**Physical Science Quiz #7 –Energy Study Guide***Directions:**Complete the following questions to help prepare for your quiz.*

1. Determine the weight (gravitational force) of an average physical science textbook whose mass is 3.1 kilograms; acceleration due to gravity = 9.8 m/s2?
2. A 7 kg box is pushed across the lunch table. The acceleration of the box is 4 m/s2. What was the net force applied to the box?

1. Explain the difference between kinetic energy and potential energy.
2. Explain the Law of Conservation of Energy.
3. Define Work.
4. Define Power.
5. List three types of potential energy

 1.

 2

 3.

1. Match each term with the appropriate unit:

Energy meter

Force Newton

Work Joule

Power seconds

Distance Watt

1. Calculate the work needed to lift a block weighing 4 newtons for a distance of 10 meters.
2. How much power is necessary to do 50 joules of work in 5 seconds?
3. What is the gravitational potential energy of a textbook with a mass of 3 kg on the top of a bookshelf with a height of 2m above the ground? Assume that acceleration due to gravity is 9.8 m/s2.
4. A toy car has a mass of 4.5 kg, and a velocity of 3 m/s. What is the kinetic energy of the moving car?
5. You must exert a force of 4.5 N on a book to slide it across a table. If you do 2.7 J of work in the process, how far have you moved the book?
6. What is the power used to move an object 5 meters in 2 seconds with a force of 20 N?
7. If an object with a mass of 25 kg is moved a distance of 4 meters, what is the work done on this object? (a = 9.8 m/s2 )