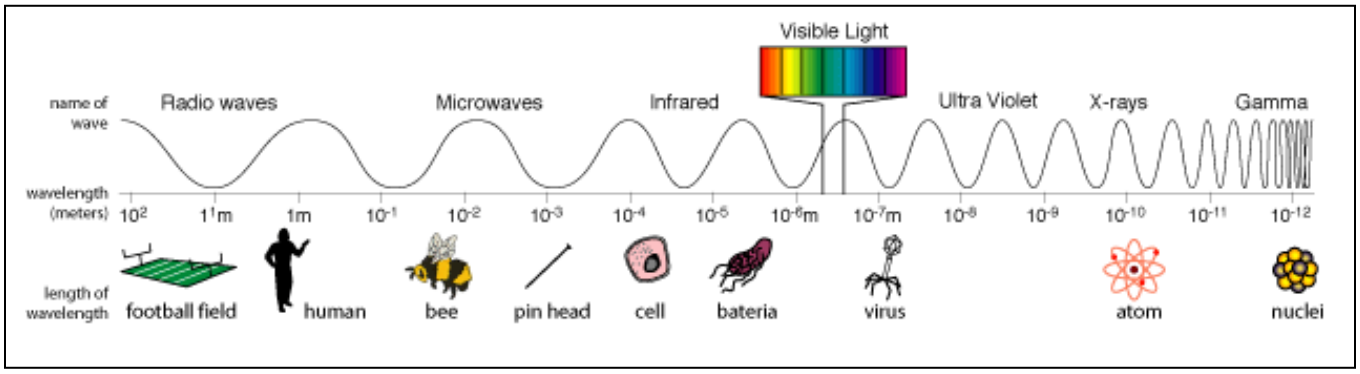
Stars in the Sky Outline Notes – Lesson 3

EM Spectrum and HR Diagram

EM Wavelengths:



- Different wavelengths of the _____ _____ are used to gain _____ about the _____ , _____ and _____ of components of the _____ .

Radio Waves:

- Can carry _____
- Radio waves help to _____ , such as clouds of gas
- Many astronomical objects emit _____
- Radio telescopes –
- Also used to determine –

X-Rays and Gamma Rays and the Universe:

- Many things in space emit _____, among them are _____, neutron stars, binary _____, supernova remnants, _____, the _____, and even some comets!
- This radiation has such _____ that specially made, angled _____ must be used to help collect this type of light.
- High-energy observations also allow us to study the _____ of the Sun's _____

Infrared Rays and the Universe:

- _____, like the Infrared Astronomy Satellite (IRAS) look up into _____ and measure the _____ coming from things like large clouds of dust and gas, _____, and _____
- Infrared shows us -

Spectral Analysis

Spectrographs –

Chemical Composition –

- Chemical elements _____
- Each element _____, and each absorbed wavelength _____
- By comparing a _____ with the known _____ of different elements, we can determine which elements are found in stars (the most common element in stars? _____)

Temperatures –

- Stars at different temperatures produce _____
- Astronomers can use line spectrums _____

The Hertzsprung-Russell Diagram (HR Diagrams)

- Ejnar Hertzsprung and Henry Norris Russell created graphs to show a relationship between the _____
- Two of the most important characteristics of stars are _____ and absolute _____
- Most stars form a diagonal band called the _____
    - In the main sequence, _____ increases as brightness increases
- Horizontal axis –
- Vertical axis –
- The sun –

Simplified HR Diagram