DCP FOR CHAPTER-2

PHYSICAL QUANTITIES AND MEASUREMENT

Number of periods	Sub-Topics
1	Density, density of a regular solid
2	Determination of density of an irregular solid, Density of a liquid, density bottle.
3	Density of liquid using density bottle, Relative density,
4	Floating and sinking, Principle of floatation, application of floatation.
5	Numerical on density.
6	Summarization of the chapter, Exercise questions.

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ODM Teachers' Note

Class	VIII		**Subject**	PHYSICS
Prd	1	**Chapter-2**	Physical Quantities and measurement	
Sub-Concepts	Density, density of a regular solid			
Teaching Aid To be used	Smart Class, PowerPoint presentation.			
Learning Outcome	Students will be able to ➢ Measure density of a regular solid. ➢ Define density. ➢ State the unit of density.			
Sl. No	**Step Wise (What to be done)**			
1. **Introduction**	**For Achievers** ➢ Give concept on mass and volume. ➢ Interpret the word density.		**For Average** ➢ Give concept on mass and volume. ➢ Interpret the word density.	
Density	The teacher will explain the concept of density by showing a video. https://youtu.be/QXoQbWoIiRE ➢ State the formula for density. ➢ State the SI unit of density. ➢ Relationship between SI and CGS unit of density.			
Density of a regular solid	➢ The teacher will explain how to measure mass by using a beam balance. ➢ Will explain how to measure volume ➢ Volume of a cube ➢ Volume of a sphere ➢ Volume of a cylinder			
Home Assignment	Exercise:B-1,2,3.			

8. Common Errors	Mass is measured by beam balance and weight is measured by spring balance

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Class	VIII		**Subject**	PHYSICS
Prd	2	**Chapter-2**	Physical Quantities and measurement	
Sub-Concepts	Determination of density of an irregular solid, Density of a liquid, density bottle.			
Teaching Aid To be used	Smart Class, PowerPoint presentation.			
Learning Outcome	Students will be able to ➢ Determine density of an irregular solid. ➢ Determine density of a liquid. ➢ Determine density of a bottle.			
Sl. No	**Step Wise (What to be done)**			
1. **Introduction**	**For Achievers** ➢ Recapitulation of the previous topic by asking the following questions. ➢ Define the term density. ➢ Name the SI unit of density.		**For Average** ➢ Recapitulation of the previous topic by asking the following questions. ➢ Define the term density. ➢ Name the SI unit of density.	
Determination of density of an irregular solid,	➢ Demonstrate how to find out mass of a solid. ➢ Demonstrate how to find out volume by using displacement method. ➢ Explain how to calculate density. ➢ https://youtu.be/s5u5cmA9Dp0			
Density of a liquid	➢ Find the mass of the liquid. ➢ Find the volume of the liquid by using a measuring cylinder. ➢ D = m/v			
Density bottle	➢ Show a density bottle and explain about its uses.			

	➢
Home Assignment	Exercise:B-1,2,3,4
8. Common Errors	Measurement of volume of liquid.

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Class	VIII		**Subject**	PHYSICS
Prd	3	**Chapter-2**	Physical Quantities and measurement	
Sub-Concepts	Density of liquid using density bottle, Relative density,			
Teaching Aid To be used	Smart Class, PowerPoint presentation.			
Learning Outcome	Students will be able to ➢ Determine density of liquid using density bottle. ➢ Define relative density. ➢ Solve numerical problems on relative density.			
Sl. No	**Step Wise (What to be done)**			
1. **Introduction**	**For Achievers** ➢ Recapitulate the previous topic by asking the following questions. ➢ Arrange the following substances in order of their increasing density: Iron, Cork, Brass, Water, Mercury. ➢ What is density bottle?		**For Average** ➢ Recapitulate the previous topic by asking the following questions. ➢ Arrange the following substances in order of their increasing density: Iron, Cork, Brass, Water, Mercury. ➢ What is density bottle?	
Density of liquid using density bottle	Explain how to find out density of liquid by using a density bottle.			
Relative density	➢ The teacher will show a video on how to find out relative density. ➢ https://youtu.be/G6XQnlIwtt8 ➢ Find the unit of relative density.			
Home Assignment	Exercise:B-10,11,12			

8. Common Errors	Relative density is just a number. It has no unit.

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Class	VIII	**Subject**	PHYSICS
Prd	4	**Chapter-2**	Physical Quantities and measurement
Sub-Concepts	Floating and sinking, Principle of floatation, application of floatation.		
Teaching Aid To be used	Smart Class, PowerPoint presentation.		
Learning Outcome	Students will be able to ➢ Understand the concept of floating and sinking ➢ Explain the principle of floatation. ➢ Apply this principle of floatation in making sub marine.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ Recapitulation of previous topic by asking the following questions. ➢ Define relative density. ➢ What is the SI unit of relative density?	**For Average** ➢ Recapitulation of previous topic by asking the following questions. ➢ Define relative density. ➢ What is the SI unit of relative density?	
Floating and sinking, Principle of floatation	The teacher will explain the principle of floatation by showing a video. https://youtu.be/khc2wUBsFU4 https://youtu.be/2dyCe1GPagE		
Application of floatation.	➢ Explain the following examples: ➢ Floatation of iron sheep ➢ Floatation of a man ➢ Floatation of ice on water.		
Home Assignment	Exercise:B-18,19,20		

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<table>
<tr><td>Class</td><td colspan="2">VIII</td><td>Subject</td><td colspan="2">PHYSICS</td></tr>
<tr><td>Prd</td><td>5</td><td>Chapter-2</td><td colspan="3">Physical Quantities and measurement</td></tr>
<tr><td>Sub-Concepts</td><td colspan="5">Numerical on density.</td></tr>
<tr><td>Teaching Aid To be used</td><td colspan="5">Smart Class, PowerPoint presentation.</td></tr>
<tr><td>Learning Outcome</td><td colspan="5">Students will be able to
➢ Apply the concept of density in day to day life situations.
➢ Solve numerical problems based on density.</td></tr>
<tr><td>Sl. No</td><td colspan="5">Step Wise (What to be done)</td></tr>
<tr><td>1. Introduction</td><td colspan="3">For Achievers
➢ Recapitulate the previous topic by asking the following questions:
➢ Define density.
➢ What is the SI unit of density?
➢ What is the other name of density bottle?</td><td colspan="2">For Average
➢ Recapitulate the previous topic by asking the following questions:
➢ Define density.
➢ What is the SI unit of density?
➢ What is the other name of density bottle?</td></tr>
<tr><td>Numerical problems on density</td><td colspan="5">The table below shows the density of some solids and liquids. For each solids list the name of liquids in which that solid will
Float
Sink
<table>
<tr><td>Solid</td><td>Density in kg m^{-3}</td><td>Liquid</td><td>Density in kg m^{-3}</td></tr>
<tr><td>Iron</td><td>7800</td><td>Mercury</td><td>13600</td></tr>
<tr><td>Wood</td><td>700</td><td>Water</td><td>1000</td></tr>
<tr><td>Cork</td><td>250</td><td>Glycerine</td><td>1260</td></tr>
</table></td></tr>
<tr><td></td><td colspan="5">➢ A block of silver displaces 200 mL of water in a measuring cylinder. If the density of silver is 10300 kg m^{-3}, find the</td></tr>
</table>

	mass of the block.
	➢ A block of glass is 30 cm long, 25 cm wide, and has a thickness of 2 cm. Find i2ts density if its mass is 7.5 kg.
Home Assignment	Exercise: C-6,7,8
8. Common Errors	Putting the formula in different cases and solve thye numerical.

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Class	VIII		**Subject**	PHYSICS
Prd	6	**Chapter-2**	Physical Quantities and measurement	
Sub-Concepts	Summarization of the chapter, Exercise questions.			
Teaching Aid To be used	Smart Class, PowerPoint presentation.			
Learning Outcome	Students will be able to ➢ Perform simple calculations to find density. ➢ Measure mass and volume of a variety of solids and liquids and hence determine their densities. ➢ Investigate flotation for a variety of solids and liquids in water and other liquids, and relate the results to density.			
Sl. No	**Step Wise (What to be done)**			
1. **Introduction**	**For Achievers** ➢ Recapitulate the previous topic by asking the following questions. ➢ State the law of floatation. ➢ A cork piece floats on the surface of water but iron nail sinks. Why? ➢ Distinguish between density and relative density.		**For Average** ➢ Recapitulate the previous topic by asking the following questions. ➢ State the law of floatation. ➢ A cork piece floats on the surface of water but iron nail sinks. Why? ➢ Distinguish between density and relative density.	
Exercise questions discussion	1. True/False type questions are to be discussed. 2. Fill in the blanks type questions are to be discussed. 3. Match the following type questions are to be discussed. 4. MCQ are to be discussed.			
Home Assignment	Exercise: A: 1,2,3,4			
8. Common Errors	Solving numerical problems.			