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

Study Guide

Name: Class: Date:

**Extra Question:**

Define the electromagnetic spectrum.

**Ch. 4.2 The Scale of the Universe**

1. Define light-year.
2. Define scientific notation.

**Ch. 4.3 Characteristics of Stars**

1. What characteristics are used to classify stars?

 (Distance is NOT one of the characteristics.)

2. What color stars are the coolest?

1. What does the H-R Diagram indicate about main sequence stars?
2. You do not need to KNOW the H-R diagram—only how to interpret it. There will be the diagram on the test. Example: What is similar between our sun and Alpha Centauri A? Or, name a bright, red star.
3. On what does the absolute brightness of a star depend?

**Ch. 4.4 Lives of Stars**

1. What factor determines the lifetime of a star?
2. Depending on its mass, the lifetime of a star ranges from

 to .

1. What events lead to the formation of a star?

1. What is gravity’s role in the formation of a star?

1. A star’s life span depends on what?
2. A supernova is the explosion of what size star?
3. What determines if a star will form a black hole when it dies?
4. How does a neutron star form?

**Ch. 4.5 Star Systems and Galaxies**

1. What is the primary difference between an elliptical galaxy and a spiral galaxy?

1. What is the name of our galaxy and why is it name that?

1. Our galaxy is an example of what type of galaxy?
2. Define irregular galaxy.
3. Which galaxy has a pinwheel shape?

**Ch. 4.6 The Expanding Universe**

1. State Hubble’s Law.
2. What are the four pieces of evidence supporting the Big Bang Theory?