Heat and Energy Test Review 2

DO NOT FORGET TO DO THESE BOOK PROBLEMS!!!

Pg. 95 1-4, 9-11
Pg. 469 1, 3-12, 15, 21-22
Pg. 495 5-7, 13

1. Make a table that lists 6 major sources of our energy (oil, coal, etc), and list whether they are renewable or not, and list their pros and cons.

2. Make a table that lists Conduction, Convection, and Radiation and explains how each work.
Draw a picture of a pot with boiling water to demonstrate all three of these.

3. What is the difference between thermal expansion and thermal contraction.

4. Explain the difference in the arrangement of the molecules in the states of matter : solid, liquid, and gas.

5. What is the Kinetic Theory of Matter.

6. Are heat and temperature the same? Explain.

7. In the equation $Q = m*c*\Delta T$. What do Q, m, c, and ΔT stand for.

8. List 6 possible energy transformations and label them

example-(Chemical energy of an apple converted into mechanical energy of walking when the apple is digested)

9. What is the formula for Kinetic Energy?

10. What is the formula for Potential Energy?

11. How much potential energy does a 40kg diver have on a 10 meter high diving board?

12. How much kinetic energy will they have when they hit the water?

13. How much kinetic energy do they have at the top of the diving board?

14. How much potential energy do they have at the bottom just before they hit the water?

15. What makes compact fluorescent bulbs (twirly ones) more efficient than incandescent bulbs (old ones)?

16. What is the kinetic energy of a 45kg car traveling at 5 m/s?

17. What is the Law of Conservation of Energy?

18. What are the 6 **forms** of energy that you drew pictures of?

19, Explain the difference between Elastic and Gravitational Potential Energy.

20. What is the change in temperature of a cup of water that loses 500. J and has a mass of 3450 g? The specific heat of water is 4.18 J/g℃

21. What is the mass of a cup of water the gains 38 J and has a temperature change of 48℃

22. A cup of water is at 48 ℃ and you put it on the stove and it goes up to 59 ℃, you originally poured 198 ml (grams) of water into it. How much heat did it gain?