Light Research Guide

A. Electromagnetic Wave Spectrum – _____

The Electromagnetic Spectrum White the contract of the contra										
	∢ 1	1 - 10-3	10 ⁻³ — 10 ⁻⁶	8x10 ⁻⁷ 4x10 ⁻⁷	3 x 10 ⁻⁷ 10 ⁻⁸	10-8_ 10-12				
	About the size	ze of:	3		a Constitution	Wa	velength in meters			
l	Buildings	Grains of Sugar	Protozoans	Bacteria	Molecules	Atoms	Atomic Nuclei			

M E E		-		O S	1	41
Buildings	Grains of Sugar	Protozoans	Bacteria	Molecules	Atoms	Atomic Nuclei
Short Wavelength	s are 10 ⁻¹² me	ters long (0.0	0000000001	meter) and long	wavelength	are 10 meters
3. How does light	act like a parti	cle?				
How does light ac	t like a wave?					
Photon –						
Speed of Light in a						
C. A.Meyes To Dree	d 1 :					
C. <u>4 Ways To Proc</u>						
ncandescence – ₋ 						
-luorescent –						
Passing Electricity	Through a G	as (ie Neon) –				
Chemical Reaction	ns —					
D. Draw pictures	of the things	light oon do v	whon it hito a	matarial		
J. Diaw pictures	or the things	light can do v	viieii il iilis a	materiai		
transmission	Refraction	n	diffusion	reflection	on	absorption
						T
						1
						1
E. Three Types of	Material - (an	d what thev d	o to light whe	n light hits them	1)	
Francosont	`	,	ŭ	-	•	

Translucent – _____

Opaque – _____

List the colors on the line below from shortest wavelength to longest wavelengths Short Wavelength –(.0000004 meters) High Frequency – (800,000,000,000,000 hz) What happens when we see white? What happens when we see black? _____ What happens when we see a particular color? G. Three Devices that Change Light Convex (draw) Concave (draw) Lens – Mirror – LASER stands for Α S Ε R 3 things that make LASER light special Monochromatic-Coherent – _____ Travels in a Plane Wave Front – _____ **Waves and Sound** (use the internet for some of these) Two kinds of waves: Transverse waves: Longitudinal (compression waves): Use the internet to label the diagram with the words in the box: crest trough wavelength amplitude Speed of sound in air: Pitch: _____ Amplitude: Reverberation: Uses for sound waves:

F. Seven Colors of the Rainbow– called the Visible Light Spectrum