1. Record Nr. UNINA9910255125503321

Autore	Isabelle Aaron D
Titolo	Sci-Book : STEPS to STEM – Student Science Notebook / / by Aaron D. Isabelle
Pubbl/distr/stampa	Rotterdam : , : SensePublishers : , : Imprint : SensePublishers, , 2017
ISBN	9789463007948 9463007946
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (X, 214 p.)
Disciplina	370
Soggetti	Education
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Electricity & Magnetism -- Step 1: Series Circuits -- Step 2: Parallel Circuits -- Step 3: Electricity and Heat -- STEM Center 1.1 -- Science & Engineering Practices -- Step 4: Static Electricity -- Step 5: Electromagnetic Poles -- Step 6: How Steady is Your Hand? -- STEM Center 1.2 -- Science & Engineering Practices -- Step 7: Charged Balloons -- Step 8: Making Magnets -- Step 9: Magnetism and Electricity -- STEM Center 1.3 -- Science & Engineering Practices -- Air & Flight -- Step 1: Air Pressure -- Step 2: Out Goes the Candle -- Step 3: Pop! -- STEM Center 2.1 -- Science & Engineering Practices -- Step 4: Which Way? -- Step 5: Particles in the Air -- Step 6: Propeller Flights -- STEM Center 2.2 -- Science & Engineering Practices -- Step 7: Oxygen and Burning -- Step 8: Control of Flight -- Step 9: Air in Your Lungs -- STEM Center 2.3 -- Science & Engineering Practices -- Water & Weather -- Step 1: Water to the Rescue -- Step 2: Ice Cubes -- Step 3: MeasuringRainfall -- STEM Center 3.1 -- Science & Engineering Practices -- Step 4: A Bathysphere -- Step 5: Crystal Shapes -- Step 6: Candy Wrapper Hygrometer -- STEM Center 3.2 -- Science & Engineering Practices -- Step 7: Hard and Soft Water -- Step 8: Water and Weight -- Step 9: Water Finds Its Level -- STEM Center 3.3 -- Science & Engineering Practices -- Plants & Animals -- Step 1: Pollen Grains -- Step 2: Mealworms -- Step 3: Leaf Vein Patterns -- STEM Center 4.1 -- Science & Engineering Practices -- Step 4: Root Hairs -- Step 5: Growing Molds -- Step 6: Hatching Brine Shrimp -- STEM

Center 4.2 -- Science & Engineering Practices -- Step 7: Salt and Cells -- Step 8: Moth or Butterfly? -- Step 9: Collecting and Preserving Flowers -- STEM Center 4.3 -- Science & Engineering Practices -- Earth & Space -- Step 1: The Good Earth -- Step 2: Surface Changes -- Step 3: The Earth's Shape -- STEM Center 5.1 -- Science & Engineering Practices -- Step 4: Sunlight and Heat -- Step 5: Limestone and Shale -- Step 6: Satellites in Orbit -- STEM Center 5.2 -- Science & Engineering Practices -- Step 7: Star Sighting -- Step 8: Mineral Streak Test -- Step 9: A Simple Telescope -- STEM Center 5.3 -- Science & Engineering Practices -- Matter & Motion -- Step 1: Molecules in Motion -- Step 2: Objects at Rest -- Step 3: A Balancing Act -- STEM Center 6.1 -- Science & Engineering Practices -- Step 4: Testing for Starch -- Step 5: Gears -- Step 6: Roll Back -- STEM Center 6.2 -- Science & Engineering Practices -- Step 7: Finding the Center -- Step 8: Vinegar and Calcium -- Step 9: Transfer of Energy -- STEM Center 6.3 -- Science & Engineering Practices -- Light & Sound -- Step 1: Vibrations and Sound -- Step 2: Watch the Rebound -- Step 3: Canned Sounds -- STEM Center 7.1 -- Science & Engineering Practices -- Step 4: Speed of Vibrations -- Step 5: Seeing -- Step 6: Up Periscope -- STEM Center 7.2 -- Science & Engineering Practices -- Step 7: Light and Water -- Step 8: Groovy Sounds -- Step 9: A Kaleidoscope -- STEM Center 7.3 -- Science & Engineering Practices.

Sommario/riassunto

"A “Sci-Book” or “Science Notebook” serves as an essential companion to the science curriculum supplement, STEPS to STEM. As students learn key concepts in the seven “big ideas” in this program (Electricity & Magnetism; Air & Flight; Water & Weather; Plants & Animals; Earth & Space; Matter & Motion; Light & Sound), they record their ideas, plans, and evidence. There is ample space for students to keep track of their observations and findings, as well as a section to reflect upon the use of “Science and Engineering Practices” as set forth in the Next Generation Science Standards (NGSS). Using a science notebook is reflective of the behavior of scientists. One of the pillars of the Nature of Science is that scientists must document their work to publish their research results; it is a necessary part of the scientific enterprise. This is important because STEPS to STEM is a program for young scientists who learn within a community of scient ists. Helping students to think and act like scientists is a critical feature of this program. Students learn that they need to keep a written record if they are to successfully share their discoveries and curiosities with their classmates and with the teacher. Teachers should also model writing in science to help instill a sense of purpose and pride in using and maintaining a Sci-Book. Lastly, students' documentation can serve as a valuable form of authentic assessment; teachers can utilize Sci-Books to monitor the learning process and the development of science skills.".