



# Observing the World Around Us

An inquiry-based science curriculum for kindergarten through grade six



Developed by researchers at  
the Smithsonian Astrophysical Observatory  
as part of  
NASA's Learning Technologies Project







Everyday  
Classroom Tools

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## **A Note About the Origins of *Observing the World Around Us***

For the past three years, Smithsonian Astrophysical Observatory has worked with elementary schools in Massachusetts to develop an integrated, inquiry-inspiring curriculum framework that brings science and the Internet into the everyday life of the elementary classroom. Our goal has been to infuse the Spirit of Inquiry into every school subject, so that students and teachers can approach learning as a life-long exploration of the world around us.

The result of our efforts is embodied in the "Threads of Inquiry: Observing the World Around Us", a series of ten hands-on, minds-on investigations that focus on the changing seasons and other aspects of our everyday experience. Developed according to the National Science Education Standards, the Threads can guide you and your class towards a practical and enthusiastic understanding of scientific inquiry.

Our investigations have been tested and evaluated and evolved for more than three years by a team of teachers and scientists in Massachusetts elementary schools. Now they are freely available on-line to you, along with an introduction to inquiry in education and related educational resources (especially connections to folklore) at:

**<http://hea-www.harvard.edu/ECT/>**

This hardcopy version also is available as a set of Adobe Acrobat files (.pdf format) which can be retrieved and/or printed directly from our Web site.

Due to their on-line origin, some investigations in this book suggest the use of specific Web sites. For classrooms without access to the Internet, we provide alternative suggestions and an additional packet of materials culled from the Internet sites mentioned. Thus, this book is complete and ready to use by any elementary school classroom.

This work has been supported by the NASA Learning Technologies Project. For more information about LTP, please visit their Web site at:

**<http://learn.ivv.nasa.gov/>**



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## About the Smithsonian Astrophysical Observatory

(an excerpt from an SAO brochure published in 1997)



The Smithsonian Astrophysical Observatory (SAO) is a research institute of the Smithsonian Institution, which was created by Congress in 1846 to carry out the bequest of Englishman James Smithson "to found at Washington ... An establishment for the increase and diffusion of knowledge..." As an independent trust establishment of the United States government, the Institution today conducts scientific and scholarly research, administers national collections, and provides public service, education, and outreach programs supported by Congressional appropriations, trust endowments and revenues, and private contracts, grants, and gifts.

In 1955, SAO moved from Washington, D.C., to Cambridge, Massachusetts, to affiliate with the Harvard College Observatory and to expand its staff, facilities, and, most important, its scientific scope. Fred Whipple, the first director of SAO in this new era, accepted a national challenge to create a worldwide satellite-tracking network, a decision that would establish SAO as a pioneer -- and leader -- in space science research. In 1973, the ties between Smithsonian and Harvard were strengthened and formalized by the creation of the joint Harvard-Smithsonian Center for Astrophysics (CfA).

Today, SAO is part of what is arguably the largest and most diverse astrophysical institution in the world. It has pioneered the development of orbiting observatories and large ground-based telescopes, the application of computers to astrophysical problems, and the integration of laboratory measurements, theoretical astrophysics, and observations across the electromagnetic spectrum. The more than 300 scientists of the CfA are engaged in a broad program of research in astronomy, astrophysics, and earth and space sciences. This research, while interrelated and complementary, is organized by divisions: atomic and molecular physics, high-energy astrophysics, optical and infrared astronomy, planetary sciences, radio and geoastronomy, solar and stellar physics, and theoretical astrophysics.

SAO scientists are dedicated to the increase of knowledge about those physical processes that shape the natural world, and to the diffusion of this knowledge to the scientific community, to teachers and students, and to the general public.

# Table of Contents

<b>Introduction</b>	1
Observing the World Around Us	1
How to Use the Threads of Inquiry	5
<b>The Threads of Inquiry</b>	13
To Seek, or Not to Seek?	15
Hello, Sun!	25
You Light Up My Life	39
Me and My Shadow	49
Guess My Shape	59
This is a Stickup!	69
Latitudes and Attitudes	85
Time Warp	101
Tilt-A-World	107
Through Thick and Thin	115
<b>Additional Resources</b>	125
The Keys to Inquiry	127
Telling Time Without a Clock	171
Word Lore	185
Related Books for Children	203
Assessment Ideas	205
<b>Bibliography</b>	
<b>Journal Form</b>	

