of your first coaster to your group document listed below. If your first coaster didn't receive two thumbs up, see if you can improve your coaster until it does. Copy that picture and paste it to your group document.

Chart below.

Student Name

Roller Coaster  
Picture #1

Roller Coaster  
Picture #2

Roller Coaster  
Picture #3


### Share

Meet with your group and share your findings from the videos, articles and roller coaster designs you created.

### Your Task

Listen to your group members as they share what they discovered in their earlier work. Add comments and feedback to your members' pictures.

### Reflect

Continue your group discussion and take time to decide what made a good roller coaster.

### Your Task

Open your group drawing from the link below and as a team, design your own roller coaster. Your coaster will be **18 feet long** and can have loops and hills. It does need to begin at a height of **at least 28 inches but no higher than 36 inches**.

Add the link to your group's Google Drawing here:

[Master copy of document](#)

### Extend

Put your group design in action.

### Your Task

Get your materials from your teacher. They include:

- 3 - 6 foot sections of foam roller coaster track,
- 1 marble
- 1 roll of masking tape

You may also use any materials you have in the classroom/home, including tables and chairs. Once you've built your design, test it (remember to video your test) and then, if needed, redesign and test again. Always video your attempts so you have record of it. Insert your videos in the box on the left. Make sure to name them in the order you took them.

### Share

Your group will share your project with the class.

### Your Task

Create a slideshow with the links to your project (all the attempts as well as your success) or create a video of your project. Make sure you conclude with a group discussion of what worked and what didn't work. Add the link to your slideshow here: