**VIRTUAL LESSON:  Density WS 3**          Name_____

*Complete the following questions.*

1.  Define mass?


2.  Define volume?


3.  Define density and show the formula for calculating density.


4.  Aluminum is used to make airplanes. Cast iron is used to make weightlifting equipment. Explain why the densities of these metals make them useful for these purposes?


5. What is the density of water?          Remember for water 1g=1ml=1cm³


6.  Why does an air bubble rise to the surface of a glass of water?


7. *Calculate the densities of the following objects.*
   *Remember to SHOW WORK and place units after each number.*

Object A     length = 6.2cm     width = 3.4cm     height = 1.2cm     mass = 36.7g

             volume = _____

             density = _____

Object B      length = 10.8cm  width = 5.4cm     height = 2.2cm     mass = 300.8g

             volume = _____

             density = _____

Object C    Determine the density of object C (silly putty) using the information  below

             Initial water level in graduated cylinder = 25ml
             Final water level after placing silly putty into graduated cylinder = 29ml
             Mass of silly putty =  8g

             volume = _____

             density = _____

             What is this method  called? _____

8. Place a "X" on the line if the object listed will float in water (density 1 g/ml)?

   A.   air = .001 g/cm³      _____

   B.   corn oil = .93 g/cm³    _____

   C.   glycerin = 1.26 g/cm³   _____

   D.   corn syrup = 1.38 g/cm³  _____

   E.   wood = .85 g/cm³     _____

   F.   steel = 7.81 g/cm³    _____

   G.   rubber = 1.34 g/cm³   _____

   H.   ice = .92 g/cm³      _____

   I.   water = 1.00 g/cm³    _____

9. Assuming the materials don't mix, show how the materials would "stack up" in a graduated cylinder.

  Use the letters from above and the cylinder sketch to the right to record your answer.
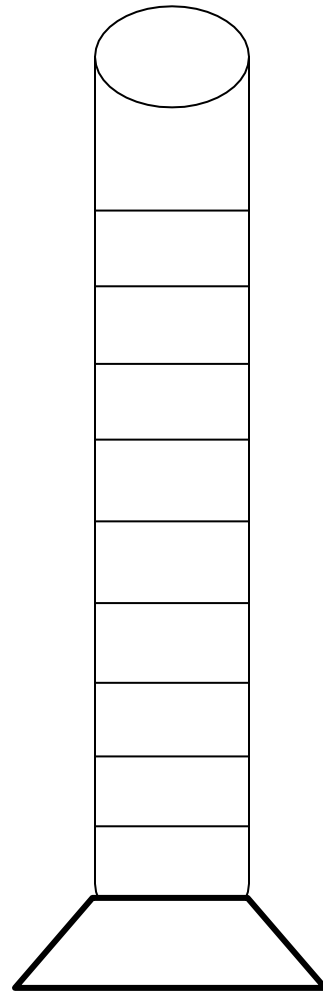
10. Does ice float or sink in water? Support your answer using the concept of density?