8th Grade Science
Redlands Middle School

Name _____
Date_____ Period ____ Score_____/4

The Pendulum
Skill Builder

Use your Pendulum Demo assignment and textbook to complete the following:

1. Define gravitational potential energy (GPE) and give an example.

   Definition: _____

   _____

   Example: _____

2. Define elastic potential energy (EPE) and give an example.

   Definition: _____

   _____

   Example: _____

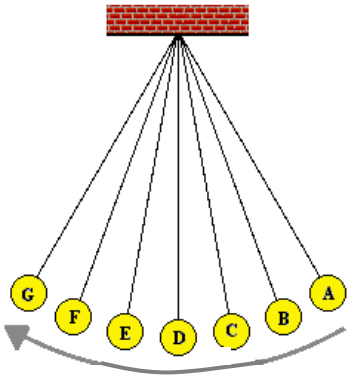
3. Define chemical potential energy (CPE) and give an example.

   Definition: _____

   _____

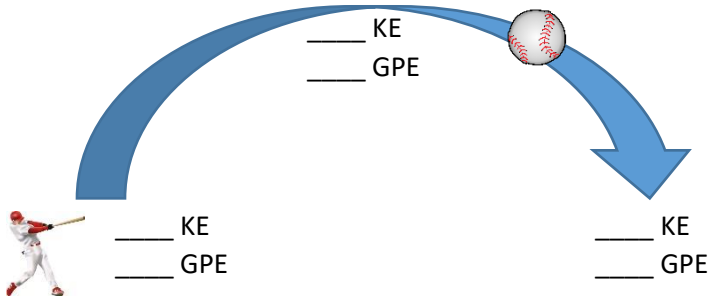
   Example: _____

4. Look closely at the pendulum. Note the direction of swing.



- Which of these represent an increase in kinetic energy (KE)? ____
  A. E to F to G
  B. C to B to A
  C. A to B to C
- Which position has the highest gravitational potential energy (GPE)? Careful…this is a "trick" question. ____
- Which position has the highest kinetic energy (KE)? ____
- When the pendulum is released from Position A, _____ energy is transformed into _____ energy.

5. Place the words “high” and “low” in the 6 blanks to accurately describe the transformations between gravitational potential energy (GPE) and kinetic energy (KE)



Based on your answer, the thickness of the arrow in the diagram could represent _____ energy.

6. If energy is conserved within a system (mechanical energy = potential energy + kinetic), why can’t a roller coaster ever go higher than its highest starting position?

_____

You may want to revisit your answer to the “tricky” position problem in question 4.

7. For each set, circle which has the greatest potential energy? Then identify the type of potential energy below each set.

A.

_____ PE

B.

_____ PE

C.

Altitude: 400 meters

Altitude 4 meters

_____ PE

8. Circle which system has the highest kinetic energy.

9. Describe a situation when you personally experienced a transformation from GPE to KE.

_____

_____

_____