Watching the Sky

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

The Sun's Daily Path Across the Sky
This site provides the teacher with additional information about the sun's apparent movement across the sky during different times of the year.
(http://www.griffithobs.org/skyfiles/skysunspath.html)

Sol Path
This site shows the path of the sun's apparent movement across the sky for different times of the year at different latitudes. Click the corners of the catalogue to change the month. Move the slider on the globe to change latitude.
(http://www.susdesign.com/solpath/)

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/)

Moon

Current Moonrise, Moonset and Moon Phase Data
This user friendly site lists moonrise, moonset, and moon phase data for a specific location. The times are adjusted for local and daylight saving time. Included on this site are both domestic and international data.
(http://www.timeanddate.com/worldclock/moonrise.html)

NASA/NSSDC Photo Gallery- Moon
Follow this link to a gallery of NASA photographs of the moon's surface. Click on the thumbnail image you like most to get a full-screen view of it.
(http://nssdc.gsfc.nasa.gov/photo_gallery/photogallery-moon.html)

The Old Farmer's Almanac
View an illustrated calendar of the moon's phases for the month and year that you choose. The calendar will show what your class's moon phase observations should look like.
(http://www.almanac.com/astronomy)

The Moon
Offers potpourri of information about the moon and missions to the moon.
(http://www.solarviews.com/eng/moon.htm)

USNO-Astronomical Applications Department- Moon Data
Phases of the moon and moon illumination data for any place and year.
(http://www.usno.navy.mil/USNO/astronomical-applications)

Watching the Sky

Books

Sun

Galileo
By Leonard Everett Fisher. (1992, Antheneum)
This age-appropriate book chronicles Galileo's impact on the history of science. It is conveyed with bold simplicity in spare prose and striking black-and-white acrylic paintings.

Galileo and the Stargazers
By Jim Weiss. (1999, Greathall Productions)
Told by master storyteller Jim Weiss, this audio book turns historic icons of science into real people, with tales about Archimedes, Copernicus, Galileo, and Isaac Newton. A 2000 Parents' Choice®Gold Award Winner.

Great Minds of Science
(Enslow Publishers, Inc.)
Books in this series feature several historical astronomers: Copernicus (by Catherine M. Ardronik, 2006), Galileo Galilei (by Paul W. Hightower, 2001), Isaac Newton (by Margaret J. Anderson, 2001), and Tycho Brahe (by Mary Gow, 2002). Written at an upper-elementary reading level, most are only available in hardcover.

Johannes Kepler: Giant of Faith and Science
By John Hudson Tiner; illustrated by Rod Burke. (1999, Mott Media)
This read-aloud book provides a good starting point for learning about the life of Kepler.

Starry Messenger: A Book Depicting the Life of a Famous Scientist, Mathematician, Astronomer, Philosopher, Physicist Galileo Galilei
By Peter Sis. (2000, Farrar, Straus, and Giroux)
In this Caldecott Honor book, the author-illustrator tells the story of Galileo's life in language as simple as a fairy tale, in pictures as complex as a tapestry, and in Galileo's own words. The first man to turn the telescope to the skies, Galileo offered objective evidence that Earth was not the fixed center of the universe, but that it orbited the sun.

The Sun
By Paulette Bourgeois; illustrated by Bill Slavin. (1996, Kids Can Press)
An overview of the sun for independent readers. With both an index and glossary, this reference book also provides children with research skill building.

The Sun
By Seymour Simon. (2001, Perfect Learning)
Presents the sun through over 20 dramatic, full-color photographs and clear text. Discusses the basics of the sun's size, light and heat; also describes the constant nuclear explosions at its core, the sea of boiling gases that form the surface, and the cloud of superheated gases that make up the corona, plus sunspots and flares.

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.

Moon

Many Moons
By James Thurber; illustrated by Marc Simont. (1998, Sandpiper)
This Caldecott Medal winner tells the tale of a princess who wanted the moon, and how she got it.

Midnight on the Moon (Magic Tree House Series #8)
By Mary Pope Osborne; illustrated by Sal Murdocca. (1996, Random House)
In this book, illustrated in black-and-white, the characters are whisked forty years forward in time and land at an international space station on the moon. There they don space suits and go exploring the lunar surface. Independent readers will find it easy to read.

The Moon (Eye on the Universe)
By Niki Walker and Bobbie Kalman. (1998, Crabtree Pub.)
Beautiful, full-color photographs help illuminate the lunar cycle, the moon's surface, and its exploration by astronauts, as well as the effects it has on Earth. Each two-page spread highlights an interesting fact about the moon.

The Moon and You
By E. C. Krupp; illustrated by Robin Rector Krupp. (2000, HarperCollins Juvenile Books)
Set in a picture-book format, the straightforward, conversational text begins by briefly explaining the history, geography, orbit, phases, eclipses, gravity, and exploration of the moon. The second half of the book concerns various cultures' moon legends and beliefs throughout history. Appropriate for grades 3-6, and a worthwhile supplement to traditional books on the moon.

Moonwalk: The First Trip to the Moon (Step into Reading, Step 5)
By Judy Donnelly; illustrated by Dennis Davidson. (1989, Random House)
The story of Apollo 11's historic flight, from lift-off, through the famous line, "The Eagle has landed," to splashdown and quarantine. Includes chapters on the history of the idea of flight to the moon, astronaut selection and training, and the flight's effects on people in general.

What the Moon Is Like (Let's-Read-and-Find-Out Science, 2)
By Franklyn Mansfield Branley; illustrated by True Kelley. (2000, Collins)
Incorporates NASA photos and information gathered by the Apollo space missions, along with a description of how the moon's composition, terrain, and atmosphere differ from Earth's.

Spacebusters: The Race to the Moon (Level 3, Reading Alone)
By Philip Wilkinson. (1998, DK Publishing)
This story of Apollo 11's trip to the moon starts with lift-off and finishes with splashdown and quarantine, with a short epilogue about the US space program in subsequent years. It conveys some of the suspense and drama of the event, including what the experience was like for the three astronauts.