Warm Up

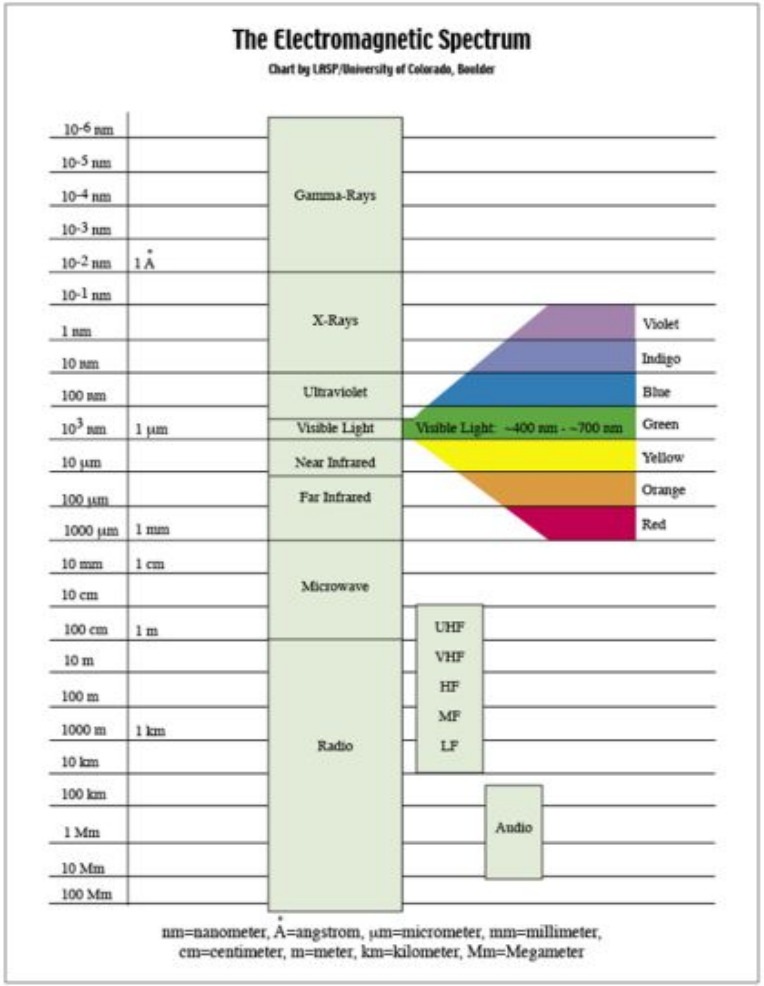
1. If a force of 71.0 N is applied over a time of 47.0 sec, how fast will a 55.0 kg object move?
2. What is the velocity of a wave that has a wavelength of 76.0 m and a period of 70.0 sec?
3. How fast will a car be going if it accelerated at 7.30 m/s^2 over a distance of 151 m from an initial velocity of 1.50 m/s?
4. What is the gravitational force of attraction between two objects with the first at 918 kg and the second at 388 kg if they are 58.0 cm apart from each other?
5. What will be the recoil of a 75.0 kg person if they pushed off an 85.0 kg person who moved at 3.30 m/s?

Target

- I can identify the parts of the electromagnetic spectrum.

Electromagnetic Spectrum

- William Herschel (1738-1822) discovered that light can be broken into the spectrum of colors.
- He decided that the spectrum included other waves that he could not see.
- The full range of frequencies of EM radiation is called the electromagnetic spectrum.



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Radio

- Radio has the longest wavelength, from 1 mm to thousands of kilometers.
- Radio waves are used in radio and TV technologies, as well as microwaves.
- Microwaves heat up objects because it causes the water molecules to move.

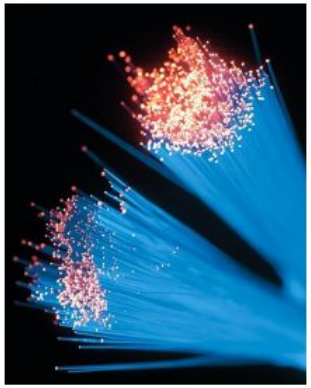
Infrared

- Infrared vary from 1 mm to about 750 nanometers.
- Infrared is used as a source of heat and to discover areas of heat difference.

Cody.pope/wikipedia

Visible Light

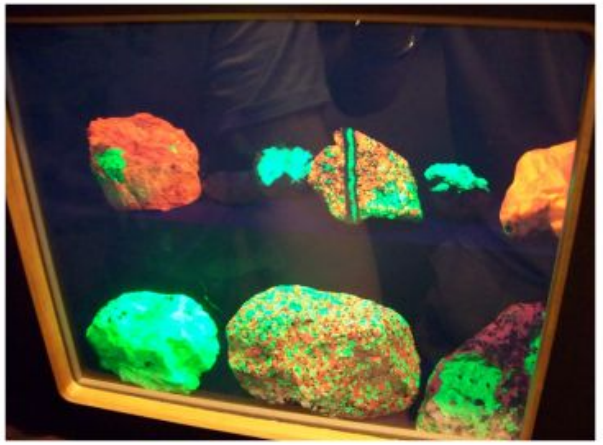
- This is the spectrum that we see in.
- It is the smallest range in wavelength, from 750 nm to 400 nm.
- This is used for communication such as fiber optics.



http://blog.travelpod.com/travel-photo/simonv/1/1233798720/fiber-optic-cable-in-action.jpg/tpod.html

Ultraviolet

- The wavelength is from 400 nm to about 4 nm.
- It is used in health, medicine, and agriculture.
- This is the type of radiation that causes tans and could lead to skin cancer.



X-Rays

- The wavelength is from 12 nm to about 0.005 nm.
- X-rays travel at higher frequencies and have more energy.
- This allows them to penetrate through soft objects such as the skin.
- Used in medicine and transportation.

Meddean.luc.edu

Gamma Rays

- Wavelength is between 0.005 nm and less.
- Has the highest frequency and thus the highest energy of the spectrum.
- Can be produced by radioactive material or stars.
- Used in medicine to help kill cancer cells and in PET scans.
- Overexposure can be deadly.

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