G8 Science: Class 11 Homework

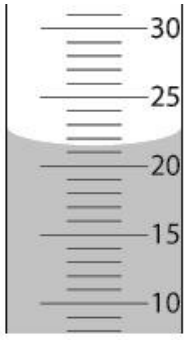
1. Why is it important to control the presence of ethylene gas when ripening fruit? **[2 marks]**

2. Provide two advantages and two disadvantages of a water dam. **[4 marks]**

3. Explain three ways that humans have been able to control the flow of blood in humans. **[3 marks]**

4. Describe three ways of determining the volume of an object. **[3 marks]**

5. What is the volume indicated by the diagram below? What is this curved surface called? **[2 marks]**



6. Define “characteristic property”. Provide three examples of characteristic properties. **[4 marks]**

7. Name three substances that have a greater density than distilled water. **[3 marks]**

8. Oil floats on top of water. Explain this phenomenon using your knowledge of density. **[2 marks]**

9. Why does the lake only form ice at the top during winter? What is the advantage of this phenomenon? **[3 marks]**

10. Two metal objects, A and B, each have a mass of 200kg. Object A displaces 100kg of water. Object B displaces 1000kg of water. Which one is more likely to be a boat? Explain your reasoning. **[3 marks]**

11. If 30mL of a fluid has a mass of 63g, what is its density? Will it float or sink in water? Use the GRASS method to show your work. **[6 marks]**

12. A rectangular block of building stone measures 60cm long, 30cm wide, and 5cm high. It has a mass of 33750 g. Calculate the density of the stone. Use the GRASS method. **[5 marks]**

13. A bucket contains 3883 g of seawater. The density of seawater is 1.03g/cm^3. What is the volume of the water in the bucket? Use the GRASS method. **[5 marks]**

14. A 4000cm^3 container is filled with glycerol. Glycerol has a density of 1.26 g/cm^3. Calculate the mass of the glycerol. Use the GRASS method. **[5 marks]**

15. Use the following displacement information to find the density of the object. Use the GRASS method. **[5 marks]**

Initial volume of water	25.0mL
Final volume of water	29.0mL
Mass of object	8.0g

16. Use the table below to answer the following questions.

Material	**Density (g/cm^3)**
Air	0.001
Corn oil	0.93
Glycerin	1.26
Corn syrup	1.38
Wood	0.85
Steel	7.81
Rubber	1.34
Ice	0.92
Water	1.00

a) Which of the materials will sink in water? **[4 marks]**

b) An object with a volume of $5.0cm^3$ and a mass of 4.25g is made of what substance? **[3 marks]**

c) Assuming the materials do not mix, show how the materials above would stack up in a graduated cylinder. **[9 marks]**