**Guided Notes: Stars and Constellations**

 Astronomers first understood that the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the night \_\_\_\_\_\_\_\_\_\_\_\_\_\_ were like our \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ century, after the invention of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the discovery of the laws of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

In the nineteenth century, the use of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ allowed astronomers to understand the \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and life \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of stars. Today, astronomers learn about the invisible \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that comes from stars by using radio \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that gather \_\_\_\_\_\_\_\_\_\_\_\_\_\_ data.

**Key Terms:**

* Define constellation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Define plasma: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Key Concepts:**

* Characteristics of stars include things like \_\_\_\_\_\_\_\_\_\_\_\_\_\_, size, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and brightness.
* Stars are mostly made up of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and hydrogen, but they do contain small amounts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ elements as well.
* Stars are giant, spherical collections of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that generate \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ because of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ reactions taking place within them.
* Small \_\_\_\_\_\_\_\_\_\_\_\_\_\_ fuse together to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_ elements inside stars—a process that releases large quantities of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* This means that the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that makes up all living things on Earth was formed inside \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars forming today include higher \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ elements than stars that formed when the universe was \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Stars differ in their \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, surface \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (size), \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ field strength, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (elements above helium within the star).
* Astronomers often compare stars to our \_\_\_\_\_\_\_\_\_\_\_\_\_\_. For example, the masses of other stars are given in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ masses. Alpha Centauri is 1.08 solar masses. Betelgeuse, one of the brightest stars in the night sky, is approximately 20 solar masses.
* There are 88 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ recognized by the International \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Union (IAU) in the night sky.
* As more advanced \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ capture images of the night sky, more and more stars fill the pictures—so many that finding the shapes made by constellations becomes more difficult!
* So, the IAU defines \_\_\_\_\_\_\_\_\_\_\_\_\_\_ by their \_\_\_\_\_\_\_\_\_\_\_\_\_\_, not the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ made by their star \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Astronomers indicate the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of newly discovered stars using the constellation \_\_\_\_\_\_\_\_\_\_\_\_\_\_ within which they are found.
* This is particularly helpful for \_\_\_\_\_\_\_\_\_\_\_\_\_\_ stars, which \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ instead of shining \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Many of the constellations recognized by the IAU were named by the ancient \_\_\_\_\_\_\_\_\_\_\_\_\_\_, who learned about constellations from the ancient \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.