ELEVATE SCIENCE

Motivate every student to reach higher and go further. *Elevate Science* is a complete K–5 science program, including a blended print and digital curriculum, that elevates thinking, learning, and teaching.

**TAKE SCIENCE TO THE NEXT LEVEL**

- Real-world, relevant, and interesting topics introduce the core ideas.
- Student-centered investigations utilize the science/ engineering practices.
- Problem-based learning promotes application and student understanding.

**Elevate thinking**

Promote Investigation, Critical Thinking, and Analysis

- Phenomena-based Quests
- STEM and engineering activities
- Interdisciplinary connections

**Elevate learning**

Foster Three-dimensional Learning

- Encourages innovation, collaboration, and creativity
- Promotes understanding, application, and synthesis
- Fosters the use of claims, evidence, and reasoning

**Elevate teaching**

Transform Learning and Manage Changing Classrooms

- Scaffolded questions guide discussions and promote thinking
- ELD and Differentiated Instruction strategies
- Supports the 5E Learning Model
Promote Investigation, Critical Thinking, and Analysis

Exploration is the heart of science. The Quest problem-based activity anchors each topic. Students “figure out” the problem’s solution as they navigate the topic’s lessons. It’s real science with engaging phenomena. Students apply their knowledge and skills to master the new science standards.

Phenomena-Based Learning

“Find the right mix—and step on it!” In this Quest, students engineer a stepping stone. Each topic centers on a real-world, problem-based activity to make learning fun.

Do you think that color and texture are important properties of a stepping stone? Explain your answer.

What materials are needed to solve the Quest? Check-Ins ask students to reflect on the problem as they design their solutions.

At the close of each topic, students synthesize information and construct explanations as they complete their Quest.

Learning is structured and intentional. Students explore the Quest phenomenon throughout the lessons.
**The Next Level of STEM Education**

*Elevate Science* connects Science, Technology, Engineering, and Mathematics in every topic, at every grade. STEM activities fuel innovation, problem solving, collaboration, and reasoning—skills for future careers.

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**STEM LABS**

Make STEM hands-on! STEM Labs let students experiment, model, design, and construct.

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**STEM QUEST KICKOFF**

Students use STEM practices to solve the Quest problem in each topic.

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**STEM CONNECTIONS**

STEM Connections help students think critically about real-world problems.

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**STEM ENGINEERING READER**

Share engineering experiences with young students using these leveled readers.

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**ENGINEERING CONNECTION**

Integrate science and engineering practices throughout the curriculum.

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**What happens to mass when objects are mixed?**

Materials scientists investigate how substances can mix together by performing experiments and collecting data. How can you investigate?

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**How can you compare the properties of matter?**

The study of materials scientists involves understanding how the properties of materials vary. How can you learn about the properties of salt?

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**Elevate Science** connects Science, Technology, Engineering, and Mathematics in every topic, at every grade. STEM activities fuel innovation, problem solving, collaboration, and reasoning—skills for future careers.
Focus on the NEW Standards and the Science/Engineering Practices

The new science standards emphasize the practice of scientific inquiry. Elevate Science helps shift the cognitive load from guided inquiry to student-initiated experiences. Explicit strategies vary the guidance based on student needs.

**What happens to mass when objects are mixed?**

Students engage with the phenomena and connect it to the disciplinary core ideas.

**How can you detect matter without seeing it?**

Material scientists study all kinds of matter. How can you show evidence of matter that you cannot see?

**Define It!**

Students engage in engineering practices to design, build, and apply core ideas to new situations.

**uConnect Lab**

- **Problem:** What will happen to the mass of the three objects when you mix them together?
- **Procedure:**
  1. Mix one granola bar, one hard boiled egg, and one piece of chocolate. Note the mass of each object before mixing.
  2. Mix the ingredients together. What happens to the mass of the mixture? Note the mass of the mixture before and after mixing.

**uInvestigate Lab**

- **Define It!**
  - **INTERACTIVITY**
    - Assign the Engineering Activity after students complete the Define It! exercise.
    - **What it is:** A highly interactive multi-page digital activity with engaging visuals
    - **What it does:** Allows students to practice using criteria to evaluate competing design solutions using a fun example
    - **How to use it:**
      - Students will click through the screens to

**uEngineer It!**

- **Define It!**

**uEngineer It! Lab**

Students engage in engineering practices to design, build, and apply core ideas to new situations.

**uEngineer It! Maker Crates**

Encourage creative building and tinkering. These crates contain materials to support and extend the uEngineer It! Labs.

**uEngineer It! Virtual Labs**

Virtual science simulations engage digital learners. Plus nothing gets broken!

**Virtual Labs**

- **littleBits**
  - **LittleBits Extension Kits**
    - Inspire inventors! Students can make programmable robots, vehicles, and machines using simple, modular electronics.

**Classroom Materials Kits**

Organized equipment kits provide the materials to support all of the program labs.

**Virtual Labs**

Virtual science simulations engage digital learners. Plus nothing gets broken!
The Next Level of Integration

Raise the bar on ELD/Literacy and Mathematics Standards. Elevate Science helps students think about, read about, write about, and talk about science. By integrating phenomena with these crucial skills, you’ll ‘elevate’ results in all disciplines.

**ELD/Literacy Standards**

- **LITERACY TOOLBOX**
  Reminders throughout the topic reinforce the target literacy skill and help students read closely.

- **LITERACY CONNECTION**
  Every topic targets a critical literacy skill, such as using evidence from texts to make well-defended claims.

**ELD SUPPORT INSIDE!**

**Mathematics Standards**

- **Math Toolbox**
  Use Models: Models can help you represent thoughts or ideas. How can you use the blocks in the image below to explain the idea that particles rearrange when they form new substances?

- **MATH TOOLBOX**
  Bring math relevance and depth to science! Integrated math practices apply concepts to real situations.

**READING CHECK**

- Formative assessment opportunities help you provide feedback to improve students’ learning.

**LEVELED READERS**

- The Phenomena Series leveled readers teach the same concepts at different Lexile levels. Also includes a STEM/Engineering reader for every topic.

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**Use Evidence from Text**

Water is formed by the combination of atoms of two different elements—hydrogen and oxygen. Is the smallest particle of water an atom or a molecule? Why do you think so?
In a differentiated classroom, all learners have a better chance of mastering the new science standards. Elevate Science helps teachers make strong connections between assessment and differentiated instruction.

**Assessment for Three-Dimensional Learning**

- **Lesson Check**: Formative assessment in every lesson helps you monitor and support student progress.
- **End-of-Topic Assessment**: Summative assessment at the end of each topic helps to refine teaching practices.
- **Evidence-Based Assessment**: Put students on the path to success with practice aligned towards demonstrating their mastery of science concepts.
- **Performance-Based Assessment**: End-of-topic performance assessments allow students to demonstrate mastery of the new science standards.
- **Differentiated Instruction**: On-the-spot strategies help support struggling students and advanced learners.
- **Guiding Inquiry**: Find useful procedures to guide inquiry when more support is needed.
- **Focus on Mastery**: Help students achieve mastery by focusing on the Science and Engineering Practices.

**ELD Support**

Integrate English language development for varying proficiency levels.

**Depth of Knowledge (DOK)**

Multiple DOK level questions help students focus on the “Big Ideas.”

**Scaffolded Questions**

Reduce student frustration and help them focus on Depth of Knowledge (DOK).

**DEEP-LEVEL DEEP-LEVEL**

Students develop higher-order thinking by using evidence-based assessments and Depth of Knowledge questions to focus on the “Big Ideas.”

**Guiding Inquiry**

Find useful procedures to guide inquiry when more support is needed.

**Focus on Mastery**

Help students achieve mastery by focusing on the Science and Engineering Practices.
Transform Learning and Manage Changing Classrooms

Feel confident teaching science! *Elevate Science* helps teachers create a learning culture that’s nimble, personalized, and student-centered. The curriculum includes all needed resources to implement new science standards identified at point of use.

**Inquiry-Based Teaching**

*Elevate Science* integrates 5E learning in a new CISD Instructional Model (Connect, Investigate, Synthesize, Demonstrate) and provides an instructional plan designed for today’s blended learning environment. Students expand their current thinking as they investigate real problems, synthesize their knowledge in new situations, and demonstrate their understanding of core ideas.

**5E Learning Intersects with 21st Century Competencies**

**CONNECT**

*ENGAGE* the mind with phenomena, linking what students know to their own personal experiences.

**INVESTIGATE**

*EXPLORE* concepts and ideas while constructing knowledge and building meaning.

**SYNTHESIZE**

*EXPLAIN* and *ELABORATE* understanding by formulating ideas, arguments, and solutions using evidence.

**DEMONSTRATE**

*ELABORATE* and *EVALUATE* arguments by applying newly formed understandings and transferring knowledge to new situations.

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