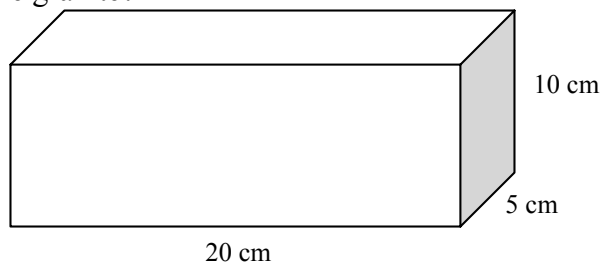


SCIENCE 8 – DENSITY CALCULATIONS WORKSHEET

NAME: _____

- 1) A student measures the mass of an 8 cm^3 block of brown sugar to be 12.9 g. What is the density of the brown sugar?
- 2) A chef fills a 50 mL container with 43.5 g of cooking oil. What is the density of the oil?
- 3) Calculate the mass of a liquid with a density of 2.5 g/mL and a volume of 15 mL.
- 4) Calculate the volume of a liquid with a density of 5.45 g/mL and a mass of 65 g.
- 5) A machine shop worker records the mass of an aluminum cube as 176 g. If one side of the cube measures 4 cm, what is the density of the aluminum?
- 6) A teacher performing a demonstration finds that a piece of cork displaces 23.5 mL of water. The piece of cork has a mass of 5.7 g. What is the density of the cork?

- 7) A carver begins work on the following block of granite that weighs 2700 g. What is the density of the granite?



- 8) A piece of PVC plumbing pipe displaces 60 mL when placed into a container of water. If the pipe has a mass of 78 g, what is the density of PVC?
- 9) A solid magnesium flare has a mass of 1300 g and a volume of 743 cm^3 . What is the density of the magnesium?

10) A graduated cylinder has a mass of 50 g when empty. When 30 mL of water is added, the graduated cylinder has a mass of 120 g. If a rock is added to the graduated cylinder, the water level rises to 75 mL and the total mass is now 250 g. What is the density of the rock?

11) A student performs an experiment with three unknown fluids and obtains the following measurements:

Fluid A: $m = 2060$ g, $V = 2000$ mL

Fluid B: $m = 672$ g, $V = 850$ mL

Fluid C: $m = 990$ g, $V = 1100$ mL

Draw how the fluids would be layered if they were combined in a beaker.



12) Use your density skills to find the identity of the following mystery objects.

| Table of Densities | | | |
|--------------------|-------------------------|----------|-------------------------|
| Solids | Density g/cm^3 | Solids | Density g/cm^3 |
| Marble | 2.56 | Copper | 8.92 |
| Quartz | 2.64 | Gold | 19.32 |
| Diamond | 3.52 | Platinum | 21.4 |



While digging in the backyard, you find an old coin. Its mass is 26.76 g and its volume is 3 cm.



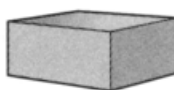
You think you have found a diamond. Its mass is 5.28 g and its volume is 2 cm^3 .

What is the coin made of? _____

What did you find? _____



You find a ring with a mass of 107 g. You fill a graduated cylinder up with 10 mL of water and put the ring into the cylinder. The water rises up to the 15 mL mark.



There is a block on your desk that acts as a paperweight. Its measurements are 3 cm by 4 cm by 6 cm. The block has a mass of 184.32 g.

What is the ring made of? _____

What is the block made of? _____