**What are the Advantages of Alternative Energy Sources – Virtual Lab**

Use the Puffin Browser on the iPad to access the site via a search for the above named title.

Procedure

On the left side of the screen, scroll down to view the procedure for completing this lab.

Background Information

1. Describe TWO ways that solar power can be used to generate electricity.
2. What is the ideal wind speed to utilize wind power? Why?
3. Name 3 things that hydropower can be used for.
4. Explain the basic mechanism for using geothermal (hydrothermal) energy.
5. List 4 sources of biomass fuel.

Data

|  |  |  |  |
| --- | --- | --- | --- |
| **Energy source** | **Options selected**  (must select 2 different options for each energy source) | **Expense** | **Level of energy produced** |
| Solar |  |  |  |
| Solar |  |  |  |
| Wind |  |  |  |
| Wind |  |  |  |
| Hydropower |  |  |  |
| Hydropower |  |  |  |
| Geothermal |  |  |  |
| Geothermal |  |  |  |
| Biomass |  |  |  |
| Biomass |  |  |  |

Analysis

1. Distinguish between non-renewable, renewable, and inexhaustible energy sources. Give examples of each.
2. WHY is it important to develop energy sources that are “alternatives” to fossil fuels?

For each of the following, USE DATA FROM THE EXPERIMENT to explain the type of setting that is most suitable for each of the following energy sources:

1. Solar:
2. Wind:
3. Hydropower:
4. Geothermal:
5. Biomass:
6. Given an isolated desert city with little wind and long, dry days throughout the year, what would you consider before recommending an energy source? What alternative energy source would you recommend? Explain your answer.
7. Why do you think only about 10% of the energy in the United States is generated using alternative energy sources?
8. Briefly discuss the challenges associated with transitioning our society from fossil fuels to alternative energy sources.