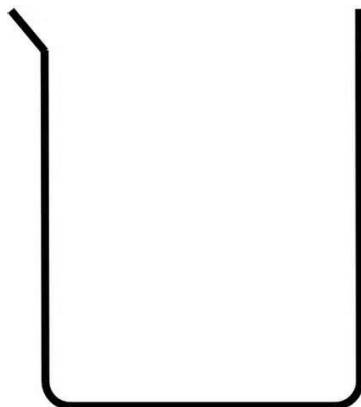
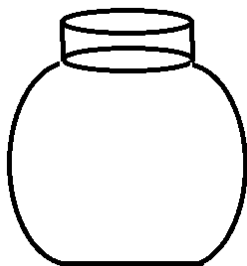


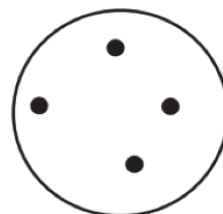
1. Crude oil is a mixture of all different hydrocarbon chains. In the beaker below draw a representative particulate drawing of what you think would correctly show what crude oil looks like.



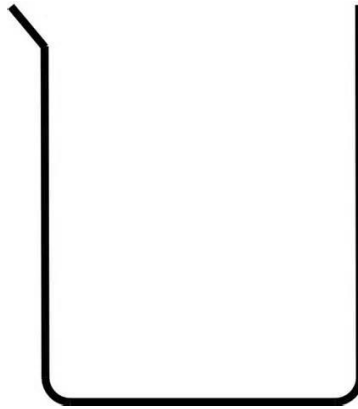
2. Propane, a fuel used for gas grills, commonly referred to as liquid propane. In the picture below, show a pictorial version of this tank (half full). Include all aspects of propane (C-C-C) in the tank.



3. The three samples of identical gas molecules below. Rank the samples from lowest pressure to highest pressure, and add arrows of appropriate size to illustrate the average kinetic energy of the molecules in the samples.

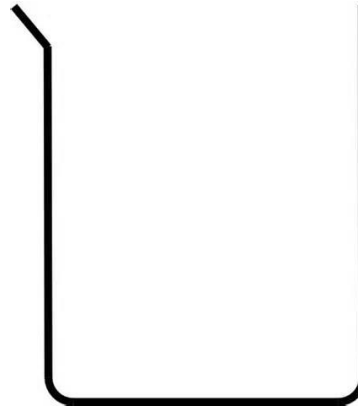
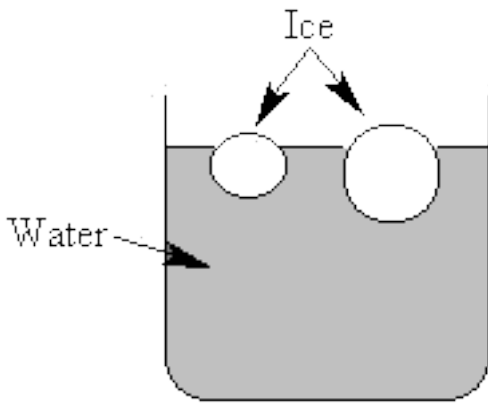


4. Water is boiling draw a picture of the molecules in this process.



5. Ice is floating in this problem due to?

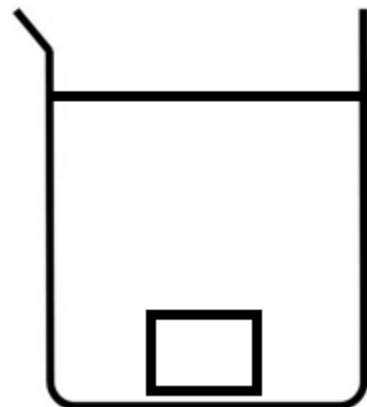
6. In the beaker to the right draw a molecular view of the picture on the left.



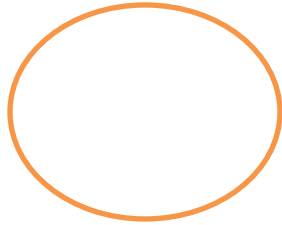
7. A person burns wooden pellets for heat in the winter. Answer the following questions, If a person burns 1 ton of wooden pellets.

- a. What are the products of the burning?
- b. The total mass of the products is Greater, equal or less than 1 ton.

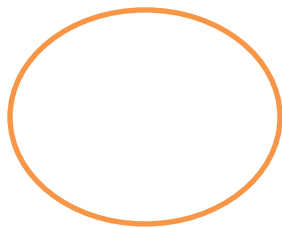
8. A hot block is added to room temperature water  
(True/false) Block lost same quantity water gained.  
(True/false) Block and water will end at same temperature.  
(True/false) The water will end up hotter than the block.



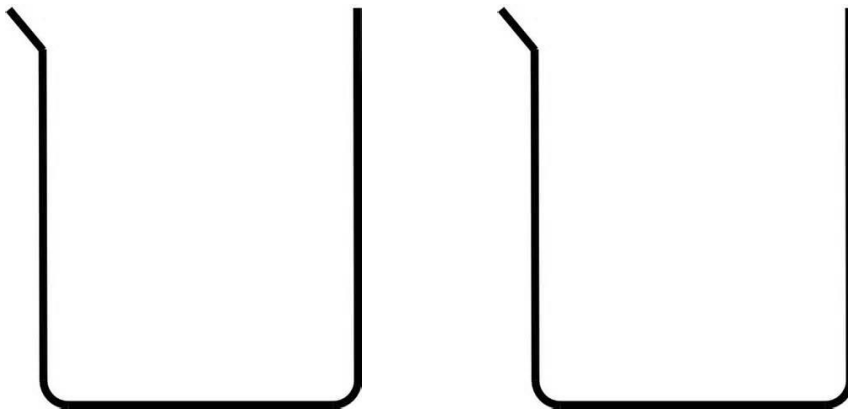
9. Draw an atom of Helium with a mass number 4 and a charge of neutral.



10. Draw a helium atom with a mass number of 5 and a charge of -1.



11. The two beakers below contain acidic solutions. 1<sup>st</sup> one is concentrated and 2<sup>nd</sup> is a dilute acid. Draw a particulate view of each.



12. A balloon contains 1 mole of helium gas; This balloon is pulled to the bottom of a pool. Draw both of these balloons, using particulate representations of the molecules each of the balloons.

13.

