# The Sun's Daily Pattern Lessons

# Websites

### General

**The Planetary Society**
Offers extensive up-to-date information and pictures of the most current happenings in astronomy.
( http://www.planetary.org/ )

**Astronomy Picture of the Day**
Each day a different picture from space is shown with an information sheet to go along with it.
( http://apod.nasa.gov/apod/astropix.html )

**StarChild**
This child-friendly NASA site offers an enormous amount of information about astronomy for children to explore independently.
( http://starchild.gsfc.nasa.gov/docs/StarChild/StarChild.html )

**Science, Optics & You**
View the Milky Way at 10 million light years from the Earth. Then move through space towards the Earth in successive orders of magnitude until you reach the subatomic universe of electrons and protons.
( http://micro.magnet.fsu.edu/primer/java/scienceopticsu/powersof10/ )

### Sun's Daily Pattern

**Sunrise Sunset**
This very easy to navigate website allows users to find sunrise and sunset data. All times are adjusted for local and daylight saving time. The website also includes an AM/PM clock as well as a 24 hour clock.
(http://www.sunrisesunset.com/custom_srss_calendar.asp)

**World Time Zones**
Use this site to locate the time zones around the world.
( http://www.worldtimezone.com/ )

**Sun Clock**
This page shows current areas of the world that are experiencing daytime and nighttime.
( http://www.worldtimezone.com/datetime.htm )

**Complete Sun and Moon Data for One Day**
Use this site to obtain sunrise and sunset data for one day.
( http://www.usno.navy.mil/USNO/astronomical-applications )

**The World Clock**
World clock showing the current time in cities around the world.
( http://www.timeanddate.com/worldclock/ )

# The Sun's Daily Pattern Lessons

# Books

### The Sun's Daily Pattern

The books listed below hold particular relevance to daily sun pattern lessons. They concern the sun and shadows, with two books about ancient astronomers learning about Earth as a sphere. Most are nonfiction books, although one suggests a poem, "My Shadow."

**A Child's Garden of Verses**

By Robert Louis Stevenson; illustrated by Brian Wildsmith. (2008, Star Bright Books)
Since their first appearance in 1885, the poems of Robert Louis Stevenson have engaged children's sensibilities. This book includes the poem, "My Shadow."

**How We Learned the Earth is Round**

By Patricia Lauber; illustrated by Megan Lloyd. (Harper Trophy Books, 1992)
This book follows the development of the idea that Earth is a sphere, from early deductions by ancient Greeks to the explorations of Columbus and Magellan. Includes simple experiments for children to try with tools as simple as those available to ancient Greeks. Since this book is out of print, look for it in a library or as a used book.

**The Librarian Who Measured the Earth**

By Kathryn Lasky. (1994, Little, Brown and Company)
The story of Eratosthenes, a Greek scholar of the third century B.C. who calculated the circumference of Earth with impressive accuracy by measuring shadows in two distant cities, measuring the distance between the cities, and using geometry. The children may need adult assistance if they want to understand why this method worked.

**Shadows (Scholastic Science Readers)**

By Carolyn B. Otto. (2001, Scholastic)
Easy-to-read text is combined with photographs to give children an introduction to what shadows are and why they change. Includes ideas for experiments using flashlights.

**Shadows Everywhere (Hello Reader! Science, Level 2)**
By Gina Shaw; illustrated by Joan Holub. (2002, Scholastic)
Written for kindergarten through grade 2, this book illustrates very easy, yet fun, shadow activities for children to read about and do on their own.

**Shadowy Science**
By Jess Brallier; illustrated by Bob Staake. (2001, Planet Dexter)
An excellent, age-appropriate book packed with neat things children can do with shadows.

**Sun-Day, Moon-Day: How the Week Was Made**
By Cherry Gilchrist; illustrated by Amanda Hall. (1998, Barefoot Books)
This book explains how the names of the days of the week are associated with the sun, the moon, and the planets. Each entry is followed by a relevant story or myth representing a different tradition, including ancient Greek, Norse, Roman, Old English, and Babylonian cultures.

**The Sun**
By Michael George. (1998, The Child's World, Inc.)
Incorporates photographs with easy-to-read text divided into chapters about the sun. The first half of the book covers topics relevant to the Our Solar System unit, such as what makes day and night, the distance from the earth, and identifies the sun as a star. The second half of the book focuses on the sun's energy and its effects on Earth.

**The Way to Start a Day**
By Byrd Baylor; illustrated by Peter Parnall. (1986, Aladdin Library)
This Caldecott Honor Book shows how many different cultures (from Native Americans to ancient Egyptians) greet the morning sun.