**Guided Notes: Star Types**

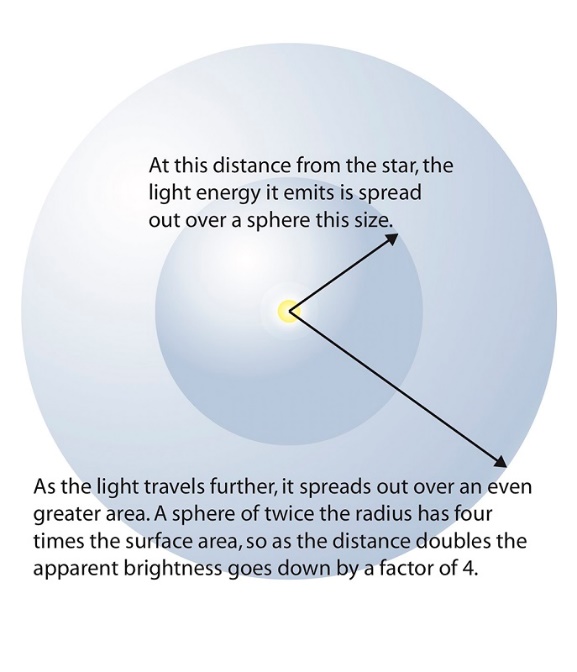
On a clear, dark night, thousands of stars are visible in the sky. There are slight \_\_\_\_\_\_\_\_\_\_\_\_\_\_, but they all look very much like \_\_\_\_\_\_\_\_\_\_\_\_\_\_ points of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Yet they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ bodies, often many times larger than the \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Because stars are not all alike, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ have found ways to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ them.

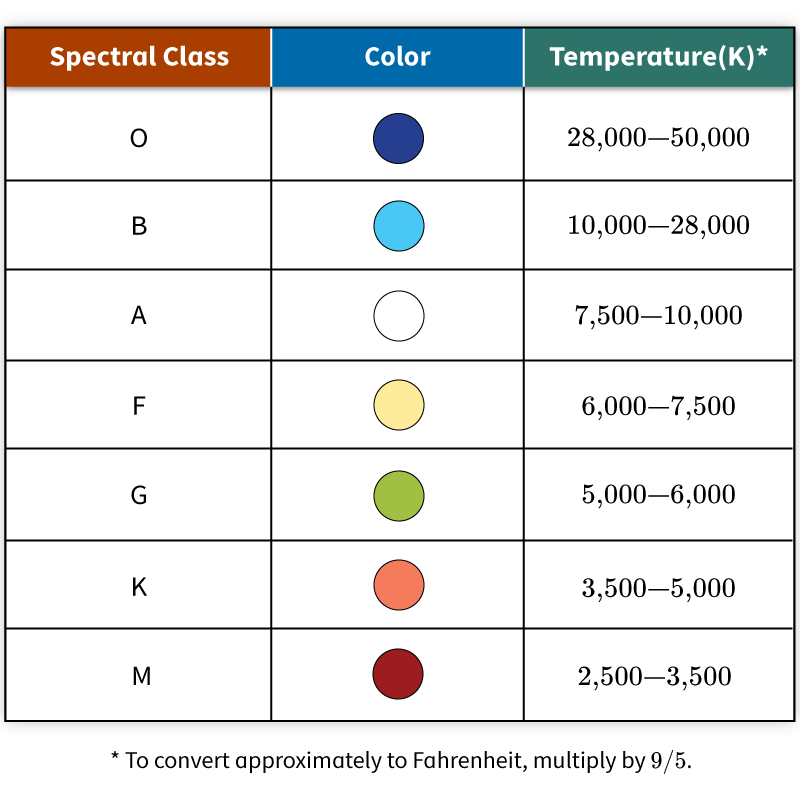
**Key Terms:**

* Define apparent magnitude: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Define absolute magnitude: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Define electromagnetic radiation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Define spectroscopy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Define spectral lines: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Define spectrograph: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Define light spectrum: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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* Define luminosity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

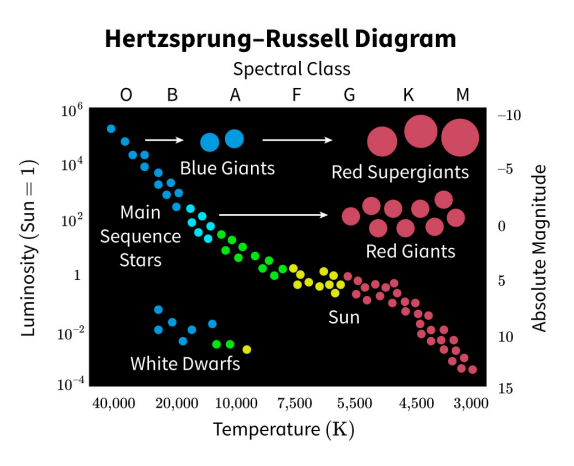
**Key Concepts:**



* An important \_\_\_\_\_\_\_\_\_\_\_\_\_\_ characteristic of stars is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* All stars except the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are so far away from Earth that many seem \_\_\_\_\_\_\_\_\_\_\_\_\_\_ bright in the night sky.
* Astronomers call this measure of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ apparent \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* It is independent of the star’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Even a dim \_\_\_\_\_\_\_\_\_\_\_\_\_\_ can appear \_\_\_\_\_\_\_\_\_\_\_\_\_\_ compared to a much \_\_\_\_\_\_\_\_\_\_\_\_\_\_ star if the brighter star is much \_\_\_\_\_\_\_\_\_\_\_\_\_\_ away.



* Astronomers classify stars by their \_\_\_\_\_\_\_\_\_\_\_\_\_\_ class.
* The spectral class of a star is dependent upon its \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Class M) and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Class K), while the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Class O and Class B).
* Each spectral class is then subdivided, 0 to 9.
* The higher the \_\_\_\_\_\_\_\_\_\_\_\_\_\_, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the star within that category.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a Class \_\_\_\_\_\_\_\_\_\_\_\_\_\_ yellow star, composed primarily of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.



* The H-R Diagram shows the relationship between star \_\_\_\_\_\_\_\_\_\_\_\_\_\_, such as \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (how bright a star is) and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Luminosity is plotted on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_, with \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars at the top.
* Temperature (Kelvin scale) is plotted on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_, with \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars on the left.
* The Diagram shows that the stars fall into four \_\_\_\_\_\_\_\_\_\_\_\_\_\_:
  + Main \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars, such as our sun, are the most common. They are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars using \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in fusion reactions to create \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are cool stars that have high \_\_\_\_\_\_\_\_\_\_\_\_\_\_ because they are large. Main sequence stars that use up their \_\_\_\_\_\_\_\_\_\_\_\_\_\_ fuel can become giants or \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are smaller than supergiants but hotter, giving them only slightly less \_\_\_\_\_\_\_\_\_\_\_\_\_\_ than supergiants.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_ dwarfs are hot but have low \_\_\_\_\_\_\_\_\_\_\_\_\_\_ because they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_. These are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cores of old stars that have thrown off their \_\_\_\_\_\_\_\_\_\_\_\_\_\_ layers.
* Astronomers can study exactly how the objects \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ electromagnetic radiation to learn more about them.
* They can use a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to break up the electromagnetic \_\_\_\_\_\_\_\_\_\_\_\_\_\_ into component colors.
* Stars also have light \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Astronomers use data from light \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of stars to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars.
* The light spectrum of a star allows astronomers to learn about what a star is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of, its \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Astronomers can also estimate the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a star from its \_\_\_\_\_\_\_\_\_\_\_\_\_\_ spectrum.