**The “Everything I Forgot About Energy” Worksheet**

**Work:**

1. What is work?
2. What is the formula for work?
3. What are the SI units for work?
4. One of the best ways to end a conversation when you are 6 is to take your ball and go home. Your little cousin gets mad at you when you are playing basketball together. He picks up his 2N basketball 1 meter, and carries the ball away 10 meters before you can finally talk him into playing some more. When did your little cousin do work?
   1. Only when he picked up the basketball 1 meter.
   2. Only when he carried the basketball 10 meters.
   3. Both when he picked up the basketball 1 meter AND when he carried the basketball 10 meters.
5. A dog pulls a 250N sled. If the dog does 875 joules of work, how far did she move the sled?
6. A little kid picks up an 8N puppy 0.5 meters and carries him 3.5 meters before the kid trips and drops the puppy. How much work is the little kid doing?

**Energy:**

1. What is energy?
2. What are the SI units for energy?
3. What is kinetic energy?
4. What is the equation for kinetic energy?
5. What is potential energy?
6. What are the 2 types of potential energy?
7. List the equation for potential energy that we actually know.
8. Explain how an object can have BOTH kinetic energy and gravitational potential energy.

**Energy Math:**

1. What is the kinetic energy of baseball traveling at 7m/s, 4 meters off of the ground, if it has a mass of 1.2 kg?
2. What is the gravitational potential energy of baseball traveling at 7m/s, 4 meters off of the ground, if it has a mass of 1.2 kg?
3. If a bowling ball has a mass of 7kg and is traveling at a velocity of 8m/s down the lane, what is its kinetic energy?
4. What is the gravitational potential energy of a 4kg flower pot sitting on a shelf, if it is 2 meters off the ground?

**Energy Conversions:**

1. What is the law of conservation of energy?
2. List the 7 types of energy and give a 3-4 word explanation of what each one is.

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| **Type of Energy** | **3-4 word explanation of that energy…** |
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|  | **Energy Started With** | **Desired Ending Energy** | **“Wasted”/”Lost” Energy** |
| A Speaker (of a radio or sound system) |  |  |  |
| A child starting at the top of a slide and sliding down it. |  |  |  |
| A battery |  |  |  |
| A ball, dropped from 2m up, falling to the ground |  |  |  |
| Nuclear Power Plant |  |  |  |
| Burning gasoline |  |  |  |
| A lightning bug or firefly lighting up |  |  |  |
| Photosynthesis |  |  |  |