

Here Comes the Sun

Summary

This activity will have students predict, measure and record temperatures.

Main Core Tie

Science - 3rd Grade

[Standard 5 Objective 1](#)

Materials

- Three yellow poster boards
- [Pocket Temperatures](#)
- Strip thermometers
- Construction paper (red, black, white, blue)
- Rulers
- Scissors
- Glue sticks
- Large Pringles (one each)
- Black construction paper
- Aluminum foil
- Hammer
- Nail
- Wire hanger
- Bricks or blocks of wood
- Hot dogs
- Hot dog buns and condiments
- Song: "*Here Comes the Sun*", Beatles

Additional Resources

Videos

- *The Solar System "A First Look"*
, 100% Educational Videos; ISBN 1-58541-058-6
- *The Magic School Bus out of this World*
, Scholastic; ISBN 1-56832-778-1
- *All About the Sun*
, Schlessinger Science Library (website below)

Background for Teachers

The sun is a star that produces heat and light. The sun has rays that provide the heat and light that is essential for life on Earth. It supports life through photosynthesis in plants, and provides warmth and light. In addition to supporting life on Earth, sunlight is critical to human physical and psychological well-being. The benefits of the sun include keeping Earth's temperatures warm enough to sustain life, providing light, and helping plants grow by providing food.

The sun's energy comes from nuclear reactions in its core. This reaction, called fusion (joining), is produced by the joining of the nuclei of hydrogen atoms forming helium. The byproducts of this reaction are energy (heat and light). The Sun provides heat and light energy (amongst other forms of energy) that are vital for life on Earth. This occurs because heat travels to cooler places.

Our sun (109 times wider than Earth) is an average-sized star and it has been burning for about 4.5 billion years. The sun is a nuclear furnace that is a source of energy that does not pollute. Due to its

enormous mass, pressure in the interior of the sun reaches temperatures of almost 16 million degrees C, (28.8 million F). About four million tons of the sun's matter turns into energy every second and only one-billionth of the sun's light ever strikes Earth.

Intended Learning Outcomes

1. Use science and process thinking and skills
2. Manifest scientific attitudes and interests

Instructional Procedures

Invitation to Learn

Begin the lesson by playing the Beatles song, "Here Comes the Sun." Introduce the unit by having the students brainstorm as many words or phrases that have the word sun in them. (e.g., sunbeam, Sunday, sundae, suntan, sunburn, sunscreen, Sun Chips, sunlight, sunstroke, Sun Bear, etc.)

Have three paper suns cut out of yellow paper. The three suns will be the KWL chart. In the first sun write down all of the things the students know about the sun. In the second sun write down what the students want to learn. At the end of the unit write down what the students learned in the third sun.

Hang the suns in the room and add to them as needed.

Instructional Procedures:

Divide the students into groups.

Pass out construction paper, scissors, glue, and rulers to make temperature pockets.

Instruct students to measure two 6" x 6" inch squares of each color. Glue three sides together to form a pocket.

Review how to read a thermometer.

Students place strip thermometers inside the pockets and place all four pockets outside in the sun for the first part of the experiment.

Students predict what they think the temperatures will be for each color of pocket.

Check the pockets periodically for morning temperatures and for afternoon temperatures.

Record temperatures. *Variations may include placing the pockets in a shaded area and check for temperatures during the following day.

Journal the results and compare. Have students journal the steps used to experiment with the pockets and thermometers. (Draw pictures) Did the color of the paper make a difference in the heat recorded? Where was the pocket placed directly in the sun, in a shaded area? Consider questions such as: Which color of paper do you think will heat up the most? And why the students think there is a difference in the temperature.

Hot Dog Cooker

Each student will need one large can that still has the lid on it.

Place a small nail hole in the middle of the lid and also the bottom of the can.

Place the black construction paper around the outside of the can with scotch tape.

Straighten a wire hanger.

Place the hanger through the holes of the can with about four inches hanging from each end.

The cooker is now ready to be used the next day.

Place the hotdog on the straightened hanger and push the hotdog to the middle of the hanger, push the wire hanger through the bottom of the can, place tin foil over the opening, and replace the cover of the can.

Outside (or in a window in the classroom) place the two ends of the cooker on the bricks/blocks of wood and cook.

Take one of the hotdogs out of the can to check temperature. Eat and enjoy.

Extensions

Curriculum Extensions/Adaptations/ Integration

- [Sunburst String Art](#)

-make as a cover for their science journal.

Have students write a story about A Day Without the Sun.

Discuss the different temperatures found in ecosystems around the world. What do animals that live in a hot desert do to survive the heat? Does the temperature effect cold-blooded animals differently than warm-blooded animals? How?

Family Connections

Have the students keep a log of how much time they spend in the sun for a week. Make a prediction and then have them see if they were close.

Mention in a parent letter that students are learning to measure with thermometers, and ask parents to point out thermometers around the house.

Assessment Plan

Check students' Pocket Temperature page to make sure they are complete and they are filling in the thermometer correctly.

Bibliography

Research Basis

Barton, M. L., & Jordan, D. (2001). *Teaching reading in science*. Aurora, CO: Midcontinent Research for Education and Learning.

Prior knowledge, which is developed and enhanced through science inquiries, is the strongest predictor of student ability to make inferences from text.

Donovan, M. S., Bransford, J. D., & Pellegrino, J. W. (Eds.). (1999). *How people learn: Bridging research and practice*. Washington, DC: National Academy Press.

Writing is another way for students to discover, organize, summarize and communicate knowledge. Writing makes thinking processes concrete and increases retention of concepts. The act of writing gives a student access to his or her own thinking processes, enabling the construction of new understanding that is meaningful and applicable. Writing assignments in science have shown to generate reasoning about data.

Authors

[Utah LessonPlans](#)