Name	Date

Heat/Energy/Thermodynamics

Today in the computer lab you will visit a variety of sites dealing with topics from this chapter. You will visit college, high school, and middle school sites, and you will learn from the wise words of Homer Simpson if you read thoroughly.

Introductory Material

- A. <u>http://www.physicsplanet.com/articles/three-laws-of-thermodynamics</u>
- B. <u>http://www.grc.nasa.gov/WWW/k-12/airplane/thermo.html</u> Follow the thermodynamics guided tour
- 1. Define the term "thermodynamics".
- 2. State the First Law of Thermodynamics. What does it mean?
- 3. Give a real-world example that illustrates the first law.
- 4. What is the Second Law of Thermodynamics? What does it mean?

Watch the following video

www.youtube.com/watch?v=f1eAOygDP5s Bill Nye: Heat 1

Heating/Cooling/Phase Change Problems

- A. http://www.kentchemistry.com/links/Matter/HeatingCurve.htm
- B. <u>http://www.periodictable.com/Properties/A/SpecificHeat.html</u>
- 5. Choose any element from the periodic table site and list relevant data here:
 - a. Element _____
 - b. Melting Point _____
 - c. Boiling Point _____
 - d. Specific Heat of solid _____
- 6. Create a 3 step heating/cooling curve problem for this element; then, write out a complete solution for this problem, including a sketch showing the temperature vs. time changes.

<u>Thermodynamic Processes</u> <u>http://physics.bgsu.edu/~stoner/p201/engine/sld007.htm</u>

- 7. What is a reversible process?
- 8. What is an irreversible process?

www.physics4kids.com/files/thermo intro.html

- 9. What is heat?
- 10. Why does heat move?
- 11. What is entropy?

Click next stop on site tour link in the bottom of the screen

12. What type of heat transfer occurs in waves?

13. What type of heat transfer requires objects to come into contact?

Click next stop on site tour link in the bottom of the screen

14. List 3 temperature scales

Click next stop on site tour link in the bottom of the screen 15. Restate the first and second laws of Thermodynamics.

Click next stop on site tour link in the bottom of the screen

16. What do these stand for? S= _____ Q = ____ T = ____

17. When ice melts what happens to its entropy?

Take the following quizzes and place a check mark for every question answered correctly for each.

www.physics4kids.com/extras/quiz heat intro/index.html

www.physics4kids.com/extras/quiz motion energy/index.html