ENERGY SKATE PARK Lab Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_ Pd \_\_\_\_\_\_\_\_\_

<http://phet.colorado.edu/en/simulation/energy-skate-park>

Describe the relationship between potential energy and kinetic energy without friction and then describe the relationships as friction is added.  Make a " W " shape track and make sure the skater dude stays on.  Move the track down to the ground..

**Prediction**: Kinetic Energy vs. Potential Energy (no friction)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

Top Left Bottom Left Middle Bottom Right Top Right

**Actual**

Top Left Bottom Left Middle Bottom Right Top Right

**Prediction**: Kinetic Energy vs. Potential Energy with friction

Top Left Bottom Left Middle Bottom Right Top Right

Actual with Friction Added

Top Left Bottom Left Middle Bottom Right Top Right

Which type of energy in the system never changes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Predict the result PE if you raise the track half-way to the top of the simulation.PE\_\_\_\_\_\_\_\_\_\_ ME \_\_\_\_\_\_\_\_\_\_

Actual result: PE\_\_\_\_\_\_\_\_\_\_ ME \_\_\_\_\_\_\_\_\_\_

Predict the result to the PE if you change from the skater to the bulldog. PE \_\_\_\_\_\_\_\_\_\_\_ME\_\_\_\_\_\_\_\_\_\_

Actual result: PE\_\_\_\_\_\_\_\_\_\_ ME \_\_\_\_\_\_\_\_\_\_

Predict the result to the PE if you change from the earth to the moon. PE \_\_\_\_\_\_\_\_\_\_\_ME\_\_\_\_\_\_\_\_\_\_

Actual result: PE\_\_\_\_\_\_\_\_\_\_ ME \_\_\_\_\_\_\_\_\_\_

Which factors are involved in determining the PE of the skater? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write a formula that you could use to calculate PE (do not look it up!) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_