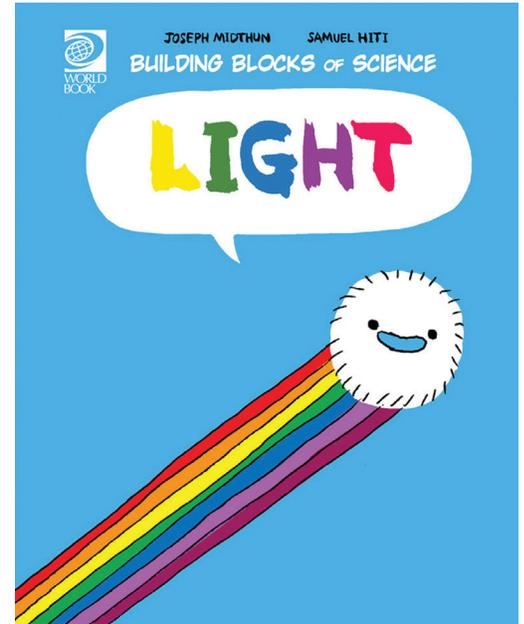


BUILDING BLOCKS OF SCIENCE

PHYSICAL SCIENCE

LESSON PLAN & GUIDED DISCUSSION

Each of the 10 *Building Blocks of Science* volumes features a whimsical character which guides the reader through a physical science topic. This series is perfect for students across a spectrum of reading comprehension and science mastery levels.



General Information	
Title:	Rockin' Rainbow
Materials:	<ul style="list-style-type: none"> • Pushpins • Pencil erasers • Rulers • Scissors • Red, orange, yellow, green, blue and violet crayons and markers. • Uncoated white paper plates (6" plates work best) • Transparent adhesive tape • Small handheld fan. <i>(Tip: Look for kid-friendly fans with foam or fabric blades. The activity requires one fan to complete the color wheel activity but kids can share these, depending on the number of fans.)</i> • Index cards • Pens or pencils

Objective:	Students will explore how light travels through various mediums and discuss their findings.
-------------------	---

Lesson

Group discussion questions:	<p>Make sure that your students have grasped the major concepts of this lesson through an informal group discussion. This is an opportunity for you to highlight the most important points in the book and to clarify any concepts that may still be confusing to your students. Use the questions below as a guideline but feel free to generate your own!</p> <ul style="list-style-type: none"> • Talk about the difference between transparent and translucent. • What happens when light hits an object? (<i>Hint: There is more than one possible outcome!</i>) • Why does light appear in different colors? • Give some examples of <i>invisible</i> light.
Procedure	<p>Have each student follow these simple steps:</p> <p>Trim the edge off the plate to create a flat white circle. Then use a ruler and a pencil to divide the circle into six equal parts. Now, color each part a different color. The colors do not need to be in any particular order.</p> <p>Pull the eraser out of the top of the pencil and set it aside.</p> <p>With the colorful side of the plate facing upwards, stick a pushpin through the circle's center and into the eraser to secure it.</p> <p>Use tape to affix the color wheel to the blades of a fan. (Caution: If not using a "kid-friendly" fan, an adult should do this.) Turn the fan on to the lowest setting and record what happens. You should find that when the color wheel spins fast enough, all of the colors combine to appear white or yellowish-white. If you don't see this result, try turning the fan up to a higher setting.</p>
Follow-up Questions	<ul style="list-style-type: none"> • What color(s) did you see when you spun the wheel? • Did it matter what colors are next to each other? • Why do you think this happened? • Have you ever held a prism or crystal up to the light to create a rainbow? What happens? In this activity, you just reversed the process. When you combine all the colors, they appear white, or a hue of yellowish-white.

<p>Vocabulary for the Word Wall:</p>	<p>As a class, decide on a few vocabulary words that were particularly relevant to this activity. For example,</p> <ul style="list-style-type: none"> • wavelength • reflect • refract • transparent • translucent <p>Pass out a few index cards and ask students to write the vocabulary word on the front of the card and its definition on the back. Students can refer to the glossary on p. 30 as a reference. There are probably not enough words for everyone in the class to make a card so just be mindful that each kid gets a turn at some point during this unit.</p> <p>Post the cards on a "WORD WALL" bulletin board in your classroom.</p>
---	---

Common Core Standards highlighted in this lesson

<p>Standards:</p>	<p>ELACC4RI2 Determine the main idea of a text and explain how it is supported by key details; summarize the text.</p> <p>ELACC4SL1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.</p> <p>ELACC4RI4 Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.</p> <p>ELACC4RI7 Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.</p>
--------------------------	---