

Directed Reading A

Section: The Sun: Our Very Own Star

- _____ 1. The sun is a large ball of gas made mostly of
 a. oxygen and carbon.
 b. hydrogen and helium.
 c. nitrogen and sulfur.
 d. carbon dioxide and oxygen.

THE STRUCTURE OF THE SUN

Match the correct description with the correct term. Write the letter in the space provided.

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|--|--------------------|
| _____ 2. the sun's outer atmosphere | a. chromosphere |
| _____ 3. the thin region below the sun's corona | b. core |
| _____ 4. the part of the sun that can be seen from Earth | c. radiative zone |
| _____ 5. the region of the sun where gases circulate | d. convective zone |
| _____ 6. the center of the sun | e. corona |
| _____ 7. a very dense region of the sun | f. photosphere |

ENERGY PRODUCTION IN THE SUN

- _____ 8. Early scientists thought that the sun produced its energy by
 a. rotating.
 b. expanding.
 c. collapsing inward.
 d. burning fuel.
- _____ 9. Scientists later thought that energy to heat the sun was released from
 a. gravity.
 b. pressure.
 c. globules.
 d. kinetic energy.
- _____ 10. Albert Einstein showed that matter and energy are
 a. the same.
 b. opposites.
 c. unchanging.
 d. interchangeable.
- _____ 11. What formula did Einstein use to show the relationship between matter and energy?
 a. $E = mc$
 b. $E = mc^2$
 c. $M = ec$
 d. $M = ec^2$

Directed Reading A continued

- _____ 12. Einstein's formula states that energy equals mass times the
 a. speed of light.
 b. square of the speed of light.
 c. fusion of hydrogen.
 d. fusion of helium.
- _____ 13. The process by which two or more low-mass nuclei combine to form a larger nucleus is called _____.
- _____ 14. What happens as two hydrogen nuclei fuse?

- _____ 15. Energy is produced in the center, or _____, of the sun.
- _____ 16. Energy passes from the sun's core through a dense region called the _____.
- _____ 17. Hot gases are carried to the sun's visible surface from a region called the _____.
- _____ 18. Energy leaves the sun as light from a region called the _____.

SOLAR ACTIVITY

- _____ 19. The circulation of gases in the sun combines with the sun's rotation to create
 a. heat.
 b. radiation.
 c. electric fields.
 d. magnetic fields.
- _____ 20. Why do some areas of the photosphere become cooler than surrounding areas?

- _____ 21. Cooler, dark areas of the photosphere of the sun are called _____.
- _____ 22. The sunspot cycle lasts about _____ years.