

Density Practice

Name: _____

Date: _____

Answer each question in the blank space!

1) A rectangular wooden block measures 10 cm in length, 5 cm in width, and 3 cm in height. The block has a mass of 450 grams. Calculate the density of the wood. Then, determine whether this block would float or sink in water (density of water is 1.0 g/cm^3). Explain your reasoning.

2) An irregularly shaped piece of metal is submerged in a graduated cylinder containing 100 mL of water. After the metal is added, the water level rises to 150 mL. If the mass of the metal is 600 grams, calculate the density of the metal. Would this metal sink or float in water?

3) A container holds 500 mL of oil with a mass of 400 grams. Calculate the density of the oil. If another container holds 800 mL of a different liquid with the same density, what would be the mass of the second liquid?

4) A cube of iron has a side length of 4 cm. The mass of iron is 500 grams. First, calculate the volume of the iron cube. Then, use this to find the density of the iron. Compare your calculated density with the known density of iron (7.87 g/cm^3). Does your result match the expected density?