

Student directions *Energy Skate Park* activity 1:
Introduction to Conservation of Mechanical Energy
<http://phet.colorado.edu>

Learning Goals: Students will be able to

- Explain the Conservation of Mechanical Energy concept using kinetic and gravitational potential energy.
 - Design a skate park using the concept of Mechanical energy
1. Investigate what affects the skater's path and discuss your ideas with your partner. You should try adding some track, changing shapes or building jumps. (There's no friction on the track)
 2. Explain how you could use your investigation to plan a track that is fun, challenging and one that is relatively safe. You might think for example: When does he: fly off an end? make it to the top a hill? or land a jump?
 3. Build a good track and sketch it. Then use the Energy Graphs to study the Skater's energy.
 - Decide which graphs or chart best helps you understand what makes your track successful
 - Look in your textbook to find out what the Conservation of Mechanical Energy means and explain it in your own words.
 - Explain why your track is successful in terms of Conservation of Mechanical Energy. Include drawings of the Chart or Graphs to help explain your reasoning.
 4. Using the Law of Conservation of Mechanical Energy, explain what things need to be considered when designing **any** successful track.