

Sun and Me Posters - 2

Student Objective

The student:

- will be able to identify major benefits of solar energy
- will work cooperatively to create a poster that communicates information.

Materials:

- posterboard or large sheets of paper
- various art materials, e.g. paints, markers, and crayons.

Key Words:

food chain
passive solar
photovoltaics
solar energy
solar thermal
UV radiation

Time:

½ - 1 hour

Procedure

This activity is to be completed at the end of the Solar Matters unit.

1. Do the follow-up K-W-L activity with the class if you haven't already.
2. Divide the class into groups of three or four students.
3. Explain to the class that they will be creating posters to depict what they've learned during their *Solar Matters* unit, and then they will share them with the class.
4. Assign a benefit of solar energy to each group. Some examples are:
 - food chain
 - passive solar (warmth)
 - rainbows
 - sundials, telling time
 - UV radiation
 - solar water heaters (solar thermal)
 - solar cookers (solar thermal)
 - photovoltaics (solar electric)
4. Assist the groups as necessary while they are working on their posters.
5. When the posters are completed, have each group present their poster to the class and explain what information they are depicting.

Further Activities

1. Hang the posters on a hallway bulletin board, or somewhere that other classes may view them.
2. Have the groups present their posters and what they have learned about solar energy to another class or to the parents during an energy fair.

EnergyWhiz

Be an EnergyWhiz artist! Have your students create postcards with a solar theme and submit them to EnergyWhiz at <http://energywhiz.com/> We will turn them into e-postcards that any student may send online to friends and relatives.

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			.1	.2	.3	.4	.5
Energy	Standard 1	SC.B.1.1-	X		X	X	X
	Standard 2	SC.B.2.1-	X				
Processes that Shape the Earth	Standard 1	SC.D.1.1-					
	Standard 2	SC.D.2.1-	X				
Earth and Space	Standard 1	SC.E.1.1-		X			
	Standard 2	SC.E.2.1-					
Processes of Life	Standard 1	SC.F.1.1-	X				
	Standard 2	SC.F.2.1-					
How Living Things Interact With Their Environment	Standard 1	SC.G.1.1-		X			
	Standard 2	SC.G.2.1-	X	X			
Art Standards:		VA.A.1.1.1, VA.B.1.1.4					

Benchmark SC.B.1.1.1 - The student knows that the Sun supplies heat and light energy to Earth.

Grade Level Expectations

The student:

Kindergarten

- knows the effects of sun and shade on the same object

First

- knows that heat from the Sun has varying effects depending on the surface it strikes.

Benchmark SC.B.1.1.3 - The student describes a model energy system.

Grade Level Expectations

The student:

First

- understands that models can be used to observe processes and changes over time

Second

- understands that models can be used to illustrate how energy flows through a system.

Benchmark SC.B.1.1.4 - The student knows that heat can be produced in many ways.

Grade Level Expectations

The student:

Second

- knows different heat sources.

Benchmark SC.B.1.1.5: The student knows that every human action requires energy that comes from food.

Grade Level Expectations

The student:

Kindergarten

- understands that people eat food to survive

First

- understands that people need food for energy

Second

- uses graphic organizers to classify food groups
- understands the relationship of food to the need for energy for daily activities.

Benchmark SC.B.2.1.1 - The student recognizes systems of matter and energy.

Grade Level Expectations

The student:

Second

- understands ways energy and matter interact.

Benchmark SC.D.2.1.1: The student understands that people influence the quality of life of those around them.

Grade Level Expectations

The student:

Second

- knows ways that human activity affects the environment.

Benchmark SC.E.1.1.2 -The student knows that the appearance of sunrise and sunset is due to the rotation of Earth every 24 hours.

Grade Level Expectations

The student:

Kindergarten

- knows that the position of the Sun in the sky appears to change during the day

First

- knows that night and day are caused by the rotation of the Earth.

Benchmark SC.F.1.1.1: The student knows the basic needs of all living things.

Grade Level Expectations

The student:

Kindergarten

- knows some of the basic needs of living things.

First

- understands that living things need food, water, space, and shelter to survive

Second

- understands that the amount of food, water, space, and shelter needed is dependent on the size and kind of living things.

Benchmark SC.G.1.1.2: The student knows that plants and animals are dependent upon each other for survival.

Grade Level Expectations

The student:

Kindergarten

- understands ways that animals obtain food from plants and other animals

First

- knows that plants produce oxygen and food for animals
- understands that animals can be grouped according to what they eat
- understands that living things are part of a food chain

Second

- understands that there is an interdependency of plants and animals that can be shown in a food web.

Benchmark SC.G. 2.1.1: The student knows that if living things do not get food, water, shelter, and space, they will die.

Grade Level Expectations

The student:

Kindergarten

- knows that if living things do not get food, water, shelter, and space, they will die

First

- understands why living things must have food, water, shelter, and space to survive

Second

- knows selected resources used by people for water, food, and shelter are limited and necessary for their survival.

Benchmark SC.G.2.1.2: The student knows that the activities of humans affect plants and animals in many ways.

Grade Level Expectations

The student:

First

- understands that there are limited resources for all living things to use

Second

- knows that human beings cause changes in their environment, and these changes can be positive or negative.

Benchmark SS.B.2.1.2: The student knows how different communities have changed physically and demographically.

Grade Level Expectations

The student:

Second

- knows ways in which people have modified the physical environment and the consequences of these modifications.

Benchmark VA.A.1.1.1 - The student uses two-dimensional and three-dimensional media, techniques, tools, and processes to depict works of art from personal experiences, observation, or imagination.

Benchmark VA.B.1.1.4 - The student uses the elements of art and the principles of design to effectively communicate ideas.

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food chain - a series of organisms in which each uses the next usually lower member of the series as a food source

passive solar - making use of the natural heat of the Sun to warm or dry something

photovoltaics - the effect of producing electric current using light

solar energy - energy derived from the Sun

solar thermal - energy derived from the Sun to heat something. Common uses include water heaters and pool heaters.

ultraviolet radiation - a part of the spectrum of sunlight that is located beyond the visible light spectrum at its violet end. Ultraviolet radiation is responsible for sunburn.