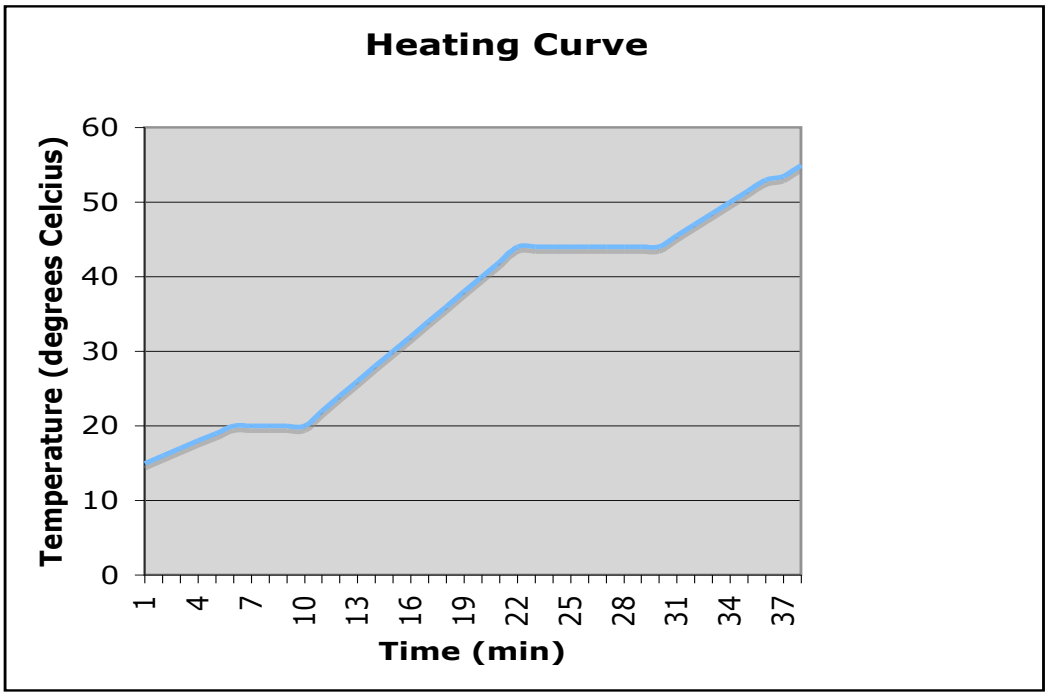
ENERGY REVIEW GUIDE Name:_____Date:_____Entry Number:___

1. What is the difference between heat and temperature?

2. What is the difference between conduction and convection?

3. When you put a thermometer in your mouth how is the heat transferred to the thermometer?



4. What is the melting point of this substance?

5. What is the boiling point of this substance?

6. Label the section of the graph where both liquid and gas are present together.
7. Label the section of the graph where only solid is present.
8. Label the section of the graph where only liquid is present.
9. Label the section of the graph where only gas is present.
10. Label the section of the graph where both solid and liquid are present together.
11. Identify sections where kinetic energy is changing.
12. Label the sections of the graph where PE is changing
13. If energy is added at a rate of 5J per min how much energy is required to vaporize a sample?

14. What does specific heat measure? Give an example of a substance with a high specific heat and an example of a substance with a low specific heat.

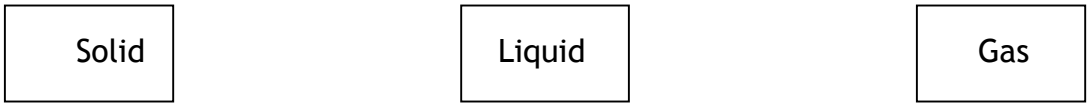
15. Match the following:

Hot	25°C
Cold	98.6°C
Room Temperature	37°C
Body Temperature	10°C

16. Why does the red dyed alcohol rise up when the temperature goes up?

17. Explain the terms endothermic and exothermic and draw diagrams for each

18. Label the following using the following terms: sublimation, melting, freezing, vaporization, condensation, deposition, exothermic and endothermic.



19. Why does a tile floor feel colder than a wood floor at the same temperature?

20. Draw and describe the difference between intra molecular forces and intermolecular forces.

21. Draw the bohr model for water and show why Oxygen has a negative charge and H a positive charge.

22. What are hydrogen bonds?

23. What kind of heat flow can occur through empty space?

24. Identify all the endothermic phase changes

25. Identify all the exothermic phase changes

26. Does evaporation release or absorb energy?

27. Things with high specific heats heat up _____ than things with low specific heat.

28. How much energy is required to heat 25 g of water from 15 ^{o} C to 75 ^{o} C (specific heat of liquid water is 4.18 J/g^{o}C?

29. Convert 45^{o}C to Kelvin

30. Why is it possible to boil water in a paper cup without burning the cup?

31. Explain how heat moves by conduction

32. Give two examples of gradient and the flow that results

33. A good conductor is always a _____ insulator

34. List three different ways heat can be transferred from one place to another.

35. Which of these will warm up the fastest? The slowest? Water, wood , metal

36. Heat energy always travels from an object with a _____ temperature to an object with a _____ temperature.

37. Describe what happens, in terms of thermal energy (AKA: heat energy) when you touch a cold piece of ice with your finger.

38. Describe a plasma

39. What are the two laws of thermodynamics

40. What is entropy? Give an example

41. Describe the energy transfer performed by a pendulum as it swings. Calculate the PE at the bottom is there is 400 J at the top and 300 J of KE at the bottom.