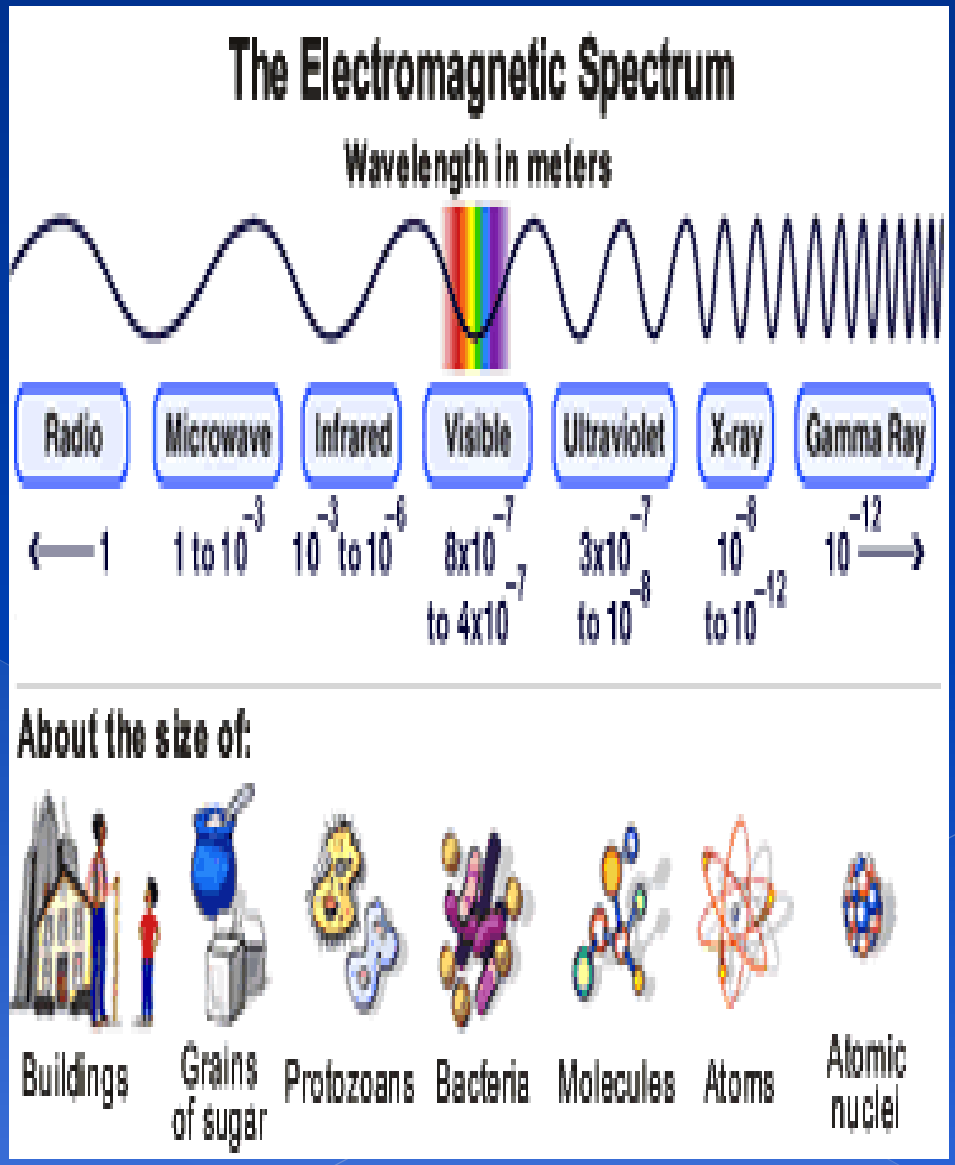
Electromagnetic Radiation

- EM radiation is energy traveling as EM waves.
- Waves can be described by the wavelength or frequency.
- The amount of energy carried by EM radiation depends on both the wavelength & the amount of radiation at the wavelength.
- The EM Spectrum is made up of all the different wave lengths & frequencies.
- From longest to shortest wavelength & frequency it includes: Radio, Microwave, Infrared, Visible Light, Ultraviolet, X-Rays, & Gamma Rays.



What Can be Learned

- Visible light allows us to see the surface of planets & how other objects might look.
- Different types of radiation can produce images not visible to the eye.
- Infrared can reveal the temperatures of objects, and can also see through the dust clouds in space.
- High energy objects can be very bright in x-ray or gamma-ray radiation, but more difficult to see at longer wavelengths.

Detecting EM Radiation from Space

- Visible light from the sun, moon, planets, & stars can be detected by the human eye.
- All other forms of electromagnetic radiation from space can be collected by telescopes.
- Special detectors must be used to form images from radiation other than visible light.
- Scientists use optical & non-optical telescopes to detect EM radiation & produce images.