Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**WHAT ARE STARS?**

1. Explain why our sun appears larger than other stars.
2. What is a light-year?

**WHAT AFFECTS THE BRIGHTNESS OF A STAR?**

1. What are three factors that affect how bright a star appears?

**HOW DO SCIENTISTS STUDY DISTANT STARS?**

1. What are two ways that energy can move through a star?
2. How do scientists learn about stars that are very far away?
3. How can a telescope in spare be more useful to a scientist than one on the ground?
4. How do scientist determine the temperature of a star?
5. What is the relationship between temperature and color of a star?
6. Our sun gives off mostly yellow light. What does that say about the temperature of our sun?
7. A scientist observes two stars. One looks dim and red. The other looks brighter and yellow. Which star is probably hotter? Explain your answer.
8. The hotter the star, the \_\_\_\_\_\_\_\_\_\_\_\_\_ the color.
9. How can scientists learn about the elements in stars?
10. How do scientists know what our sun is made of?

**HOW DO STARS FORM AND CHANGE**

1. In the lifecycle of stars, what phase is our sun?
2. At the end of its life cycle, what phase will the sun end up as?
3. Why do massive stars have shorter life spans than average stars?
4. In what phase of a star’s life cycle will heavier elements form?
5. What stage is where a massive star explodes and releases a lot of energy?
6. During which phase does the core of a massive star have so much gravity that even light can not escape?
7. How can astronomers detect black holes?