

CLASS-10  
PHYSICAL SCIENCE  
LESSON PLAN  
**CHAPTER: 05 – REFRACTION OF LIGHT AT PLANE SURFACES**

PERIOD NUMBER	CONCEPTS / TEACHING POINTS	PAGES IN TEXT BOOK		TEACHING PROCEDURE	TEACHING LEARNING MATERIAL	EVALUATION
		FROM	TO			
1.	Refraction of light	93	96	Activity	Water, Glass tumbler, Pencil, Glass rod, Coin, Metal rod, Glass tub or plastic tub, Chart, Videos related to refraction	What is meant by refraction?
	Refraction – explanation			Activity		Why the pencil kept in water seems bent?
	Fermat's formula			Conversation		What is rarer medium?
	Angle of incidence – angle of refraction			Conversation		
2.	Refractive index	96	97	Conversation	Chart, Videos related to refraction	What is relative refractive index?
	Refractive indexes of some material media			Conversation		Which is optical denser medium ?
	Affecting factors of refractive index			Conversation		Either kerosene or water?
	Relative refractive index			Conversation		What is the refractive index value of water?
<div style="border: 1px solid black; padding: 5px; display: inline-block;">           NAGA MURTHY- 9441786635            Contact at : <a href="mailto:nagamurthysir@gmail.com">nagamurthysir@gmail.com</a>            Visit at : <a href="http://ignitephysics.weebly.com">ignitephysics.weebly.com</a> </div>						

3.	Relation between angle of incidence and refraction	97	99	Lab Experiment	Plank, White chart, Protractor, Small black painted plank, semi circular glass slab, pencil, laser light	What happened when light ray travels from rarer medium to denser medium?
	Rarer media – denser media			Activity	Water tub, water, circular disc. Marker pen, scale, straw, pin, protractor	If refractive index is more then the velocity of light in that medium is ..?
4.	Refraction – Snell’s law	99	102	Conversation	Chart, Video relates to Snell’s law	What is snell’s law?
						What does snell’s law tell?
5.	Total internal reflection	102	104	Activity	Water glass, water, coin	What are the conditions for TIR?
	Critical angle			Activity	Glass bottle, Water, Dettol, Dhoop stick, Match box, Laser light	What is critical angle?
	Critical angles of rarer and denser medias			Activity	Plank, White chart, Protractor, Small black painted plank, semi circular glass slab, pencil, laser light	What is the difference between reflection and total internal reflection?

6.	Total internal reflection – Examples	104	105	Conversation	Chart, Videos related to mirages, Optical illusions	What is a mirage?
	Optical illusions - mirages			Conversation		Can we take the photograph of a mirage?
7.	Total internal reflection – applications	106	106	Conversation	Chart, Videos related, Optical fibers electrical model (Show item)	What is the refractive index of diamond?
	Brilliance of diamonds			Conversation		What are the uses of TIR?
	Optical fibers			Activity		Why the diamond shines more than a glass piece?
8.	Refraction through a glass slab	106	108	Lab Experiment	Drawing board, Chart paper, Drawing pins, Bell pins, Pencil, Scale, protractor, Glass slab,	What is meant by shift?
	Relation between angle of incidence and shift			Lab experiment		What is a glass slab?
9.	Refraction through a glass slab	108	109	Conversation	Drawing board, Chart paper, Drawing pins, Bell pins, Pencil, Scale, protractor, Glass slab, Chart	What is vertical shift?
	Finding refractive index of glass slab			Activity		What is the formula for refractive index of the glass slab?