

Skate Park pHet Sim

Name: _____

Partner: _____

Go to https://phet.colorado.edu/sims/html/energy-skate-park/latest/energy-skate-park_en.html


Link is also available in the Teams Assignments.

Follow the instructions and answer the questions.

PART 1: Intro

1. Choose your skater.
2. Open the Energy graph in the top write corner by clicking on the plus sign:



3. Make sure Friction is set to none and that the sim is Paused (you don't want the skater to start rolling right away. Start with this track: 
4. Place your skater at the top right of the track and look at the graph. Sketch what the energy looks like before the skater starts. Click play and pause the skater when they reach the bottom of the track (you may need to run it on slow for this). Sketch what the energy graph looks like at this point. Click play and pause when they reach the top left of the track. Sketch your energy graph one more time.



Compare your three graphs. How are they similar? How are they different?

5. Let your skater go on the track a few times. What do you notice about their position as they move back and forth?

PART 2: Friction

Click pause and restart the skater.

6. Increase the amount of friction to about half. What happens to your skater?

7. What happens to the energy graph? Describe how the Thermal bar changes as the skater moves. Why do you think this happens?

PART 3: Gravity

Reset the Friction to none. Adjust the gravity to tiny. Make sure the sim is paused and place your skater at the top of the ramp.

8. Click play. What has happened to your skater? What do you notice about the energy graph?

9. Increase the gravity to “LOTS”. What is the affect on the skater? What does it do to the energy graph?

10. Slide the gravity back to “Tiny”. What happens?

PART 4: Time to play!

Try the different tracks and the different options. See what happens!

Now switch to the playground. Build your own track and try some different options. Draw a sketch of your track in the space below. What happens when the gravity is changed to different planets?