



## Light and Different Materials Lessons

### Websites

#### [Light and Shadows](#)

In this interactive website, children try to make a shadow bigger.

( [http://www.bbc.co.uk/schools/ks2bitesize/science/physical\\_processes/light\\_shadows/play.shtml](http://www.bbc.co.uk/schools/ks2bitesize/science/physical_processes/light_shadows/play.shtml) )

#### [The Light Stuff](#)

This interactive website challenges to students to click on different household objects to see if the objects slow down the speed of light.

( <http://www.pbs.org/wgbh/nova/physics/speed-light.html> )

#### [Bob Miller's Light Walk- Making a Pinhole Camera](#)

Provides detailed instructions for how to make a pinhole camera at home with readily accessible materials.

( [http://www.exploratorium.edu/sln/light\\_walk/camera\\_todo.html](http://www.exploratorium.edu/sln/light_walk/camera_todo.html) )

#### [Science Hobbyist- Misconceptions Page](#)

This site is a compilation of misconceptions that children have about a variety of physical science concepts, including light.

( <http://www.eskimo.com/~billb/miscon/opphys.html> )

#### [Light Tour- Discover Light's Mysteries](#)

This site, developed by the Center for Science Education at the Space Sciences Lab, takes you on a tour to explore wavelengths of light, types of light, how astronomers use different wavelengths, and what they see. A good resource site for the teacher, but too technical for the children.

( [http://cse.ssl.berkeley.edu/light/light\\_tour.html](http://cse.ssl.berkeley.edu/light/light_tour.html) )

#### [The Woman Astronomer](#)

This site details the accomplishments of women astronomers in the past, including Caroline Herschel and Maria Mitchell, whose discoveries advanced the science of light.

( [http://www.womanastronomer.com/women\\_astronomers.htm](http://www.womanastronomer.com/women_astronomers.htm) )



### Light Links

This site, sponsored by the Annenberg/CPB Channel, provides a collection of links related to light. An excellent resource site for teachers.

( <http://www.learner.org/workshops/sheddinglight/lightlinks/> )

### Light: A Teaching Unit

Created by General Electric, this Unit deals with light from a scientific, mathematical, technological, and historical perspective. Hands-on activities and experiments are included.

( <http://www.gelighting.com/LightingWeb/na/consumer/> )



## **Light and Different Materials Lessons**

### **Books**

#### **Celebrations of Light : A Year of Holidays Around the World**

By Nancy Luenn; illustrated by Mark Bender. (1998, Atheneum)

An excellent social studies resource, this book explores the ways in which cultures from around the world celebrate light, including Bon Matsuri in Japan, Luciadagen in Sweden, and Christmas in the United States.

#### **Experiments with Light: A True Book**

By Salvatore Tocci. (2002, Children's Press)

This source contains activities with good explanations on reflecting light, refracting light, how the eye works, and lenses.

#### **Exploring Light**

By Ed Catherall. (1991, Hodder Wayland)

This book, for more advanced readers, contains excellent information about light in conjunction with activities for children to apply their understanding. The book is very well presented and illustrated.

#### **Eyewitness Light**

By David Burnie. (1999, DK Publishing Inc.)

From the Eyewitness series, this serves as an excellent resource book for children to use in the Science Center. Although the text may not be age appropriate for some children, the detailed pictures will be engaging to all. Includes a table of contents, glossary, and index.

#### **Hand Shadows and More Hand Shadows**

By Henry Bursill. (1997, Dover Publications, Inc.)

Place this book in your Science Center. Includes over 34 different hand shadows for the children to create.



### **Light**

By Terry Jennings; illustrated by Peter Smith & Catherine Ward.

(1998, Heinemann Library)

This resource book for independent readers explores light, mirrors, periscopes, lenses, and cameras. Includes activities for the children to try in school or at home. Includes a table of contents, glossary, and index.

### **Light (Science Activities)**

By Graham Peacock. (1995, Hodder Wayland)

This resource book for independent readers explores how we see, mirrors, and color.

### **Light and Color (Straightforward Science Series)**

By Peter D. Riley. (1999, Children's Press)

This resource book for independent readers delves into many fascinating aspects of light including how light travels, interacts with materials, and makes shadows, as well as how the eyes of humans and other animals work. Includes a table of contents, glossary, and index.

### **Light and Dark (Science Alive Series)**

By Terry Jennings. (2009, Saunders Book Co.)

This book explores the difference between light and dark. Hands-on investigations, color photographs, and diagrams help children explore concepts including shadows, nocturnal animals, how plants use light, and reflection of light.

### **Light, Sound & Electricity: The Usborne Internet-Linked Library of Science**

By Kirsteen Rogers, Phillip Clarke, Alastair Smith and Corinne Henderson; illustrated by Verinder Bhachu. (2001, Usborne Publishing, Ltd.)

Although only a third of the book focuses on light, this book is an excellent resource that contains clear explanations and graphics of light phenomena. Includes activities to try at home as well as suggested links to web sites about light. Also includes a table of contents, list of inventors, glossary, and index.

### **Microscopes and Magnifying Lenses**

By Janice VanCleave. (1993, John Wiley and Sons)



Use this book as an extension when the children study transparent objects that bend light. Contains activities with water lenses, hand magnifiers, and how to use two lenses to make a compound microscope.

**Sound and Light (Hands on Science)**

By Jack Challoner; illustrated by David Le Jars. (2001, Kingfisher)

Half of this resource is focused on the topic of light. Contains three to five activities on each of nine topics about light. A good activity book for the unit.

**The Story of Thomas Alva Edison, Inventor: The Wizard of Menlo Park**

By Margaret Davidson. (1990, Scholastic Paperbacks)

This independent readers book chronicles the life of Thomas Edison, from his first job selling newspapers to his inventions of the phonograph and light bulb. With lots of text and some blackand- white pictures, the book provides an interesting account of his life, his impact on the field of science, and his lasting impact on today's society.

**Thomas A. Edison: Young Inventor (Childhood of Famous Americans Series)**

By Sue Guthridge; illustrated by Wallace Wook. (1986, Aladdin Library)

This independent readers book explores Thomas Edison's childhood and important things about his adult life including his invention of the light bulb and phonograph.