

## **Chapter 1: The Nature of Energy Study Guide**

1. What is a Joule? \_\_\_\_\_
2. Which has more energy, 10 kg of hydrogen or 10 kg of helium? \_\_\_\_\_
3. \_\_\_\_\_ Joules equal one foot –pound?
4. The sun produces \_\_\_\_\_ Joules per second.
5. \_\_\_\_\_ Joules per second reach the outer atmosphere of the Earth.
6. The percentage of the sun's total energy that reaches the Earth is \_\_\_\_\_.
7. A single horsepower equals \_\_\_\_\_ watts.
8. A horsepower has \_\_\_\_\_ foot –pounds?
9. A watt equals \_\_\_\_\_ Joules/s
10. The element in the atmosphere that accounts for the largest affect to the Earth's temperature is \_\_\_\_\_.
11. What is the greatest of the manmade greenhouse gases in the atmosphere? \_\_\_\_\_
12. In 2006, how many BTU did the United States consume? \_\_\_\_\_
13. In 2006, what was the percentage of renewable energy used in the U.S.? \_\_\_\_\_
14. Petroleum products replaced \_\_\_\_\_ oil during another energy crisis.
15. Edwin Drake began \_\_\_\_\_ in earnest in 1859.
16. In 2008, where is the largest biomass power station in the world? \_\_\_\_\_
17. One BTU is equivalent to \_\_\_\_\_ Joules of energy.
18. In nuclear fission, the uranium atom is split releasing free \_\_\_\_\_ and \_\_\_\_\_ rays.
19. In nuclear fusion, \_\_\_\_\_ hydrogen atoms are fused together to form a Helium atom, a \_\_\_\_\_ and energy.
20. Compute the total energy in 100 kg of matter.

--