Chapter 25.1

Properties of Stars

Part 1

Characteristics of Stars

- A _____is an _____ group of _____originally named for _____characters. The sky contains_____ _____.

- We will discuss the following _____ of _____.
    - 1. Color/_____
    - 2. _____
    - 3. _____
    - 4. _____

Star Color and Temperature

- _____ is a _____ to stars _____.
- _____ stars with a surface _____ of at least _____ are _____.
- _____ hot stars with _____ of 5000K-6000K are _____ like our _____.
-

Binary Stars

- Sometimes
- When _____ stars _____ each _____ they are called _____ _____.
- A _____ _____is one of two _____ revolving _____a common _____ of _____ under their mutual _____attraction.
- _____ than _____ of the _____ in our _____ occur in _____ or multiples.

Star Mass

- _____ _____are used to _____ the _____ property most _____ to calculate—its _____.

- If the size of the _____ orbits are known, the stars' _____ can be determined.

Stars Distance from Earth

- _____ is the slight _____ of the _____ position of a _____ due to the _____ motion of _____.

- The nearest stars have the largest _____ _____, while those of distant stars are too small to measure.

- A **light-year** is the distance light travels in a _____, about 9.5 _____ kilometers. Light-years are used to measure _____ in _____.

Stellar Brightness

- _____ *magnitude* is the _____ of a _____ when _____ from _____.

- _____ factors _____ the _____ brightness of a _____ as seen from _____.
    - how _____ it is
    - how _____ it is
    - how far _____ away it is

- _____ ***magnitude*** is the _____ brightness of a _____ if it were _____ from a _____ of _____ light-_____.

Hertzsprung-Russell Diagram

- A Hertzsprung-_____ diagram _____ the _____ between the _____ magnitude and _____ of _____.
- A *main-sequence star* is a star that _____ into the main sequence category on the H-R diagram.

- This _____ contains the _____ of _____ and runs _____ from the _____ left to the _____ right on the _____ _____.

H-R Diagrams and Stellar Evolution

- H-R diagrams have been helpful in formulating and _____ models of stellar evolution.

- They are also _____ for _____ the changes that take _____ in an _____ star during its _____ span.
- A _____ giant is a _____, _____ star of _____ luminosity; it _____ the _____-right portion of the _____ diagram.
- A supergiant is a very large, cool _____ of _____ luminosity; it occupies the upper-right portion of the H-R diagram.

Variable Stars

- *Variable stars*
- A *Cepheid* _____is a _____ whose _____ varies _____ because it _____ and _____; it is a type of _____ star.
- A _____ is a star that _____ increases in brightness.

Interstellar Matter

- *Interstellar Matter-* The _____ between stars.

- A *nebula* is a cloud of _____ and/or _____ in space.

- There are _____major _____ of _____:
1. _____ _____
    - ❑ *Emission nebula*-made of _____ and emits florescent light.

    - ❑ *Reflection nebula*-made of _____ and reflects light from nearby stars.

2. _____ _____-Not _____enough to a _____ to be _____ up.