Name:_____ Date:_____ Period:____

Ch.25 Graphic Organizer: The EMS and Light

What are Electromagnetic Waves?

What kind of waves are they?	
What do they carry from place to place?	
How are they different from *Mechanical Waves*?	
Medium	Do they need a medium? _____ Can they travel through a medium? _____ Can they travel through a vacuum? _____ Light is fastest through: _____ Light is slowest through: _____
Speed of Light	Speed in a vacuum: _____ How do we know? _____
How are Speed, Wavelength, and Frequency Related?	
Wave or Particle	Wave Model Evidence: _____ Particle Model Evidence: Photons - Photoelectric effect -
Intensity	

The Electromagnetic Spectrum

Wave Type	Details / Facts	Misc Information
Radio Waves	Frequency: _____ Wavelength: _____ Examples: _____ *Microwaves:* _____	AM- _____ FM- _____ Radar- _____
Infrared Rays	Frequency: _____ Wavelength: _____ Examples: _____	Thermographs- _____
Visible Light	Frequency: _____ Wavelength: _____ Examples: _____	R- _____ O- _____ Y- _____ G- _____ B- _____ V- _____
Ultraviolet Rays	Frequency: _____ Wavelength: _____ Examples: _____	
X-Rays	Frequency: _____ Wavelength: _____ Examples: _____	
Gamma Rays	Frequency: _____ Wavelength: _____ Examples: _____	

Behavior of Light

Describe how light interacts with materials that fall into the following categories:

Transparent	Translucent	Opaque
Examples:	Examples:	Examples:

Interactions of Light…

Reflected	Absorbed	Transmitted
What is regular reflection?	What is absorption?	What is transmission?
On opaque materials, what color(s) is/are reflected?	On opaque materials, what color(s) is/are absorbed?	On opaque materials, what color(s) transmit?
	Transparent colored materials, what color(s) is/are absorbed?	Transparent colored materials, what color(s) transmit?
What is diffuse reflection?		Scattered Light:
		Refraction: (Mirage)
Compare the angle of incidence and the angle of reflection:		Polarized Light: