How is energy in a system conserved?

A skateboarder, just learning to use a half pipe as shown below, drops in off the top of one side. She stands straight as she skates down the one side and up the other. She expected to get to the top of other side but didn't make it. The skateboarder recalled the law of conservation of energy from science and didn't understand why she didn't make it to the top of the other side. She then watched some more experienced skaters. She noticed that they bent their knees and pushed off at the bottom.



IN COMPLETE SENTENCES, explain why the skateboarder did not make it to the top of the other side of the half pipe. In your response, be sure to include:

- the law of conservation of energy.
- where energy was "lost" as the skateboard moved across the half pipe.
- where energy was "gained" as the skateboard moved across the half pipe.
- why the other skaters were able to make it to the top.

Finally, include a comparison of the halfpipe to another instance of energy transformation from the real world (rollercoaster, skydiving, avalanches, pole-vaulting, etc).

- what similarities do the two situations share?
- what differences are there?

Be sure to consider the completeness of your response, supporting details, and accurate use of terms. Your sample must contain at least 12 complete sentences.