**PLEASE DO NOT WRITE ON THIS PAPER**

**Energy Skate Park Simulation**

Learning Goal: To examine the relationship between total energy,

kinetic energy, and potential energy

Access: Go to <http://phet.colorado.edu>., click on ‘Energy Skate Park Basics’ simulation.

* Check the “Bar Graph” box. Turn off the thermal energy.
* Place the skater at the top of the ramp and let him go.
* Complete section 1 on your worksheet by drawing at least 2 bar graphs You may want to pause the simulation to draw the graphs at 2 different positions.

1. For section 2, change the mass of the skater and complete section 2 on your worksheet.
2. For section 3,

* Reset the simulation.
* Select the bar graph.
* Turn off the thermal energy.
* Drop the skater from two different heights and complete section 3 on your worksheet.

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| --- | --- | --- | --- |
| CLAIM | EVIDENCE | | REASONING |
| 1.The relationship between total energy and  kinetic and potential energy is… | (Draw 2 sets of bar graphs to prove your claim)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *KE PE Total KE PE Total* | | (Explain why you made the claim you did based on the graph) |
| 2.The total energy can be increased by … | (Draw the skater on the ramp)  Before change:  After change: | (Draw the bar graph)  Before change:    *KE PE Total*  After change:    *KE PE Total* | (Explain why you made the claim you did based on the graphs) |
| 3.The total energy can also be increased by … | (Draw skater on the ramp)  Before change:  After change: | (Draw the bar graph)  Before change:      *KE PE Total*  After change:    *KE PE Total* | (Explain why you made the claim you did based on the graphs) |