



Watts On Your Mind?

Solar energy educational activities for schools

Activity Overview

Grade Level: Varies

Activity: WOS-2

Description

Students will use a computer with internet access to navigate through the Watts On Schools website and answer questions to test their understanding.

Learning Outcome

Students will become familiar with information that is available on the program website.

Subjects

Computer science

Process Skills Used

Discussion, application, research, and computer literacy

Duration

1 class period

Key Vocabulary

Fields, equivalent kilowatt-hours, download

Curriculum Standards

Texas (TEKS): 112.42.c.6

Louisiana (LSCS): PS-H-F1

Arkansas (ASCF): 3.1.34, 4.1.28, 5.1.29

National (AAAS Project 2061):

The Designed World – 12th

The Physical Setting – 12th

What's On the Website?

Materials

- Computer with internet access
- Worksheet, included in activity

Method

Review the information provided in the Website Overview section below to learn about the website. Then answer the questions in the Worksheet by referring to the program website www.wattsonschoools.com.

Website Overview

The Watts On Schools website, www.wattsonschoools.com, is the primary means of communication between educators, students, the public, and the Watts On Schools program managers. Educators can use the website to contact program managers, report technical problems, and download educational activities. Students can use the website to view current weather conditions at their site, compare the performance of the system at their school with systems at other schools, and learn how solar energy works. The public can use the website to learn about the Watts On Schools program and conduct research on our network of solar energy systems.

The website contains the following information and resources:

- School photos and local information
- Graphs of recent system performance and weather data
- Current (real-time) weather information
- Historical data from every system
- Interactive energy calculator
- Ideas for educational activities
- Technical information on the solar electric



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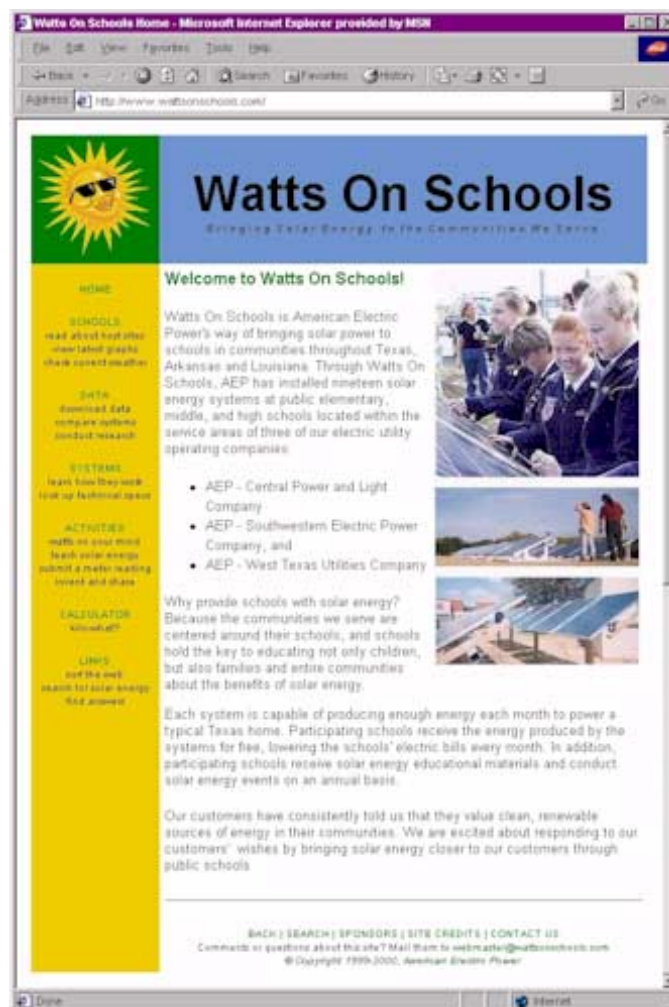
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systems

- Links to solar energy educational resources
- Up to date program information
- Links to e-mail based technical support

The following features will soon be added to the website:

- Electronic mail group
- Discussion areas for teachers and students





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Worksheet

Part A - School Pages

1. How many schools are participating in the “Watts On Schools” program?

2. How many graphs appear on each school’s page? What does each graph show?

3. Using the temperature conversion tool (Fahrenheit/Celsius) convert the Celsius reading of the high temperature for the last day shown to Fahrenheit:

Date: _____ Celsius: _____ Fahrenheit: _____

Part B - Download Data Page

1. How many fields appear in one record of a data file?

2. Using the “Day of Year Calendar” what is today’s Julian Date?

Calendar Date: _____ Julian Date: _____

3. Describe how the System Efficiency field is calculated:

Part C - Calculator: kilo-what?

1. List the 6 conversions the calculator will perform:

- | | |
|----|----|
| 1. | 4. |
| 2. | 5. |
| 3. | 6. |

2. Use the calculator to determine the energy equivalents for the following kilowatt-hour values:

1000 kwh Fast food meals: _____ Gallons of water boiled away: _____



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500 kwh Speed of a 3000 lb Rocket: _____
300 kwh Minutes of hockey (if you weigh 90 lbs): _____
 Lbs of carbon dioxide: _____ Number of basketballs: _____

3. What is the equivalent kilowatt hours if you dropped a water balloon from a height of 1000 miles? _____

Part D – Other information

Describe 2 other pieces of information you can get from the website

1. _____

2. _____

Part E – Download Data Files

1. Download your school's data file for the current year and save it for use in activity WOS-3 "Analyzing Your System's Data"
2. Select another school and download its data file for the annual year and save it for use in activity WOS-4 "Comparing Schools PV Systems."