

## **FUN WITH ENERGY STUDY GUIDE**

1. What is energy?

There are many different answers to this question, but simply put, energy is the stuff that makes things move.

2. Name some different types of energy.

Potential, kinetic, mechanical, heat, light, static electric, etc.

3. What is another name for potential energy?

Stored energy.

4. What is kinetic energy?

The energy of motion.

5. What types of energy do we get from the sun?

Light, heat, etc.

6. What do we call light energy from the sun?

Solar energy?

7. Sound energy is an example of what type of energy?

Mechanical.

8. When two things are oppositely charged, how do they behave toward each other?

They are attracted to each other.

9. When they are like charged?

They are repelled by each other.

10. Lightening is an example of what type of energy?

Static electricity.

11. In a thunderstorm, how is lightening created?

Evaporating water molecules rise through the air. As they come in contact with air molecules, they exchange electrons and become electrically charged (either positively or negatively). Eventually, a cloud may build up such a charge that it can no longer hold it and it comes crashing to earth in the form of lightening.

12. How does heat affect matter?

It causes it to expand.

13. What causes our hands to beat up when we rub them together?

Friction.

14. What do we call a substance that reduces friction?

A lubricant.

15. Name some places that friction can cause problems.

Car engines, skating rinks, playground slides, ski slopes etc.

16. Name some places where a lack of friction can cause problems.

Road surface, floor/ground, etc.

17. What do we call the vibrations caused by sound energy?

Resonance.

18. The law of conservation of energy states that "this" can never be destroyed.

Energy.

19. What natural force causes objects to fall to earth?

Gravity.

20. If you have two objects of the same shape, but different weights, will they drop at the same speed?

Yes.

21. Will they land with the same amount of energy?

No, the heavier the object, the more force with which it lands.

22. If it weren't for this type of energy, life itself would be impossible.

Light/solar.

Note to teacher: You may want to review The Three Laws of Motion.

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-Jeff