Chapter 2: Physical Quantities and Measurement

Worksheet 1

1. Write the type of motion in following cases.

   (i)   The mass of an object contained per unit volume is called density.

  (ii) Relative density is a unitless quantity.

 (iii) The density of ice is more than the density of water.

 (iv) A hydrometer works on the principle of floatation.

  (v) The SI unit of density is g/cm^3.

2. Fill in the blanks.

   (i)   The mass of the given solid can be measured by using _____.

  (ii) The _____ is defined as the ratio of the density of the substance to the density of pure water at 4°C.

 (iii) _____ is used to measure the purity of milk.

 (iv) The solid will sink in a liquid if relative density of the solid is _____ than relative density of the liquid.

  (v) Density of the substance = Relative density × _____ kg/m^3.

3. Match the columns.

Column A	Column B
(i) Temperature increases	(a) Huge ices floating on water
(ii) Density bottle	(b) On increasing density
(iii) Icebergs	(c) On decreasing density
(iv) Temperature decreases	(d) Check the density of acid solution
(v) Hydrometer	(e) Density of a liquid

4. Answer the following questions.

   (i)   What is called the ratio of mass and volume?

  (ii) Which is a pure number and has no units?

 (iii) Why does an iron nail sink in water?

 (iv) Which can increase or decrease its effective density as compared to the density of sea water?

  (v) Why does the balloon float or rise up in air?

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Worksheet 2

1. Tick the correct answer.

  (i) Which of the following has the lowest density?

    (a) ice   (b) mercury   (c) iron   (d) water

  (ii) The density of water changes with change in

    (a) mass   (b) temperature   (c) force   (d) weight

  (iii) The relative density of copper is

    (a) 8.9   (b) 2.7   (c) 19.3   (d) 1.3

  (iv) What part of an iceberg is seen above the surface of water?

    (a) about $\dfrac{1}{5}$ (b) about $\dfrac{1}{10}$ (c) about $\dfrac{3}{10}$ (d) about $\dfrac{9}{10}$

  (v) Which gas is filled in balloon?

    (a) hydrogen   (b) nitrogen   (c) helium   (d) (a) and (c)

2. Write T for true and F for false statement.

  (i) 1 g/mL is equal to 1000 kg/m³.

  (ii) The volume of the given liquid can be measured using measuring can.

  (iii) The volume of an object remains constant even there is a change in temperature.

  (iv) An ice cube dropped in a cold drink sinks in it.

  (v) Density of iron is much less than the density of water.

3. Name the following.

  (i) The density of this metal is 7800 kg/m³.

  (ii) This physical quantity is inversely proportional to volume.

  (iii) Name one object which floats on water.

  (iv) Density of water at this particular temperature is 1000 kg/m³.

  (v) A hydrometer works on this principle.

4. Answer these questions.

  (i) Why does mercury not stick to the surface of a glass vessel?

  (ii) Why does a ship made of iron not sink in water?

  (iii) Write the principle of floatation.

  (iv) What is the SI unit of mass?

  (v) What happens to mass of an object when the temperature of an object changes?