**In groups you will complete the activities. You can divide into smaller groups and share computers and materials.**

Sources of Energy

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_pd\_\_\_

**A-In your group answer 1-3 from notes and video clip you just watched:** <https://www.youtube.com/watch?v=pBTnVoEIb98>

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**Why do we need to use renewable sources of energy?**

|  |  |
| --- | --- |
| Fossil Fuel | Time left |
| Oil | 50 years |
| Natural gas | 70 years |
| coal | 250 years |

**1.**

**2. List at least one other reason why we need to use more renewable sources of energy?**

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**3. What is the difference between a renewable source of energy and non renewable source of energy? Give me an example of each in your answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**B-Brainpop: Watch Energy Sources and take the quiz. Record your answers and score below-**

|  |  |
| --- | --- |
| **1** | **6** |
| **2** | **7** |
| **3** | **8** |
| **4** | **9** |
| **5** | **10** |

 **Score \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**C- Examine the solar cell in the plant. How do you think it works? At night, the yard lamp will light up. Explain how that happens: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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D. **Open the app OUR Choice:**

**Scroll to Chapter 1:** What goes up, must come down! Scan the chapter taking note of the causes of the ecological crisis, what are the 6 different types of air pollution that are trapping heat in our atmosphere & how are they getting in, and how the environment can use CO2 naturally. :

**Summarize the key points the author is trying to make about Global Warming and the relationship with fossil fuels: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**G. Each lamp has a different type of bulb: They are of equal wattage. Use the light meter to measure the lumens of light.**

Predict which you think will be the brightest before you start \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which bulb was the brightest: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Read the box information and hypothesis which is the most energy efficient: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

F. **Use the Daniels solar panel data to create a graph:**

|  |  |  |
| --- | --- | --- |
| **date** | **time** | **watts** |
| **4/14/2013** | 6:30 AM | 0 |
|  | 7:30 AM | 81 |
|  | 8:30 AM | 928 |
|  | 9:30 AM | 1340 |
|  | 10:30 AM | 1581 |
|  | 11:30 AM | 1676 |
|  | 12:30 PM | 1734 |
|  | 1:30 PM | 1374 |
|  | 2:30 PM | 969 |
|  | 3:30 PM | 591 |
|  | 4:30 PM | 410 |
|  | 5:30 PM | 207 |
|  | 6:30 PM | 77 |
|  | 7:30 PM | 2 |
|  | 8:30 PM | 0 |
|  | 9:30 PM | 0**INSTRUCTIONS:** * Use the data to create a graph. Use one color for the data points for 4/14 and another color for data points for 4/15.
* Add a “flowing “curve to show the ups and downs of your graph.
* Create a key at the bottom of the graph to note which data points represent each day.
* Give your graph a title
 |
| **4/15/2013** | 6:30 AM | 0 |
|  | 7:30 AM | 4 |
|  | 8:30 AM | 103 |
|  | 9:30 AM | 882 |
|  | 10:30 AM | 331 |
|  | 11:30 AM | 1143 |
|  | 12:30 PM | 339**Analysis:** (answer on back of graph paper)1. Looking at the graph there are portions of the graph that are a flat line. Looking at the time & watts at those data points, why is not solar energy being absorbed by the solar panels.
2. On April 15, the graph goes up and down, infer what was happening weather (cloud) wise that day:
3. On April 14, the data goes up and back down, infer what was happening weather (cloud) wise that day:
 |
|  | 1:30 PM | 608 |
|  | 2:30 PM | 564 |
|  | 3:30 PM | 182 |
|  | 4:30 PM | 209 |
|  | 5:30 PM | 194 |
|  | 6:30 PM | 95 |
|  | 7:30 PM | 1 |
|  | 8:30 PM | 0 |
|  | 9:30 PM | 0 |