

Lesson Title:	Energy Skate Park PhET Lab
Standards (TEKS):	6A, 6B
Learning Objectives:	<ul style="list-style-type: none"> • Predict Energy Pie Charts based on the position of a skater using a computer simulation. • Explore energy transformations for a skater using energy pie charts as evidence. • Determine how the position of the skater affects his speed, and potential and kinetic energy. • Verify predictions using Energy vs. Position line graphs.

AGENDA	KEY POINTS
1. Energy Transformations 2. Connecting Speed to PE and KE 3. Exit Ticket	<i>The Law of Conservation of Energy states that energy cannot be created or destroyed. Therefore, energy can only be transformed.</i>

Time	Learning Activity
45	<p>Part 1 – Energy Transformations</p> <p>Using the simulation students will explore how energy is transformed. Using a pie chart as evidence, they will create their own track and explain the energy transformations present.</p> <p>Part 2 – Relating Speed to Potential and Kinetic Energy</p> <p>Students will predict where the skater will be at his max/min speed. They will then confirm their predictions using the simulation.</p> <p>Guiding Questions</p> <ol style="list-style-type: none"> 1. If the skater has the most potential energy at the top of the ramp, what must be in the equation for potential energy? 2. How does speed relate to kinetic energy? 3. Explain what the line graph is showing. 4. What can you say about the total energy of the skater? 5. When is the sum of the potential and kinetic energies the same during the skater's motion? 6. Where is potential being transformed into kinetic energy? 7. What are the limitations of using the simulation?
10	<p>Students will complete a 3 – 2 -1 exit ticket</p> <p>3 – Things they learned</p> <p>2 – Things I found interesting</p> <p>1 – Question I still have</p>