

Sun and Me Posters - 1

Student Objectives

The student:

- can identify major benefits of solar energy
- works cooperatively to create a poster that communicates information.

Key Words:

energy
solar energy

Time:

½ - 1 hour

Materials:

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

Background Information

Without the heat and light of the sun, life as we know it could not exist on the earth. Because of **photosynthesis**, the sun is the ultimate source of energy stored both in the fossil fuels that we burn and the food that we eat. Heat from the sun sets up convection currents, and thus it is the source of the energy of **wind**. Falling **rain** also owes its energy to the sun because of the relation of solar radiation to the water cycle, and of course, without rain and sunshine we wouldn't have rainbows! These forms of solar energy are so much a part of our everyday experience that we usually don't think of them when we talk about solar energy.

Mankind has been able to harness solar energy to supply our power needs through **solar thermal**, using the energy of the sun to heat something, and **photovoltaics**, turning the energy of the sun directly into electricity. Solar energy is an inexhaustible source of energy that we are just beginning to actively use to supply our energy needs.

Procedure

1. Divide the class into groups of three or four students.
2. Explain to the class that they will be creating posters to depict the benefits we get from the sun, and then they will share them with the class.
3. Assign a benefit of solar energy to each group. If possible, incorporate things that they said they wanted to learn more about in the K-W-L exercise. Some examples of benefits of solar energy are:
 - grow plants
 - warmth
 - rainbows
 - daylight

- shadows, sundials
 - clouds, rain, water cycle
 - evaporation, drying clothes
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.
 6. Hang the posters in the classroom until the end of the *Solar Matters* unit.

Key Words and Definitions

- **energy** – the ability to do work. Also, a source of usable power
- **solar energy** – energy derived from the sun

Further Activities

1. Hang the posters on a hallway bulletin board or somewhere that other classes may view them. When Sun and Me Posters 2 is completed at the end of the Solar Matters unit, those posters can either replace these, or be added to the display.

Related Reading

- *Arrow to the Sun: A Pueblo Indian Tale*, Gerald McDermott, Illustrator (Penguin USA, 1977)
This adaptation of the Pueblo Indian myth explains how the spirit of the Lord of the Sun is brought to the world of men. In this tale, a boy searching for his father meets the Lord of the Sun, and is asked to prove himself. The boy uses his bravery to pass the tests and bring the Sun's spirit to the world of man.
- *Energy From the Sun (Rookie Read-About Science)* by Allan Fowler (Children's Press, 1998)
With striking, full-color photos and just the right amount of text, this series immediately involves young readers as they discover intriguing facts about our fascinating Sun.
- *Sun Up, Sun Down* by Gail Gibbons (Harcourt, 1987)
Sun Up, Sun Down is a look at the sun's effect on the daily life of a little girl from the sun's first beam through her window in the morning to the dark of night.
- *The Shocking Truth about Energy* by Loreen Leedy (Holiday House, 2011)
This high-voltage introduction to energy combines physical and environmental science with fun. Comical characters explain the basics, including the forms energy can take.
- *The Sun Is My Favorite Star* by Frank Asch (Harcourt, 2000)
This book is appealing to the youngest listeners with its whimsical text and bright watercolor drawings. The sun comes in the window, wakes up a little boy, and continues to play a central role throughout his day as it plays hide-and-seek from behind the clouds, peeks through a hole in the fence and casts shadows on the wall.
- *Wake Up, Sun* by David L. Harrison (Random House, 1986)
This beginning reader chronicles the distress of the farm animals when they wake up in the middle of the night to find out that the sun is gone.

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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 the 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.

Visual Arts–Historical and Global Connections

- VA.1.H.3.1 - Identify connections between visual art and other content areas.

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–From Molecules to Organisms: Structures and Processes

- K-LS1-1 - Use observations to describe patterns of what plants and animals (including humans) 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.

Visual Arts–Connecting

- Cn.10.1.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

- 1-ESS1-1 - Use observations of the sun, moon, and stars to describe patterns that can be predicted.

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

Second Grade Standards

Visual Arts–Creating

- Cr.1.1.2a - Brainstorm collaboratively multiple approaches to an art or design problem.
- Cr.3.1.2a - Discuss and reflect with peers about choices made in creating artwork.

Visual Arts–Connecting

- Cn.10.1.2a - Create works of art about events in home, school, or community life.

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