

Unit 17 Plan: **Reflection and Refraction**
 Physics1 @ PalmHarborUniversityHigh



Day	Date	Topic	Assignments Due / Schedule
1		Plane Mirrors CW# 1: 1-5, p. 460; 6-9 p. 463	
2		Plane Mirrors Lab	HW#1: 53,54,56,57,58 p. 479
3		Concave Mirrors CW# 2: 13-16, p. 469	
4		Convex Mirrors CW# 3: 18-21, p. 472	HW#2: 61-66, 75, 76 p. 479
5		Snell's Law CW# 4: 1-5, p. 487	
6		Convex / Concave Lenses CW# 5: 15,16,17,19,20,23 p. 496	TBA
7		Lenses Lab	TBA
8		Review	
9		Last Test ?	

Note: Homework is due on the day following the assignment, unless otherwise noted.

Objectives / Essential Learnings: (key terms in **bold**)

1. Understand the ray model of light.
2. State the law of reflection of light.
3. Locate the images formed by plane mirrors. Explain how concave and convex mirrors form images.
4. Describe properties and uses of spherical mirrors. Determine the locations and sizes of spherical mirror images.
5. Define refraction of light and be able to predict which way light will bend in reference to the normal.
6. State Snell's Law and be able to solve problems involving refraction.
7. Explain total internal reflection and be able to solve for critical angle.
8. Describe how real and virtual images are formed by single convex and concave lenses.
9. Locate images formed by lenses using ray tracing and equations.

$$c = \lambda f \quad c = 3.00 \times 10^8 \text{ m/s} \quad \theta_r = \theta_i \quad n = \frac{c}{v} \quad \frac{1}{f} = \frac{1}{d_i} + \frac{1}{d_o}$$

$$m = \frac{h_i}{h_o} = \frac{-d_i}{d_o} \quad \sin \theta_c = \frac{n_2}{n_1} \quad n_1 \sin \theta_1 = n_2 \sin \theta_2$$