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Soggetti	Science - Study and teaching (Elementary) Technology - Study and teaching (Elementary) Engineering - Study and teaching (Elementary) Mathematics - Study and teaching (Elementary) Science - Study and teaching (Middle school) Technology - Study and teaching (Middle school) Engineering - Study and teaching (Middle school) Mathematics - Study and teaching (Middle school) Education, Elementary - Curricula - United States Middle school education - Curricula - United States Next Generation Science Standards (Education)
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Nota di contenuto	Preface -- 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: Measuring Rainfall -- 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 -- Conclusion.

Sommario/riassunto

"STEPS (Science Tasks Enhance Process Skills) to STEM (Science, Technology, Engineering, Mathematics) is an inquiry-based science curriculum supplement focused on developing upper elementary and middle students' process skills and problem-solving abilities characteristic of how scientists think and act. Students learn key concepts in seven "big ideas" in science: Electricity & Magnetism; Air & Flight; Water & Weather; Plants & Animals; Earth & Space; Matter & Motion; and Light & Sound. Using simple, readily available materials, teachers facilitate learning experiences using the following structure: STEP 1: Investigate – Hypothesis – Test STEP 2: Observe – Record – Predict STEP 3: Gather – Make – Try Once students complete a set of STEP activities aligned with the Next Generation Science Standards (NGSS), they are ready to collaborate using a STEM Center. STEM Centers provide students with the opportunity for extended investigations focused on a single problem or "team challenge." Students utilize science and engineering practices while collaboratively conducting research to gather information. Once a plan is made, the team attempts to solve the problem or complete the open-ended task. In addition, a Science Notebook or Sci-Book serves as an essential companion to STEPS to STEM; students maintain a written record of their completed activities which can serve as a form of authentic

assessment. STEPS to STEM aims to help students find enjoyment in science and in the process of problem-solving – there are things to do, discoveries to be made, and problems to solve. Ideally, these experiences will lead to more explorations and questions about the world around them."
