**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ #12**

**Unit E Chapter 4: Stars, Galaxies and the Universe**

**Part 1: Vocabulary**

|  |  |
| --- | --- |
| **Fusion** |  |
| **Convection** |  |
| **Corona** |  |
| **Sunspot** |  |
| **Solar Wind** |  |
| **Light-Year** |  |
| **Parallax** |  |
| **Nebula** |  |
| **Main Sequence** |  |
| **Neutron Star** |  |
| **Black Hole** |  |
| **Quasar** |  |
| **Doppler Effect** |  |
| **Big Bang** |  |

**Part 2 – Guided Questions**

**Section 4.1 (Pages E115-E119)**

1. **How does the Sun produce energy?**
2. **How does energy move from the Sun’s core to the photosphere?**
3. **How does the solar wind normally effect Earth?**
4. **Analyze. Why is the core the only layer of the Sun where energy is produced?**
5. **Compare and Contrast. Make a diagram comparing sunspots, flares, and prominences.**
6. **Infer. A communication satellite stops working while in orbit, and a surge in an electric power line causes blackouts in cities across a large region. What probably happened in the Sun’s atmosphere shortly before these events?**

**Section 4.2 (Pages E122-E128)**

1. **Why must astronomers figure out a star’s distance to calculate its actual brightness?**
2. **How are color and temperature related in stars?**
3. **How does a star’s mass affect its life cycle?**
4. **Analyze. Some of the brightest starts are red supergiants. How can stars with cooler red surfaces be so bright?**
5. **Infer. Will the Sun eventually become a black hole? Why or why not?**
6. **Infer. At what stage in the life cycle of the Sun will it be impossible for life to exist on Earth. Explain.**