

Nebular Theory Test Review

Earth Science Standards 1.3 and 1.4

Name: _____ Date: _____ Period: _____

1. According to the Nebular Theory, how did the stars and planets form (explain step-by-step)?
2. How do heavy elements, such as Carbon and Iron, form from light elements such as Hydrogen and Helium?
3. What is a supernova, and why do the heaviest elements, such as gold, only form in supernovas?
4. Why did people used to think that the Earth was the center of the solar system?
5. Describe the difference between the 4 inner planets and the 4 outer planets in our solar system. Why are they so different from each other? What role did solar wind from the sun play in this process?
6. According to the Hertzsprung-Russell Diagram, what group of stars does our Sun belong in? What is the main element currently fusing in the sun?
7. What type of star will our Sun become next? What will be the main element fusing then?
8. What is red shift and why is it important to astronomers?
9. What happens to the elements in a star as the star gets older?

Use the table below to answer the next two questions.

1	2	3	4	5	6	7	8	9	10
H	He	Li	Be	B	C	N	O	F	Ne

10. What will the fusion of two Li (Lithium) atoms produce?
11. What will the fusion of one C (Carbon) atom and one Be (Beryllium) atom produce?
12. According to the Hertzsprung-Russell diagram, which colors of stars are the coldest and which are the hottest?
13. Why are some stars bigger and brighter than other stars?
14. In a scale model of the solar system, if the sun is 620 mm in diameter and has an actual diameter of 1,392,000 km, what is the value of the constant you would need to calculate the size and distances of the planets in the solar system?
15. Using the value of the constant above, and the actual distance of the **Earth** from the Sun (150,000,000 km), calculate the scale distance from the Earth to the Sun.
16. Using a scale diameter of the sun of 620 mm, calculate the diameter of **Neptune** would be compared to the sun. (HINT: You need to find Neptune's actual size in order to solve this problem)
17. List the order of the planets from farthest from the sun to closest to the sun.
18. CLEARLY and LEGIBLY draw a detailed diagram of the life cycle of our sun.