Shedding Light on Energy Episode 1: Forms of Energy Name: _____

Part A

1. Energy is hard to define but it comes in different forms: l_____ energy, e_____ energy, c_____ energy, s_____ energy, h_____ energy, n_____ energy, e_____ p_____ energy, g_____ p_____ energy, and k_____ energy.

Part B

2. Briefly describe kinetic energy and list three things that have kinetic energy.

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3. Fuel, food, and wood all possess _____ energy.
4. Carbohydrates are our main source of energy. They can be found in foods such as

_____

_____

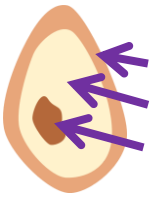
5. Monosaccharides include _____, _____, and _____
6. Disaccharides include _____, _____.
7. What is the definition of a disaccharide? _____

_____

8. What is starch? _____

_____

_____



9. Label the diagram of the wheat grain on the left.
(a) _____. Contains lots of _____
(b) _____. Contains mostly _____
(c) _____. Contains _____

10. What happens to starch when it is digested? _____

_____

_____

11. Complete the chemical equation for cellular respiration:
glucose + oxygen → _____ + _____
12. List four things that produce light energy.

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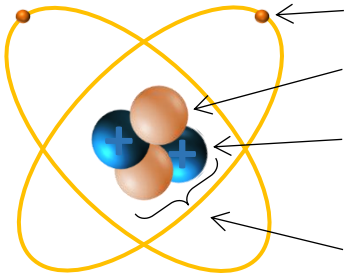
13. Label the diagram of the atom on the left.
14. Briefly describe what electricity is.



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15. List four things or appliances that require electrical energy to operate.

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16. List four things that produce heat energy. _____

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17. What causes an object to produce sound energy? _____

_____

18. What is the difference between a low-pitch sound and a high-pitch sound? _____

_____

_____

19. List (and very briefly describe) three things that possess elastic potential energy. _____

_____

_____

20. List (and very briefly describe) three things that possess gravitational potential energy. _____

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_____

21. What is nuclear energy? _____

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Part C

22. The First Law of Thermodynamics states that _____

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_____

23. In a light globe _____ energy is transformed into _____ energy.
24. When a battery is connected to a light globe, the _____ energy that is stored in it is transformed into _____ energy (which then flows out of the battery).
25. Plants transform the _____ energy of the sun into _____ energy.
26. Solar panels transform _____ energy into _____ energy.
27. Generators transform _____ energy into _____ energy.
28. Briefly describe the operation of a typical 4-stroke engine. _____

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_____

29. In terms of energy changes, what happens when you rub your hands together?

_____

_____

30. Fill in the spaces below. (For the energy output, write the "desired" form of energy that you most want out of each object.)

(a) _____ energy → _____ energy

(b) _____ energy → _____ energy

(c) _____ energy → _____ energy

(d) _____ energy → _____ energy

(e) _____ energy → _____ energy

(f) _____ energy → _____ energy

31. Briefly describe a situation where elastic potential energy is converted into kinetic energy.

_____

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_____

32. Briefly describe a situation where gravitational potential energy is converted into kinetic energy.

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