Ms. Glynn's 8th Grade Science **Name:_____**
Kinetic and Potential Energy Activity **Date:_____**

Activity:

Procedure: In this activity, you will be studying a tennis ball's Potential and Kinetic Energy.

1) Choose 3 different heights to drop the tennis balls from. Write them down below:

i._____
ii._____
iii._____

2) For each height, record the time it takes the ball to drop to the ground (Note: record the time from when you let go of the tennis ball to *right before* the tennis ball hits the ground). Repeat the procedure 5 times to obtain 5 data times.

Height 1:	Height 2:	Height 3:
i._____	i._____	i._____
ii._____	ii_____	ii_____
iii._____	iii_____	iii_____
iv._____	iv._____	iv._____
v._____	v._____	v._____

3) Average your 5 time results to account for errors in your time measurements

Average1 =

Average2 =

Average3 =

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Results:

1) What were the three different heights that you used?

2) What were the 3 time averages that you measured for the ball dropping to the ground?

3) Calculate the potential energy of the ball for the three different heights. Use 9.8 m/s^2 for the value of gravity.

4) Calculate the kinetic energy of the ball for the three different heights. (Hint: Use $v^2 = (g \times t)^2$ where g is gravity which is given above in part 3, and t are the average times that you calculated in part 3 of your data worksheet).

5) What do you notice about your answers for questions 3 and 4? (Basically, are your answers pretty close or not?). Explain Why.