

Chapter 12 – Reflection and Refraction

Learning Grid

Reflection and Refraction	Questions	Answers
	State the laws of reflection.	(i)
		(ii)
	Draw a diagram demonstrating how an image forms in a plane mirror.	
	Describe the type of image formed in a plane mirror. Explain why this happens.	
	What is a real image? Describe the conditions required for a real image to form.	
	What is a virtual image? Describe the conditions required for a virtual image to form.	

Reflection and Refraction	Questions	Answers	
	Define refraction.		
	Using a diagram, explain how refraction occurs. Include the terms; incident ray, refracted ray, normal, angle of incidence, angle of refraction, in your explanation.		
	State the relationship between the angle of incidence and angle of refraction when: (i) light travels from less dense to more dense; (ii) light travels from more dense to less dense.	(i)	(ii)
	State the two laws of refraction. Include an equation to explain the second law.	(i)	
		(ii)	
	What is the refractive index of a material? What does it tell us?		
	What is the equation to relate refractive index to speed of light? (HL ONLY)		

Reflection and Refraction	Questions	Answers
	What is total internal reflection? Use a diagram or series of diagrams to help with your explanation.	
	Derive the equation that relates the refractive index of a material and its critical angle.	
	Draw a ray diagram for a convex lens outlining the three rules for drawing images.	
	State the equation for images formed in a convex lens, stating what each variable stands for.	
	Draw a ray diagram for a concave lens outlining the three rules for drawing images.	