

J History of Science

Grade: 8-10 | Ages: 13-15

Instructor's Guide



Sonlight J Instructor's Guide

Includes the following resources for teaching all Sonlight J subjects: full Schedule; Teaching Helps; Geography and Timeline Activities; Study Guides for History, Readers, and Read-Alouds (including Discussion

Questions and Vocabulary Development); full Answers and definitions. 3-hole punched and shrink wrapped.

Bible

Disappointment with God

☐ Yancey. Is God unfair? Is God silent? Is God hidden? The Israelites had a fair, vocal, visible God, and it didn't help them any. More is going on in the heavenlies than is visible, and we don't know what our faith is doing on a cosmic level. Outstanding. **RA:** 8-A; **R:** 8-A

Truth and transformation

☐ Mangalwadi. We live in times marked by much confusion and apprehension. In this landmark book, international scholar and author Vishal Mangalwadi offers a radical vision for the gospel's power to heal Western society. With insights drawn from real-life struggles against corruption and from years of study, he delves into the ideological roots of social oppression. Reform, he argues, is never without controversy. Yet reforming a culture's values is a necessary precursor to lasting liberation and hope.

Case for Kids

☐ Strobel. Why does God allow bad things to happen? Did Jesus really come back from the dead? Can I have doubts about the Bible and still be a Christian? Single-volume book by author Lee Strobel includes three Case for Kids titles (*The Case for Faith*, *Case for a Creator* and *Case for Christ*). A great tool for families to explore and discuss challenging questions of the faith. **Pb. RA:** 2-A; **R:** 3-A

History

Archimedes and the Door of Science

☐ Bendick. A delightful biography of Archimedes, the Greek mathematician who made a number of wonderful discoveries—or proved their practical application. Once he solved a challenging problem while in the bath and was so excited by the discovery, he ran naked through the streets yelling “Eureka! Eureka! (I’ve found it! I’ve found it!)” Science and history rolled up into one. **Pb.** thoroughly illus. **RA:** 3-A; **R:** 5-A

Bomb: The Race to Build

☐ Sheinkin. Newbery Honor. Moving from detective story to thrilling real-life spy story, Bomb tells about the race to build—and steal—the world's most dangerous weapon. Marvelous retelling of the spy network and sabotage teams, of the Los Alamos top secret lab and the incredible collaboration behind the first atomic bomb. (The countdown to the Trinity explosion is one of the best examples of writing I've come across.) Superb. **Pb. RA:** 4-A; **R:** 4-A

Censored Science

☐ Malone. Malone offers a wide variety of articles about things that are not explained by the theory of evolution. Whatever your current beliefs about the origins of life and the age of the earth, you will find this book interesting. Overall, fascinating information and helpful explanations, along with gorgeous, full-color illustrations. **Hb.** fully illus. **RA:** 8-A; **R:** 8-A

The Clockwork Universe

☐ Dolnick. The Royal Society—basically, the world's oldest science club—changed the way we think of the world. Scientific enquiry is open to all, and it's collaborative. A marvelously entertaining look at many of the early scientists. **Pb. RA:** 7-A; **R:** 8-A

Evolution 2.0

☐ Marshall. Faced with his missionary brother's move toward atheism, the author had to figure out what he really believed about the origin of the earth. He asks, “Which is harder: 1. Designing a zebra? or 2. Designing a cell that builds an ecosystem for a zebra to live in—then builds the zebra, too?” Whatever your current ideas about the age of the earth and evolutionary theory, you will learn something. Thought-provoking, well-researched. **Pb. RA:** 8-A; **R:** 8-A

Ida Scudder: Healing Bodies, Touching Hearts

☐ Bengé. Amazing story of a woman who grew up in India and couldn't wait to leave. In one night, three men came to ask her to help their laboring wives. All three refused her father's help (he was a doctor), preferring to let their wives die than break religious taboos. And all three did die. Ida realized she could make a difference, and so she went to med school, then served in India for decades, helping the lepers, founding a teaching hospital, serving the people. Powerful. **Pb. RA:** 2-A; **R:** 3-A

Interpreting Genesis 1 with Integrity

☐ Holzmänn. A thoughtful rebuttal to a fascinating section of Perry Marshall's book. An interesting read! **Pb. RA:** 8-A; **R:** 8-A

Longitude

☐ Sobel. How easy to take for granted the grid lines on every map and globe. Yet the entire Age of Exploration took place without accurate measurements. Once sailors lost sight of land, they were truly adrift. How could sailors more accurately plot their location, and so save many ships from sinking? They needed a precise way to tell time. Self-educated clockmaker John Harrison took forty years to develop one, and his invention, in time, changed the world. An engrossing tale, well-told. **Pb. RA:** 7-A; **R:** 8-A

The Mystery of the Periodic Table

☐ Wiker. Scientists looked at our diverse world and somehow figured out how to first isolate the elements, and then organize them into the clear chart that we have today. Such a stunning accomplishment . . . and a great story! **Pb. RA:** 5-A; **R:** 5-A

String, Straight-Edge, and Shadow

☐ Diggins. An excellent, interesting story of the earliest scientists, from unnamed Egyptians through Euclid, and their ability to figure out basic math using only the three items in the title. How Pythagoras proved his famous theorem (it will blow your mind!), plus the discovery of the Golden Mean by Eudoxus: absolutely incredible. And how Eratosthenes was able to figure out the size of the earth! These people didn't have digit symbols! Unbelievable! Prepare to be amazed. **Pb. RA:** 6-A; **R:** 6-A

The Story of Science: Aristotle Leads the Way

☐ Hakim. A gorgeous, lavish book by a master storyteller who obviously loves her subject. Joy Hakim tells the story of scientific thought during ancient Greece and in the years following, focusing on the biographies and findings of many colorful characters. Be amazed at how far they were able to reason, without calculators or calculus. Outstanding. **Hb.** fully illus. **RA:** 7-A; **R:** 8-A

The Story of Science: Newton at the Center

☐ Hakim. Picking up the story, learn about the advances in science from Newton up to the late 1800s, told mostly through fascinating short biographies of these men of science. Learn about Tycho Brahe's metal nose! About the discovery of physics and the annus mirabilis! About the feuds and partnerships, the dead-ends and the triumphs. Outstanding. **Hb.** fully illus. **RA:** 7-A; **R:** 8-A

The Story of Science: Einstein Adds a New Dimension

☐ Hakim. Not sure you're ready for quantum and theoretical physics? You have just needed a better teacher. Hakim does an outstanding job explaining challenging concepts, and you'll understand more than you would have thought possible. Learn about the advances in scientific thought, primarily in physics. How does the world work? After you read this, you'll know more than you do now! Beautiful, interesting, informative. Outstanding. **Hb.** fully illus. **RA:** 7-A; **R:** 8-A

Stuff Matters

☐ Miodownik. Engaging, delightful account of ten everyday materials that deserve a second look. How does opaque sand become transparent glass? Can you describe the experience of eating chocolate? How long does it take concrete to dry out? And so on. An absolute delight. **Pb. RA:** 6-A; **R:** 6-A

Timeline Figures J

☐ 128 Timeline Figures on pre-gummed heavy card stock. Just cut them out, color, and stick in your *Timeline Book*. Sonlight's *Timeline Book*, paired with program-specific Timeline Figures, makes creating your own timeline easy and delightful.

Read-Alouds

Belle Prater's Boy

☐ White. Newbery Honor. When Belle Prater disappears, her son Woodrow moves in with his grandparents, right next door to his cousin Gypsy and her family. Over the course of their sixth grade school year, the two children discover they have a whole lot more in common than they could have ever imagined. A book about love, abandonment, and family relations. Moving and thought-provoking. Pb. RA: 5-A; R: 5-A

Code Talkers

☐ Bruchac. From Navajo education, to developing and learning the code, and the Pacific Theater of WWII: Guam, Iwo Jima, Okinawa. Deals with hard things in a sensitive and appropriate way. Age appropriate, informative, interesting. Pb. RA: 5-A; R: 6-A

Echo

☐ Ryan. Newbery Honor. Three dark periods in history: a Pennsylvania boy during the Great Depression, a German boy during the rise of Nazi Germany, and a California girl during World War II. Their stories converge in a wholly original, glorious tale. Magnificent. Hb. RA: 5-A; R: 6-A

Fish in a Tree

☐ Hunt. Ally struggles in school, but because of frequent moves (dad is military), no one picks up on it. The author is dyslexic, and writes from a place of deep empathy for her dyslexic main character. Great friends, deep compassion, embracing your gifts—a beautiful book. Pb. RA: 4-A; R: 6-A

Half a Chance

☐ Lord. When Lucy moves to a lakeside house in New Hampshire, her photographer father leaves for a summer assignment. He'll judge a photography contest for youth in a few months, and Lucy wants to win. As the summer progresses, Lucy gets to know the neighbor boy, watches loons, and hones her photography skills. Questions of relationship and ethics, creativity and discernment, this coming of age story is quietly powerful. Deeply enjoyable. By a Newbery Honor author. Pb. RA: 4-A; R: 5-A

Holes

☐ Sachar. Winner of the Newbery Medal and the National Book Award. Stanley Yelnats, unjustly sentenced to a boys' detention center, spends every day digging holes five feet wide by five feet deep. But there's something else going on here. Stanley tries to dig up the truth in this inventive and darkly humorous tale of crime, punishment, and redemption. Pb. RA: 4-A; R: 4-A

The Mozart Season

☐ Wolff. A talented young musician spends her summer practicing a Mozart concerto for a competition. Luminous. Pb. RA: 5-A; R: 6-A

National Geographic Book of Nature Poetry

☐ Lewis. Gorgeous, gorgeous collection. Stunning nature poetry paired with superb National Geographic photography. Don't miss this one. Hb. RA: 2-A; R: 3-A

Our Only May Amelia

☐ Holm. Inspired by diaries of a real person, this book chronicles the adventures of a young girl growing up in Washington in 1899.

Penny from Heaven

☐ Holm. Newbery Honor. A shining story about the everyday and the extraordinary, inspired by the author's own Italian-American family. Told with all the richness and the layers, the love and the laughter of a Sunday dinner at Nonny's. Come and enjoy the feast! Buon appetito! RA: 5-A; R: 5-A

Shakespeare's Secret

☐ Broach. When sixth grade Hero (a girl named for a character in Shakespeare's *Much Ado About Nothing*) moves to a new town, her elderly neighbor tells her of a missing diamond, and Hero sets out to find it, even as she learns about some of the mysteries that surround Shakespeare's writing. Historical tidbits embedded in a modern mystery—thoroughly enjoyable. Pb. RA: 5-A; R: 6-A

Soar

☐ Bauer. When baseball-loving Jeremiah turns to coaching in a new town, he has to contend with a scandal. Can his cheerful, can-do attitude affect an entire town? A beautiful story of resilience. Pb. RA: 4-A; R: 5-A

The Watsons Go to Birmingham

☐ Curtis. Celebrate the 25th anniversary of the Newbery and Coretta Scott King Honoree about an unforgettable family on a road-trip during one of the most important times in the civil rights movement.

Which None Can Shut

☐ Goode. See the diverse, creative, unexpected, and thrilling ways God is reaching the author's Muslim neighbors with the Gospel of Jesus Christ. An unprecedented number of Muslims are becoming followers of Jesus. "See, I have set before you an open door, and no one can shut it." Exciting! Pb. RA: 6-A; R: 6-A

Whittington

☐ Armstrong. This is an unforgettable tale about the healing, transcendent power of storytelling, and how learning to read saves one little boy.

Readers

A Christmas Carol

☐ Dickens. The classic story of Ebenezer Scrooge's transformation from a cold, unfeeling man to one who shares in Tiny Tim's joyful exclamation, "God bless us every one." A story Dickens himself read every Christmas Eve. Pb. RA: 3-A; R: 6-A

Enchantress from the Stars

☐ Engdahl. Newbery Honor. On a mission to another planet, Elana becomes the key to a daring plan to thwart an invasion. An intelligent, thoughtful work that will stimulate as it entertains. Moving. Pb. RA: 6-A; R: 7-A

Everything on a Waffle

☐ Horvath. Newbery Honor. When Primrose's parents apparently perish at sea, she goes to live with her eccentric Uncle Jack. A delicious story about a small town, living a life of passion, and taking what comes. Delightful. Pb. RA: 3-A; R: 4-A

The Gammage Cup

☐ Kendall. Newbery Honor. A few citizens of a village dare to question some long-held but false beliefs in the community...and are ostracized as a result. Thought-provoking and easy to read. Pb. RA: 3-A; R: 5-A

The Giver

☐ Lowry. Newbery Medal. In a nameless Utopian community in a future time, everything is under control. There is no war or fear of pain. There are no choices. Every person is assigned a role in the community. When Jonas turns 12 he is singled out as Receiver, getting special training from the Giver. The Giver alone holds the memories of the true pains and pleasures of life—all the realities that can cause passions and upset within the community. And so the Giver teaches Jonas about color, the sun, snow, mountains, love, war, death. . . . and the revelations overwhelm Jonas. Horrified, he plots escape to "Elsewhere," a step he hopes will return these and other, more important memories to all the people. Can he succeed? A fascinating, thoughtful, and disturbing science-fiction novel. Pb. RA: 6-A; R: 8-A

Going Solo

☐ Dahl. One of the 20th Century's best-loved authors tells his personal story of "going solo"—striking out on his own in his first job (in East Africa!), flying combat for the RAF in WWII... and returning home to Mother. By turns humorous and blood-thumpingly exciting. Delightful! Pb. photos. RA: 3-A; R: 5-A

Mrs. Frisby & the Rats of NIMH

☐ O'Brien. Newbery Medal. Mrs. Frisby, a widowed mouse, must move her family or face death. Unfortunately, her son Timothy is ill and can't be moved. She seeks help from brilliant rats. Their solution is worth the read. Pb. RA: 3-A; R: 6-A

The Outlaws of Sherwood

☐ McKinley. The best Robin Hood story ever. How do these people in the woods survive? What would it be like to be Robin, who must live with a price on his head, an average guy with more responsibility than he wants? It is so human, so entertaining, so thrilling. It's a great story even told poorly, but it becomes transcendent in the hands of a master storyteller, as this is. Pb. RA: 5-A; R: 6-A

The Phantom Tollbooth

☐ Juster. Classic story, in the Alice in Wonderland tradition of word-play and logical conundrum, about a bored young man who discovers life is far from dull if you just put your mind to it. Pb. RA: 4-A; R: 6-A

Pictures of Hollis Woods

☐ Giff. Newbery Honor. Hollis Woods, an artistic foster child, dreams of having a family. And she nearly gets her wish when the Regans take her in for a summer. But then something happens that destroys that perfect picture. Hollis tries to come to terms with that past while also confronting the trials of today. A haunting, gorgeous book that will grip your heart. Pb. RA: 5-A; R: 6-A

Strange Case of Dr. Jekyll & Mr. Hyde

☐ Stevenson. An upstanding doctor finds a way to act out his baser urges without social penalty. But will he maintain control of himself? A timely story, even now, with themes of drug abuse, hypocrisy, and a world in need of grace. Pb. RA: 6-A; R: 8-A

The Teacher's Funeral

☐ Peck. "If your teacher has to die, August isn't a bad time of year for it." Russell Culver is fifteen in 1904, and he's raring to leave his tiny Indiana farm town for the endless sky of the Dakotas. School has been nothing but a chain holding him back from his dreams. Maybe now that his teacher has passed on, they'll shut the school down entirely and leave him free to roam. Pb. RA: 3-A; R: 5-A

The Thief

☐ Turner. Newbery Medal. After Gen's bragging lands him in the king's prison, his chance of escape looks slim. Then the king's scholar summons him for an impossible task—and then to reach home again, alive. A gorgeous mix of mythology, adventure, and survival, for the thoughtful reader. Pb. **RA:** 4-A; **R:** 6-A

Treasure Island

☐ Stevenson. High seas adventure. A group of treasure seekers follow a treasure map to a distant island. Full of piracy and treachery, this book is as enjoyable to read today as when it was first published in 1883. Pb. **RA:** 3-A; **R:** 5-A

The Westing Game

☐ Raskin. The only mystery story ever to win the Newbery Medal! Sixteen players are possible heirs to Sam Westing's fortune . . . and all of them are suspects in the case of his curious demise. The one who discovers the villain's identity wins \$200 million; will the losers lose all? A pleasurable read. Pb. **RA:** 4-A; **R:** 6-A

The Wolves of Willoughby Chase

☐ Aiken. Wolves without and a wicked governess within lead two English girls, Bonnie and Sylvia, to many spine-tingling adventures. Suspenseful. Fun! Pb. **RA:** 2-A; **R:** 5-A