**GPS – Stars Mini-Lesson notes**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| ***Bellwork*** | |
|  | 1. Describe 3 things you already know about stars. |
| 1. **What are stars?**    1. A star is a large mass that is composed of hot \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that emits \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; the sun is a typical star.    2. The Sun, our closest star, is 93 million miles from Earth.   ( \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kilometers)   * 1. The next closest star is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   2. By mass, the Sun is \_\_\_\_\_\_ % Hydrogen, \_\_\_\_\_% helium and the rest heavier elements. This is similar to the composition of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   3. The Sun is about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ years old.  1. **Sun’s Energy**   a. The Sun, like all stars, are driven by nuclear fusion reactions.  b. The core of a star is extremely \_\_\_\_\_\_\_, extremely \_\_\_\_\_\_\_\_\_\_, and under extreme \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  c. Nuclear \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ takes place in the core of a star.  d. The Sun’s nuclear fusion combines the nuclei of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ atoms to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ atoms.   1. **Stellar equilibrium** 🡪 The Sun is in stellar equilibrium. The inward force of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is balanced by the outward force of \_\_\_\_\_\_\_\_\_\_\_ pressure caused by the Sun’s high core Temperature.      1. ***What is a light-year?***   A light-year is how astronomers measure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in space. It’s defined by how far a beam of \_\_\_\_\_\_\_\_\_\_\_\_\_ travels in one-year—a distance of six trillion miles!   1. H-R Diagram (Hertzsprung-Russell) | |
| |  |  | | --- | --- | | **Nebula** |  | |  | | **ProtoStar** |  | |  | | **Main Sequence** |  | |  | | **Giants** |  | |  | | **Super Nova** |  | |  | | **White Dwarf** |  | |  | | **Black Dwarf** |  | |  | | **Neutron Star** |  | |  | | **Black Hole** |  | |  | | |

1. **Draw the Life Cycle of our Sun.**

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1. **Draw the Life Cycle of a Massive Star.**

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1. **Use the following terms to complete the following: White Dwarfs, Main sequence, Red giants.**

