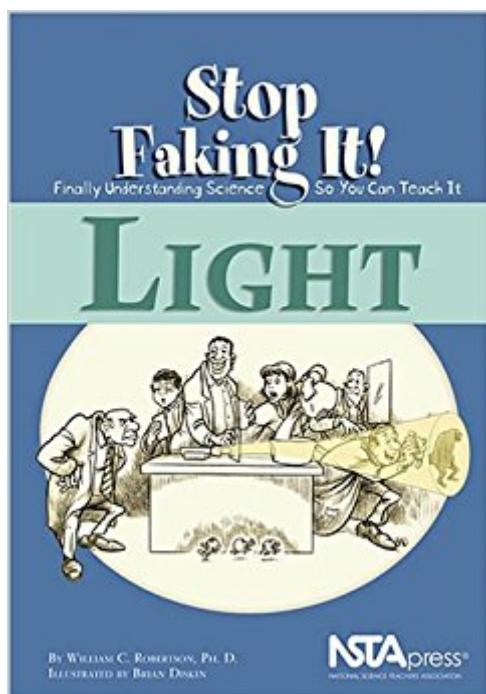


The book was found

Light (Stop Faking It! Finally Understanding Science So You Can Teach It Series)



Synopsis

Why is left right and right left in the mirror? Baffled by the basics of reflection and refraction? Wondering just how the eye works? If you have trouble teaching concepts about light that you don't fully grasp yourself, get help from a book that's both scientifically accurate and entertaining with Light. By combining clear explanations, clever drawings, and activities that use easy-to-find materials, this book covers what science teachers and parents need to know to teach about light with confidence. It uses ray, wave, and particle models of light to explain the basics of reflection and refraction, optical instruments, polarization of light, and interference and diffraction. There's also an entire chapter on how the eye works. Each chapter ends with a Summary and Applications section that reinforces concepts with everyday examples. Whether you need a deeper understanding of how light bends or a good explanation of why the sky is blue, you'll find Light more illuminating and accessible than a college textbook and certainly more fun.

Book Information

Series: Stop Faking It!

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Customer Reviews

... Each of the seven short chapters presents readers with a coherent tour of the basics of the study of light and optics. Readers are first urged to try simple activities to make the content that follows more intelligible. The style is light and conversational.... --Science Activities, Winter 2007 Light Topics Made Easy. The book, Light: Stop Faking It! Finally Understanding Science So You Can Teach It, is an easy-to-understand, information-packed book that contains hands-on examples, thorough explanations, and real-life examples of the science concepts of light. Within separate

chapters, the book explains the topics of reflection and refraction, the electromagnetic spectrum, parabolic reflectors, polarized light, diffraction, the workings of the human eye, and light at the atomic level. The way in which the topics are presented is noteworthy, as described below: To begin each chapter, the author, William C. Robertson, Ph. D., instructs the reader to demonstrate the concept, hands-on, for himself or herself, in the sections which he calls, 'Things to do before the science stuff'. For example, in the first chapter, he tells the reader to get a flashlight, a clear rectangular baking pan, and fill the pan with water. He instructs the reader to shine the light through the glass, then through the water, and observe the resulting 'bend' of the light. Then, he tells the reader to shine the light through the air, then the water, and again observe the 'bend' of the light. (Incidentally, these directions are accompanied by diagrams, so that the reader can proceed with confidence.) Then, the reader is instructed to compare the results. In each chapter, he follows the 'Things to do before the science stuff' with 'The science stuff', the place in which he explains the scientific reasons for what was observed during the hands-on demonstration. Continuing with the example above, he gives the reader easy-to-understand explanations of refraction and the index of refraction, including diagrams, and Snell's Law, complete with the formula. Each chapter ends with a 'Summary' in which Robertson succinctly recaps the concepts, followed by the 'Applications' section in which he tells how the topics in the chapter explain real-world phenomena. For the example above, he explains to the reader, complete with an illustration, how refraction causes one to see the 'mirage' of water on the road ahead on hot days. This National Science Teacher Association book is an enjoyable read, compared to a traditional textbook, and it is a good reference for any elementary school teacher or middle school teacher teaching the 'light' topics. It includes explanations of concepts, formulas, easy-to-duplicate demonstrations that lend themselves to inquiry-based exploration, good scientific models (diagrams), and funny cartoons, jokes and whimsical anecdotes. Scilinks topic names and codes are provided throughout the book to access additional teaching resources. This book promotes the Learning Cycle method of inquiry-based science teaching, and is based on the National Science Education Standards. --Reviewed by: Lisa G (Mechanicsburg, PA) on June 23, 2009

Ok

Good info..good format.

Great book, missing CD in the back, however.

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