



LASER-TEC

LASER & FIBER OPTICS REGIONAL CENTER
A NATIONAL SCIENCE FOUNDATION ADVANCED TECHNOLOGICAL CENTER OF EXCELLENCE

PREPARATION MATERIAL FOR LASER-TEC STEM EDUCATOR WORKSHOP PARTICIPANTS

Part 1. Light fundamentals. Light as a ray	
Reading Materials	Video Materials
Chapter 1. The Path of Light http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/lightpath/lightpath.shtml	1. Finding the Speed of Red light in Optical Grade Plastic Prism: http://optecvideo.opteccrm.org/lab-videos/1-1A/1-1A.html
Chapter 3. The Reflection of Light. <ol style="list-style-type: none"> http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/reflection/reflection.shtml http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/refraction/refraction.shtml http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/refraction/refraction2.shtml 	1. Refraction tutorial: http://optecvideo.opteccrm.org/mini-tutorial-videos/1-1a/refraction.html 2. The Law of Reflection: http://optecvideo.opteccrm.org/lab-videos/1-4C/1-4C.html 3. Total Internal Reflection: http://optecvideo.opteccrm.org/mini-tutorial-videos/1-4a/total-internal-reflection.html
Chapter 7. Color and Light. http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/color/color.shtml	1. The Spectrum of Colored Light: http://optecvideo.opteccrm.org/lab-videos/index.html
Chapter 9. The Composition of Color. http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/color/composition.shtml	
Part 2. Laser fundamentals. Light as a wave.	
Reading Materials	Video Materials
Chapter 14. Color, Thin Film, and Interference or Wave Optics. http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/interfere/interfere.shtml	1. Diffraction http://optecvideo.opteccrm.org/mini-tutorial-videos/1-5a/diffraction.html 2. Measuring Laser Wavelength: http://optecvideo.opteccrm.org/lab-videos/1-1B/1-1B.html
Chapter 15. Polarized Light: http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/polarize/polarize.shtml	1. Polarization of Light: http://optecvideo.opteccrm.org/lab-videos/1-1D/1-1D.html
Chapter 10. Lasers http://www.asu.edu/courses/phs208/patternsb/PiN/rdg/lasers/lasers.shtml	1. Laser Operation Fundamentals: Metastable States and Stimulated Emission: http://optecvideo.opteccrm.org/mini-tutorial-videos/1-6a/stimulated_emission.html 2. Laser Hazards: http://optecvideo.opteccrm.org/mini-tutorial-videos/1-3a/laser-hazards.html