

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.

Key Words and Definitions

- **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.

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.

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Florida NGSS Standards & Related Subject Common Core

			.1	.2	.3	.4	.5	.6
Grade K								
The Practice of Science	Big Idea 1	SC.K.N.1		X		X		
Earth in Space and Time	Big Idea 5	SC.K.E.5		X	X			
Grade 1								
The Practice of Science	Big Idea 1	SC.1.N.1	X					
Earth in Space and Time	Big Idea 5	SC.1.E.5				X		
Grade 2								
The Practice of Science	Big Idea 1	SC.2.N.1	X	X				
Earth Systems and Patterns	Big Idea 7	SC.2.E.7	X	X	X			
Language Arts Standards	Kindergarten: LAFS.K.W.3.8, LAFS.K.SL.2.5 First Grade: LAFS.1.W.3.8, LAFS.1.SL.2.5 Second Grade: LAFS.2.W.3.8							
Visual Arts Standards	Kindergarten: VA.K.O.2.1, VA.K.O.3.1, VA.K.H.3.1 First Grade: VA.1.O.2.1, VA.1.O.3.1, VA.1.H.3.1 Second Grade: VA.2.O.2.1, VA.2.O.3.1							

Kindergarten Benchmarks

Science--Big Idea 1: The Practice of Science

- SC.K.N.1.2 - Make observations of the natural world and know that they are descriptors collected using five senses.
- SC.K.N.1.4 - Observe and create a visual representation of an object which includes its major features.

Science--Big Idea 5: Earth in Space and Time

- SC.K.E.5.2 - Recognize the repeating pattern of day and night.
- SC.K.E.5.3 - Recognize that the Sun can only be seen in the daytime.

Language Arts--Writing Standards

- LAFS.K.W.3.8 - With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Language Arts--Standards for Speaking and Listening

- LAFS.K.SL.2.5 - Add drawings or other visual displays to descriptions as desired to provide additional detail.

Visual Arts–Organizational Structure

- VA.K.O.2.1 - Generate ideas and images for artworks based on memory, imagination, and experiences.
- VA.K.O.3.1 - Create works of art to document experiences of self and community.

Visual Arts–Historical and Global Connections

- VA.K.H.3.1 - Express ideas related to non-art content areas through personal artworks.

First Grade Benchmarks

Science–Big Idea 1: The Practice of Science

- SC.1.N.1.1 - Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

Science–Big Idea 5: Earth in Space and Time

- SC.1.E.5.4 - Identify the beneficial and harmful properties of the Sun.

Language Arts–Writing Standards

- LAFS.1.W.3.8 - With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Language Arts–Standards for Speaking and Listening

- LAFS.1.SL.2.5 - Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

Visual Arts–Organizational Structure

- VA.1.O.2.1 - Create imagery and symbols to express thoughts and feelings.
- VA.1.O.3.1 - Use personal symbols in artwork to document surroundings and community.

Second Grade Benchmarks

Science–Big Idea 1: The Practice of Science

- SC.2.N.1.1 - Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.
- SC.2.N.1.2 - Compare the observations made by different groups using the same tools.

Science–Big Idea 7: Earth Systems and Patterns

- SC.2.E.7.1 - Compare and describe changing patterns in nature that repeat themselves, such as weather conditions including temperature and precipitation, day to day and season to season.
- SC.2.E.7.2 - Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, and air.
- SC.2.E.7.3 - Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear (evaporate).

Language Arts–Writing Standards

- LAFS.2.W.3.8 - Recall information from experiences or gather information from provided sources to answer a question.

Visual Arts–Organizational Structure

- VA.2.O.2.1 - Use personal experience to convey meaning or purpose in creating artworks.
- VA.2.O.3.1 - Create personally meaningful works of art to document and explain ideas about local and global communities.

National Next Generation Science & Common Core Visual Arts Standards

Kindergarten Standards

Science—Earth’s Systems

- K-ESS2-1 - Use and share observations of local weather conditions to describe patterns over time.

Science—Earth and Human Activity

- K-ESS3-3 - Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

Science—From Molecules to Organisms: Structures and Processes

- K-LS1-1 - Use observations to describe patterns of what plants and animals need to survive.

Science—Energy

- K-PS3-1 - Make observations to determine the effect of sunlight on Earth’s surface.

Visual Arts—Creating

- Cr.1.2.Ka - Engage collaboratively in creative art-making in response to an artistic problem.
- Cr.2.3.Ka - Create art that represents natural and constructed environments.

Visual Arts—Connecting

- Cn.1.Ka - Create art that tells a story about a life experience.

Note: Related Common Core Language Arts Standards are listed in the Florida section above.

First Grade Standards

Science—Earth’s Place in the Universe

- ESS1-1 - Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- ESS1-2 - Make observations at different times of year to relate the amount of daylight to the time of the year.

Second Grade Standards

Note: Related Common Core Language Arts Standards are listed in the Florida section above.