Name: \_\_\_**Answer Key**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd.\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Stars and Planets Study Guide for Quiz**

1. **Explain the role mass plays in the life and death of a star.**

**Mass determines how long a star “lives” and what it will become when it “dies”**

* **Remember: In general the further the star is through its life cycle, the larger the star becomes**

1. **What is the life cycle pathway for a:** 
   1. **Low-Mass Star**

**The low mass star will nova and form a black dwarf**

* 1. **Very High-Mass Star**

**The very high mass star will supernova and form a black hole**

1. **Explain the purpose of a Hertzsprung Russell Diagram.** 
   1. **What does it tell us?**

**The HR Diagram plots the brightness (luminosity) and surface temperature of a star. It indicates where stars are in their life cycle based on their location on the diagram. Larger stars burn through fuel faster than smaller stars, so you can’t tell age because larger stars may be younger.**

* 1. **What doesn’t it tell us?   
     Age of a star**
  2. **Why do scientists use them?**
  + **Absolute magnitude allows for brightness comparison between stars**
  + **To determine how far a star is through its life cycle**

1. **Contrast the inner and outer planets**

|  |  |  |
| --- | --- | --- |
|  | **inner planets** | **outer planets** |
| **size** | **Smaller** | **Larger** |
| **spatial relationship to one another** | **Close together** | **Spread apart** |
| **type of planet** | **Terrestrial** | **Gas Giants** |

1. **What role does gravity play in the formation of the inner and outer planets?**

**The gravitational pull from the sun pulls inner planets close together because they are closer to the sun and therefore more gravity is pulling on them. The outer planets are further away from the sun and since there is less gravitational pull, the outer planets are more spread out.**