Name\_\_\_\_\_\_\_\_\_\_\_\_\_

Period\_\_\_\_\_\_\_

Physical Science

Energy – Lab: Energy Skate Park Simulation

Leave the skater and track running under the initial conditions until otherwise required.

1. Predict how changing the skater (mass) will affect their movement on the track: (2pts)

A more massive skater will:

A less massive skater will:

Test – was your prediction supported? What happens:

2. Using the Energy vs. Position graph – find the required data and use the formula for GPE to solve for height at the top and bottom of the curve (must show work)

Top of Track Bottom of Track (2pts)

PE= PE=

mass= mass=

gravity= gravity=

height = height=

[Verify your calculations with a ruler after completing]

3. Using the Energy vs. Position Graph – collect the data required to find the skater's max. velocity from the kinetic energy equation: (2pts)

KE =

m=

v=

4. Describe what happens to the skater and the energy when the coefficient of friction is increased: (1pts)

skater:

energy:

5. Click on the option for the pie chart. Compare the pie to the bar. Provide your opinion: Which do you prefer and why? (1pts)

6. Does this simulation support the Law of Conservation of Energy? The Law states that energy can not be created or destroyed – only change forms. Cite evidence to support your opinion. 3 sentences minimum. (2pts)

Graph Comparison