**GPS – Stars Mini-Lesson notes**

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

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| ***Bellwork*** |
|  | 1. Describe 3 things you already know about stars.
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| 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)

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| **Nebula** |  |
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| **ProtoStar** |  |
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| **Main Sequence** |  |
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| **Giants** |  |
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| **Super Nova** |  |
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| **White Dwarf** |  |
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| **Black Dwarf** |  |
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| **Neutron Star** |  |
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| **Black Hole** |  |
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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.**

