**SPACE SYSTEMS STUDY GUIDE**

**Big Bang-Origin of the Universe**

1. Describe the Big Bang theory?
2. What is the age of the universe?
3. Describe the evidence for the Big Bang Theory.
4. What was Hubble’s evidence that the universe is expanding?
5. A galaxy that is moving away from Earth will show what color in the light spectrum?



 Red Blue

1. In red shift, the wavelengths of light become \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (shorter or longer)
2. Describe Einstein’s theory on the relationship between mass and space.
3. How does Hubble’s Law relate speed and distance of a galaxy?
4. Describe the Milky Way galaxy.

**Life Cycle of a Star**

1. What do all stars start as?

1. Explain why our sun appears larger than other stars.
2. What is a light year?
3. What is the relationship between temperature and color of a star?
4. The hotter the star, the \_\_\_\_\_\_\_\_\_\_\_\_\_ the color.
5. How can scientists learn about the elements in stars?
6. How do scientists know what our sun is made of?
7. In the life cycle of stars, what phase will the sun be when it uses up its hydrogen fuel?
8. In the life cycle of stars, what phase will the sun end up as?
9. Why do massive star have shorter life spans than average stars?
10. In what phase of a star’s life cycle will heavier elements form?
11. What stage is where a massive star explodes and releases a lot of energy?
12. What stage are most stars?
13. During which phase does the core of a massive star have so much gravity that even light can not escape?