

Go to this URL: <http://tiny.cc/energyskate>

Complete the following tasks and have your teacher initial when you're finished. Start at the "Intro" part of the sim to get an idea how everything works. Eventually, switch to "Playground" to complete everything below.

Prelab Questions

1. Define the following types of energy. If you need help, ask!
 - a. Kinetic

 - b. Potential

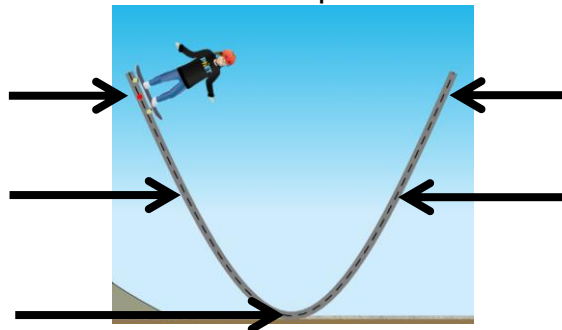
 - c. Thermal

Answer the following questions using the "Basic" part of the sim.

1. As the skater moves up and down the half-pipe, describe what happens to the different types of energy she has.

2. Change the mass of the skater. What effect does this have on her energy? Describe all types.

3. On the picture below, describe the skater's speed at the different parts of the half pipe.



4. Switch to the "Friction" part of the sim. Describe, in detail, how friction affects the energy an object has.

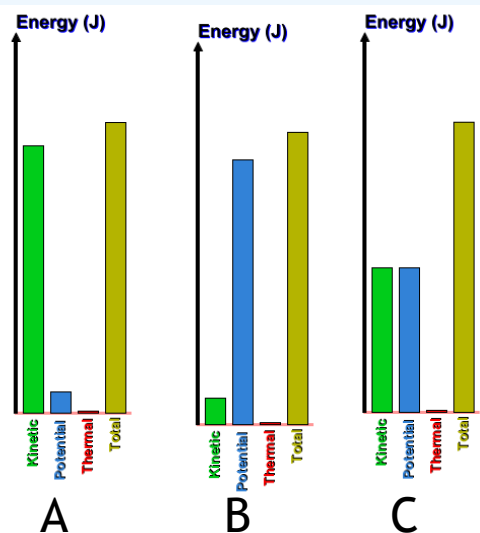
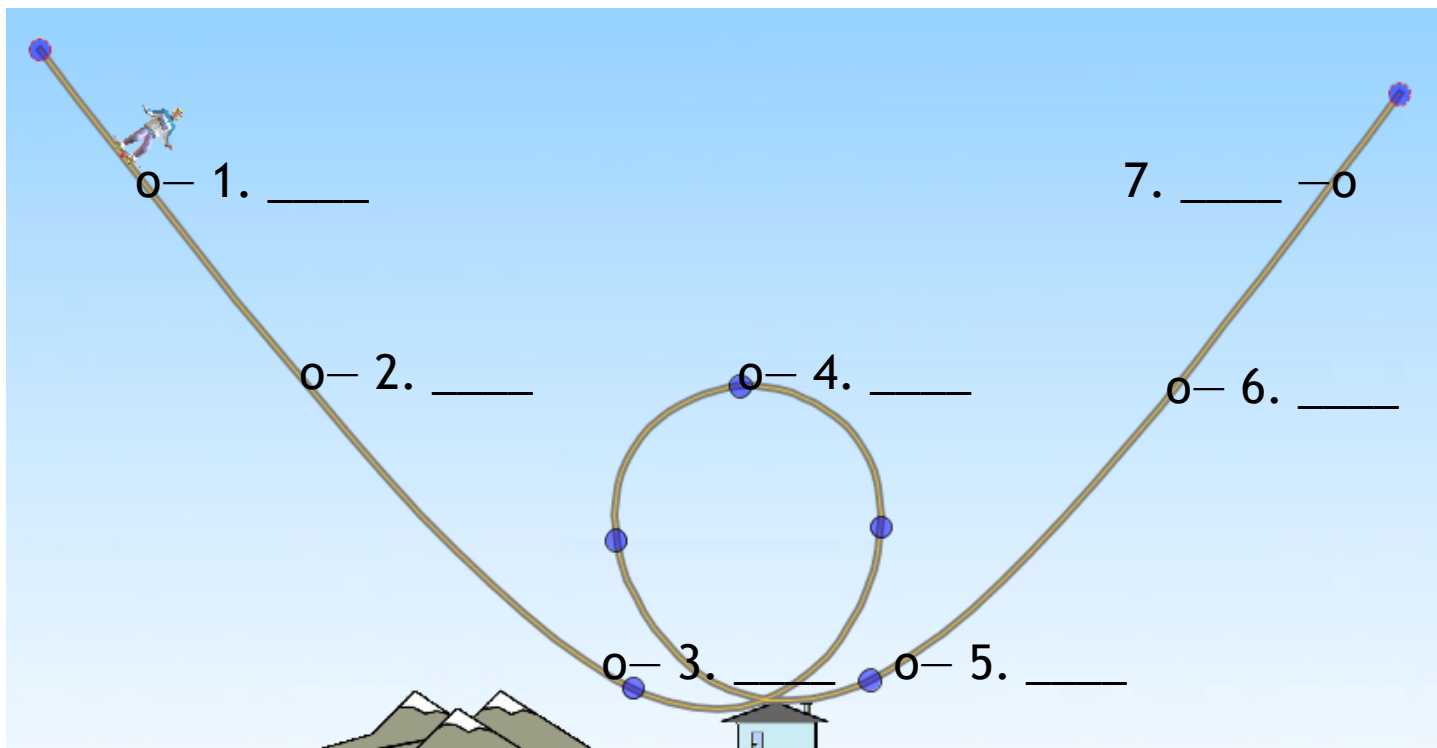
For the next section, use the “Playground” part of the sim.

Create the following	Teacher Initials
Make a loop	
Make a jump where very little energy is converted to heat (thermal)	
Make a jump where <u>all of the kinetic energy</u> is converted to heat	
Make a hump where he doesn't leave the track	

Draw a picture of your best park:



1. Label a point on the track where the skater's potential energy is the greatest.
2. Label a point on the track where the skater's kinetic energy is the greatest.
3. Label a point on the track where the skater's KE is decreasing and the skater's PE is increasing.



Questions #1-7

Fill in the Blanks above with answer choices A, B, and C:

Questions #8-10

8. During what time interval is Potential Energy (PE) decreasing and Kinetic Energy (KE) increasing?
 - a. 1-3
 - b. 3-4
 - c. 5-6
 - d. 6-7
9. During what time interval is Potential Energy (PE) increasing and Kinetic Energy (KE) decreasing?
 - a. 1-2
 - b. 2-3
 - c. 4-5
 - d. 5-6
10. At what points will speed be the greatest?
 - a. 1
 - b. 2
 - c. 4
 - d. 5