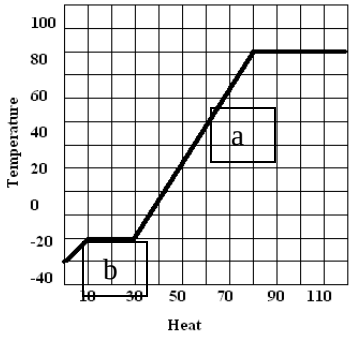
Chapter 3 Study Guide - PS

1. What is Boyle's law?
2. Which state of matter will hold its shape without a container?
   a. solid c. gas
   b. liquid d. plasma
3. What are the 8 properties of gases?
4. Which has more thermal NRG? (tub of water at room temp or glass of water at room temp) Explain.
5. T/F – Fluids move faster in smaller areas than larger areas. (When the flow rate is constant).
6. Compare and contrast liquids and gases.
7. What is the law of conservation of NRG?
8. Compare and contrast evaporation and boiling.
9. According to Charles's law, the volume of a gas increases as _____
10. Bernoulli's principle describes the property of a(n)
    a. fluid at rest. c. object submerged in a fluid.
    b. fluid in motion. d. object floating in a fluid.
11. Give three examples of plasma.
12. Explain how burning a log follows the law of conservation of mass.
13. T/F – Particles are always in motion
14. What is Pascal's principle?
15. A mechanic uses a hydraulic car jack to lift the front end of a car to change the oil. The jack used exerts 8,915 N of force from the larger piston. To pump the jack, 444 N of force is exerted on the small piston, which has an area of 3.14 cm^2. What is the area of the large piston?
16. Convert 500 kPa into atm.
17. Give an example of something that has a high viscosity.
18. Convert 63 m^2 into cm^2.
19. Define Pressure.
20. Convert 500 K into degrees Celsius.
21. Gay-Lussac's Law states the pressure of a gas increases as the _____ increase
22. Circle all the fluids: Air, Oil, rocks, nitrogen, carbon dioxide
23. The 3 main points of the kinetic theory are
    a. _____
    b. _____
    c. _____
24. What are the 6 changes of states (for matter)?
25. Using (Definite shape, definite volume, non-definite shape, non-definite volume) complete the following table.

	Solid	Gas	Liquid
Volume			
Shape			

26. Give 3 examples of liquids.
27. Compare and contrast plasma and gas
28. Hydraulic machines apply _____ principle.

29. According to Bernoulli's principle, as the velocity of a fluid increases,_____
30. Convert 1500 cm^2 into m^2.
31. What is buoyant force?
32. What is the "ability to do work"?
33. Give an example of something that has a low viscosity.
34. What is the SI unit for pressure?
35. What is Archimedes' principle?
36. Compare and contrast temperature and thermal NRG.
37. Which changes of state absorb NRG?
38. Which has more average kinetic NRG? (tub of water at room temp or glass of water at room temp) Explain.
39. What is viscosity?
40. What happens to the speed of the particles in a substance as the temperature increases?
41. Explain what is happening in the diagram below. (What is the diagram called?)
42. 1 pascal = _____ N/m^2
43. What is the area (in m squared) of a table with a length of 250 cm and a width of 45 cm?
44. How much pressure is applied to a 0.5 m^2 surface if you apply a 14 N force?
45. What is the area of a surface if you apply 50 N of force and a pressure of 75 Pa?
46. 

47. What is the law of conservation of mass?
48. Complete the odds in the Math Skills.
49. EOCQ on page 106-107 (1-11, 16, 17, 19, 21, 25-28)