

Name: _____

Energy Skate Park Basics PhET Activity

Review: (fill in the blanks)

Potential Energy is the energy _____ in an object because of its _____.

Kinetic Energy is the energy of _____.

1. **Explore** the simulation.

Question: What can you change about the simulation?

2. **Investigate** how the potential and kinetic energy of the skater change as the skater moves from the top of the ramp to the bottom.

Fill in the blanks based on your observations:

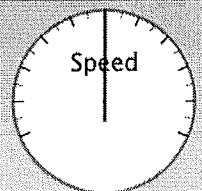
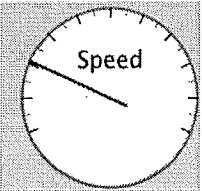
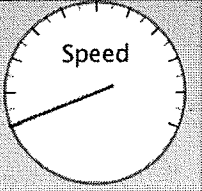
As the skateboard rolls down the ramp it loses _____ energy and gains _____ energy. The total energy of the skateboarder remains _____.

3. **Explore** how the potential and kinetic energy change as the height of the skateboarder changes. Fill in the table based on your observations.

Height of Skater (m)	What is greater? (circle your answer)	
	Kinetic Energy	Potential Energy
	Kinetic Energy	Potential Energy
	Kinetic Energy	Potential Energy
0	Kinetic Energy	Potential Energy

Question: What conclusions can you make about how the height of the skater influences the *potential* and *kinetic energy* of the skater?

4. **Explore** how the skater's change in speed relates to the *potential* and *kinetic energy* of the skater. Fill in the table based on your observations.

Speed	What is greatest? (Potential or Kinetic Energy)	What is lowest? (Potential or Kinetic Energy)
		
		
		

Question: How does the speed relate to the *potential* and *kinetic energy* of the skater?

5. Find ways to change the **total energy bar**. If you change the track, explain what makes the track different from the others (Hint: where does the skate boarder start?).

Use the table below to record your observations.

What did you do?	The total energy.... (circle your answer)	
Increase the mass of the skater	Increases	Decreases
	Increases	Decreases
	Increases	Decreases

Conclusion: In a few sentences describe what you think the total energy of the skater depends on. Use the tables you filled in during this activity as your evidence.