Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_ Ast: \_\_\_\_\_

**Physical Science Honors: Conservation of Energy Study Guide**

**On a separate sheet of paper, respond to the following (*the more detail the better!*):**

1. Define Energy.
2. What is the metric unit of measure for Energy?
3. What is Thermal Energy? Give an example.
4. What is Chemical Energy? How is chemical energy released? Give an example.
5. What is Electrical Energy? Give an example.
6. How is sound similar to light?
7. How does sound work? Why would you not hear sound in space?
8. What is Radiant Energy? Give an example.
9. What is Nuclear Energy?
10. Explain the difference between fission and fusion. Which is done by a power plant and which is done by the Sun?
11. What are the current issues we face regarding the use of nuclear energy to meet our power needs (both fission and fusion)?
12. What is Mechanical Energy? List the two types of Mechanical Energy.
13. What does Kinetic Energy depend on?
14. How are the two types of Potential Energy similar? How are they different?
15. What does Gravitational Potential Energy Depend on?
16. Define the law of conservation of energy.
17. Explain the law of conservation of energy.
18. Draw a Venn diagram to compare three types of systems (open, closed, and isolated) in terms of energy and matter. (Carefully think about how you can set this up!)
19. Explain the transfer of energy as a ball bounces when it is dropped, why it doesn’t bounce all the way back to the drop height, and how that relates to the law of conservation of energy.
20. Explain the transfer of energy as a ball on a string swings back and forth, why it eventually stops swinging, and how that relates to the Law of Conservation of Energy.
21. Explain the concept of Hydroelectricity using the picture of a dam below. Discuss energy conversions.

