

Density Worksheet

Name _____

Class Hour _____

1. Define mass?
2. Define volume?
3. Define density and show the formula for calculating density.
4. Why does changing the shape of an object have no effect on the density of that object?
5. 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?
6. What is the density of water? Remember for water $1\text{g}=1\text{ml}=1\text{cm}^3$
7. Why does an air bubble rise to the surface of a glass of water?
8. Calculate the densities of the following objects. **Remember to place units after each number.**

Object A length = 6cm width = 3cm height = 1cm mass = 36g
volume = _____ density = _____

Object B length = 10cm width = 5cm height = 2cm mass = 300g
volume = _____ density = _____

Object C Use the water displacement method to determine the density of object C (silly putty).
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 = _____

9. Which of the following materials will float on water (density 1 g/ml)?

air = .001 g/cm³

corn oil = .93 g/cm³

glycerine = 1.26 g/cm³

corn syrup = 1.38 g/cm³

wood = .85 g/cm³

steel = 7.81 g/cm³

rubber = 1.34 g/cm³

ice = .92 g/cm³

water = 1.00 g/cm³

10. Assuming the materials don't mix, show how ^{all of} the materials would "stack up" in a graduated cylinder. (Include all 9 substances from the list in #9)