**Unit Vocabulary.** Match the definition on the right with the word on the left. Write the letter of the definition on the line to the left of the vocabulary word.

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_ | Greenhouse gas | **A.** | Electrical current that is constantly changing directions |
| \_\_\_\_\_ | Electron | **B.** | A complete and closed path through which circulating electrical current can flow |
| \_\_\_\_\_ | Series circuit | **C.** | An electrical circuit providing a single conducting path |
| \_\_\_\_\_ | Direct current | **D.** | A connection that allows current to take the path of least resistance |
| \_\_\_\_\_ | Alternating current | **E.** | Fuels that are formed by the decay and decomposition of organisms buried in the Earth for millions of years |
| \_\_\_\_\_ | Proton | **F.** | The rate at which energy is used |
| \_\_\_\_\_ | Atom | **G.** | The ability to do work |
| \_\_\_\_\_ | Circuit | **H.** | A typical unit for electrical power |
| \_\_\_\_\_ | Energy Audit | **I.** | A small atomic particle with a negative charge |
| \_\_\_\_\_ | Power | **J.** | Electrical current that flows in one direction |
| \_\_\_\_\_ | Conductor | **K.** | A material or object through which electricity flows |
| \_\_\_\_\_ | Electricity | **L.** | The basic unit of all elements of matter |
| \_\_\_\_\_ | Fossil fuel | **M.** | A substance that does not allow electricity to move easily |
| \_\_\_\_\_ | Renewable energy | **N.** | A flow of electrons, often through a circuit, resulting from a net difference in charged particles |
| \_\_\_\_\_ | Insulator | **O.** | A small atomic particle with a positive charge |
| \_\_\_\_\_ | Energy | **P.** | A thorough examination of how energy is used in the home and the costs associated with those uses |
| \_\_\_\_\_ | Voltage | **Q.** | An electric circuit providing more than one conducting path |
| \_\_\_\_\_ | Watt | **R.** | Typical unit for electrical energy used over a period of time |
| \_\_\_\_\_ | Kilowatt hour | **S.** | The difference in electrical potential between two points in an electrical circuit |
| \_\_\_\_\_ | Parallel circuit | **T.** | Energy that is made from sources that can be regenerated |
|  |  | **U.** | Gases that absorb infrared radiation and radiate heat in all directions |

**Short answer.**

1. What are three examples of fossil fuels?
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Describe three benefits of using fossil fuels.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3) Describe three drawbacks of using fossil fuels.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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4) What are three examples of renewable energy?

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) Describe three benefits of using renewable energy.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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6) Describe three drawbacks of using renewable energy.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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7) Why is it important to reduce the greenhouse gas effect?

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8) Describe two significant ways that you can reduce the amount of energy you use at home.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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9) What is the difference between energy and power?

*Energy is* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*whereas power is* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10) Who is the City of Talent’s energy provider? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11) What is the typical voltage supplied in a house outlet? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12) Is your house supplied with direct or alternating current? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13) What is a common source of direct current? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14) On average, which devices used the most power (from the compilation of your home energy audits)?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

15) How did you determine the operating power draw of an appliance or a device?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16) Do you think this was an accurate measurement of power use? Why or why not?

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17) Refrigerator A uses 1600 kWh of energy each year while Refrigerator B uses 425 kWh of energy each year. If energy costs $0.12 per kWh, what is the cost difference for the year between running Refrigerator A and B? Show all of your work.

18) For a 75-Watt light bulb that operates 6 hours per day, how many kilowatt-hours of electricity were used? Show all of your work.

At $0.12 per kWh, what is the cost of using that light bulb per day?

At $0.12 per kWh, what is the cost of using that light bulb per month (30 days)?

At $0.12 per kWh, what is the cost of using that light bulb per year?

19) A space heater has three settings, 500W, 1000W, and 1800W. If the space heater is on for 8 hours, what is the cost of operating the space heater at 500W if energy costs $0.12 per kWh? Show all of your work.

If the same space heater uses 1000W and is on for 8 hours, what is the cost of operating the space heater if energy costs $0.12 per kWh? Show all of your work.

If a space heater uses 1800W and is on for 8 hours, what is the cost of operating the space heater if energy costs $0.12 per kWh?Show all of your work.

How much money would you save over the course of a month by only using the space heater on the lowest setting instead of the highest setting? Show all of your work.

How much additional money would you save over the course of a month by only using the space heater on the lowest setting for 5 hours instead of the highest setting for 8 hrs? Show all of your work.