Study Guide Unit 5 Lesson 1 and 2

1) What are the two things that influence the amount of kinetic energy? **Mass and Speed**

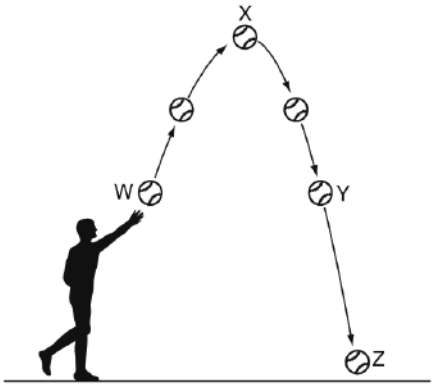
These two word start with M and S

2) Mechanical energy is a combination of what?

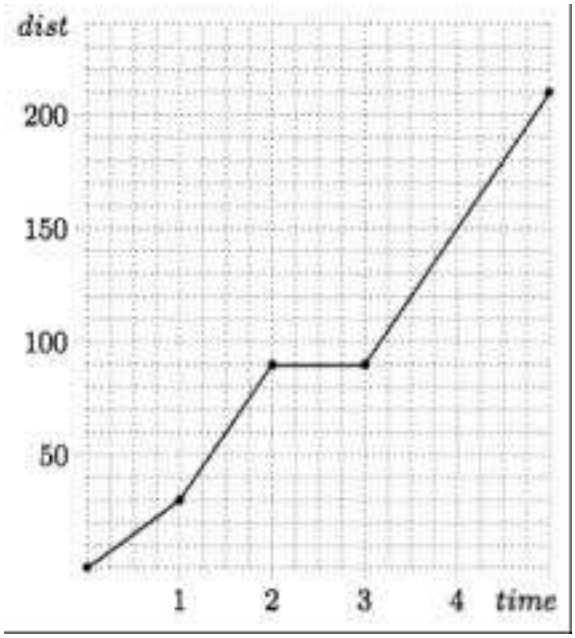
Kinetic and Potential Energy

3) What type of energy does the person below is standing on a diving board about to jump in have? **Potentia**l

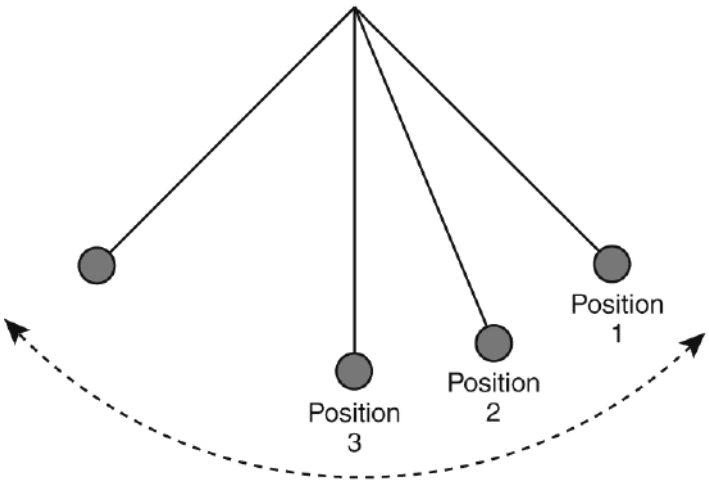
4) In the picture below Y shows what kind of energy? **Kinetic and gravitational potential.**



5) Below is a graph of a road trip a family took. What is happening from 2-3? **They could be stopped for lunch or taking a break somewhere.**



6) In the picture below which letter shows where the pendulum has the most kinetic energy. **Position 3**



7) Potential energy is _____**STORED**_____ energy.

8) What is the definition of energy that is in your book? **The ability to cause change.**

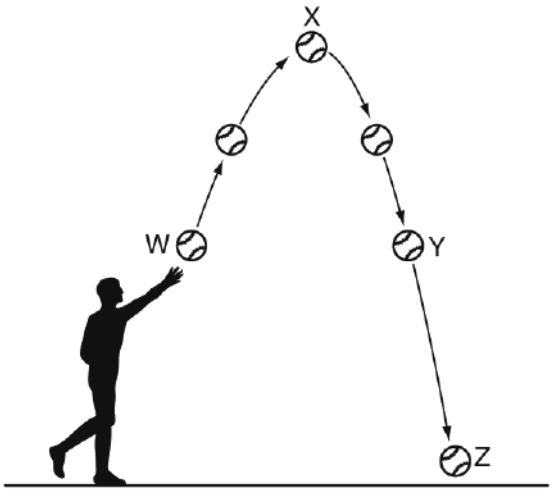
9) Are the following examples of energy put yes no.

a) Water dropping in a waterfall. **Yes**
b) Wind blowing **Yes**
c) Roof of a house **No**
d) Skateboarder at top of a ramp about to drop in. **Yes**

10. If the vehicles below were traveling at the same speeds on the highway would the one on the left or right have the most kinetic energy and why? **The one on the right because it has more mass.**

11) What is the Law of Conservation of Energy? **Energy can neither be created nor destroyed. It can only ne transformed.**

12) Which letter below has the most gravitational potential energy? **X**



13) The rabbit and the turtle had a 400 m race. The turtle finished the race in 100 s and came in first. The rabbit finished the race in 120 s and came in second. Which of the following **must** have been greater for the turtle than for the rabbit?

A. his maximum speed during the race
B. **his average speed for the entire race**
C. his speed for the last 100 m of the race
D. his initial speed for the first 100 m the race

14) What is your books definition of speed? **The measure of how far something moves in a given amount of time.**

15) A weather station records the wind traveling northeast at 12 km/hr. Which statement explains why northeast at 12 km/h is a vector?
A. The speed is given in km/h.
B. The speed is a constant value.
C. An average speed is reported.
D. **Speed and direction are given.**

16) Mike ran the Boston marathon at 2 mph. Why would someone be unable to figure out his velocity with this information? **There was no direction given**

17) Explain the difference between kinetic and potential energy. **Kinetic energy is energy of motion, but potential energy is stored energy.**

18) Mike at 4:10 p.m. traveled, without stopping, 70 miles to Sarasota. What additional information does Mike need to find the average speed of the car traveling to Sarasota? **How long he was traveling which would give him the information to solve the formula distance divided by time.**