Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: 3 Week 4 Distance Learning

**Mechanical Energy**

***Use the resources found on Mr. Hanna’s website to help you respond to the following items.***

**VOCABULARY:**

1. MECHANICAL ENERGY –
2. KINETIC ENERGY –
3. POTENTIAL ENERGY –
4. ELASTIC POTENTIAL ENERGY –
5. GRAVITATIONAL POTENTIAL ENERGY -

**SHORT ANSWER:**

1. What metric unit do we use to measure energy (including mechanical energy)?
2. What two variables affect an object’s kinetic energy?
3. Compare elastic potential energy with gravitational potential energy (how they are similar *&* different).
4. What two variables (*aside from the acceleration due to gravity, “g”*) affect an object’s gravitational potential energy?

**INTERPRETING A DIAGRAM:**  Use the diagram of a swinging pendulum below to answer the following questions.

1. At which point(s) on the diagram would the ball have maximum (the greatest) potential energy? Why?
2. At which point(s) on the diagram would the ball have maximum (the greatest) kinetic energy? Why?
3. At what point(s) on the diagram would the ball have BOTH kinetic energy and potential energy?
4. Describe how the energy in the ball changes as it moves from position 1 to 2 to 3 to 4 to 5.

**PRACTICE PROBLEMS: Use the scenario described below to answer the following questions.**

*A 1.5 kg book is sitting on the edge of a desk that is 0.75 m tall. A student accidentally bumps the desk, causing the book to fall to the ground. Another student picks up the book, putting it back in its original position on the desk.*

1. How much gravitational potential energy did the book have as it rested on the desk?
2. At one instant during its fall, the book has a velocity of 3 m/s down. How much kinetic energy does the book have at this instant?