Unit Overview - OPTICS (mirrors)

Students will analyse situations in which light reflects from plane and curved mirrors.

Outcome	Reading		Practice		
	Heath	Handout	Heath	WS	Lab
identify the following on an appropriate diagram: - incident ray - reflected ray - angle of incidence - angle of reflection - normal	21.5		R #10,13 p.449		
state the law of reflection	21.5		Q #1-3 p.436		
draw ray diagrams showing how an image is produced by a plane mirror	21.6		P#1,2 p.441 P#27 p.451		
describe the characteristics of an image produced by a plane mirror	21.6		Q#1-5 p.439 R#14-19 p.450	✓	
identify any of the following on appropriate diagrams: - principal axis - vertex - centre of curvature - principal focus - radius of curvature - focal length - focal plane	22.2		R#1 p.464		
identify a curved mirror as converging (concave) or diverging (convex)	22.1	✓			
conduct an experiment to determine the focal length of a concave mirror			R#4 p.466		✓
draw accurate scale diagrams for both concave and convex mirrors to show how an image is produced	22.3 22.4		R#2,3 p.465 R#5-7 p.466	✓	
describe the characteristics of images produced by converging and diverging mirrors	22.3 22.4		Q#1-4 p.455		
describe some of the uses of plane and curved mirrors	21.7 22.6		R#25 p.451 R#8,9 p.467		

Unit Overview - OPTICS (lenses)

Students will analyse situations in which light is refracted.

Outcome	Reading		Practice		
	Heath	Handout	Heath	WS	Lab
define index of refraction	23.2	✓	Practice #1,2 p.472 Review #5,6,7,9 p.490	✓	
identify the following on an appropriate diagram: - incident ray - normal - refracted ray - reflected ray - angle of incidence - angle of reflection	23.1		Review #1,2 p.489		
solve problems using Snell's law, involving: - index of refraction - angle of incidence - angle of reflection	23.3 23.4		Questions #1-6 p.471 Practice #1-3 p.474 Practice #1,2 p.481 Review #3,4,8,9 p.490 Review #11-18,23 p.491	✓	
define critical angle and total internal reflection	23.5	✓			
solve problems involving total internal reflection			Practice #1-3 p.479 Review #20-22,24,25 p.492	✓	
identify any of the following from an appropriate diagram: - principal axis - principal focus - focal length - focal plane	24.3		Review #1 p.508		
identify a lens as: converging (convex) or diverging (concave)	24.1 24.2		Review #2,3 p.508		
conduct an experiment to determine the focal length of a convex lens					✓
draw accurate scale diagrams for both convex and concave lenses to show how an image is produced	24.4 24.5		Review #4,5,7-10 p.508	✓	
describe the characteristics of images produced by converging and diverging lenses	24.4 24.5		Review #6 p.508	✓	
give examples of common devices that refract light	23.8 24.6 24.8 24.9		Review #12,13 p.509		