

Make the real next generation shift from students *learning* about to **figuring out**.

**Empower your students** with KnowAtom's K-8 science and engineering curriculum.





## Start with Real. End with Mastery.

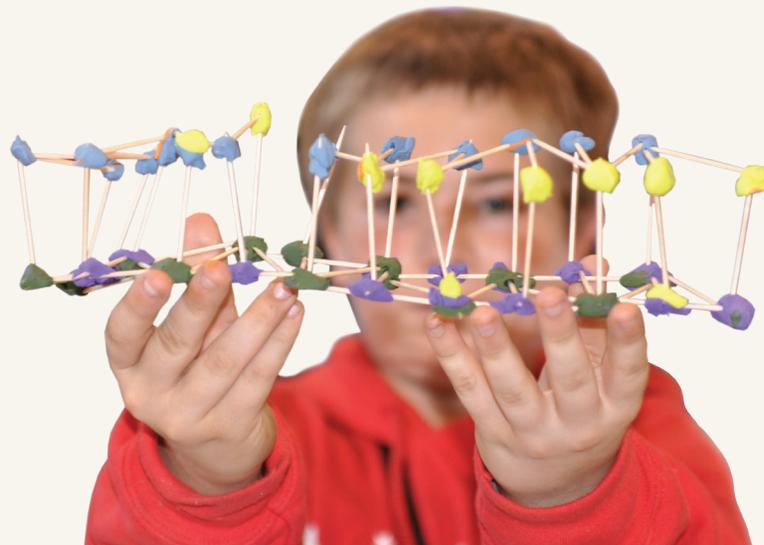
**Real science** is fun. It's **hands-on**. It's the experience of discovering answers to **real-world questions and problems**.

*KnowAtom makes real science possible in every K-8 classroom.* We provide a complete K-8 solution **designed for mastery** of the Next Generation Science Standards: **fully aligned** curriculum, **integrated** hands-on materials, and **targeted** professional development. Our research-based, **classroom-tested tools and techniques** bring your students' own ideas to life with hands-on materials and technology.

With KnowAtom, students aren't just learning **facts**. They're **developing the skills** to investigate phenomena and create solutions. Our resources take students above **doing** science to **BEING** scientists and engineers.

KnowAtom has been fully implemented by public school teachers serving hundreds of thousands of students across the United States, including in **rural, suburban,** and large **urban** districts with a majority of low-income students and English language learners. We help schools become **top performers** in their state's standardized testing.

More importantly, as teachers ourselves, we believe **creative, evaluative, and analytical skills** prepare **all students** for any college or career choice. And STEM disciplines are the perfect venue for teaching these skills **hands-on**.



## >> A Proven Partner <<

We're more than a product. We're a **partner** focused on helping every teacher be their most effective. That's why it's not uncommon to see KnowAtom users **improve student proficiency** by over 20 points in a single year and move from below state average to above state average, even in the most challenging instructional environments.

**Next generation teachers choose KnowAtom for greater impact.**

Our approach has even caught the eye of the White House's Office of Science and Technology Policy and one of the world's largest corporations, General Electric, who awarded KnowAtom a global Impact Award as a **sustainable solution for education.**

We've equipped classrooms across the country to carry out:



### 5.2 MILLION EXPERIMENTS



## Start with 100% of What You Need



### 100% Designed for Next Generation Standards

100% designed for next generation standards means being **100% phenomena-driven**. Every KnowAtom lesson begins with a real-world scenario that becomes the **real-world motivation** and basis for students to **figure out how or why** something happens.

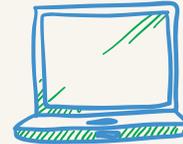
KnowAtom combines phenomena with **student-generated questions** about the phenomena to guide teaching and learning.



### Fully Integrated Storylines and Learning Trajectories

Learning to solve problems and answer questions doesn't happen in isolation. KnowAtom is a **three-dimensional learning experience** where students develop the skills to expand on what they know **across different disciplinary core ideas and crosscutting concepts**.

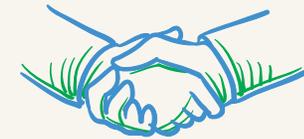
KnowAtom uses a **constructivist learning model** to scaffold skills and concepts through **grade-specific storylines** that form yearlong learning trajectories and **intentionally nurture** students from one grade level to the next.



### Technology that Increases Student Engagement

Every student's ideas matter. KnowAtom provides **technology that brings those ideas to life** through SocraCircle®, our innovative online tool that **gets every student** involved in creating and analyzing.

But technology is just one part of the experience. All KnowAtom lessons are hands-on because there is **no substitute for engaging with real phenomena**.



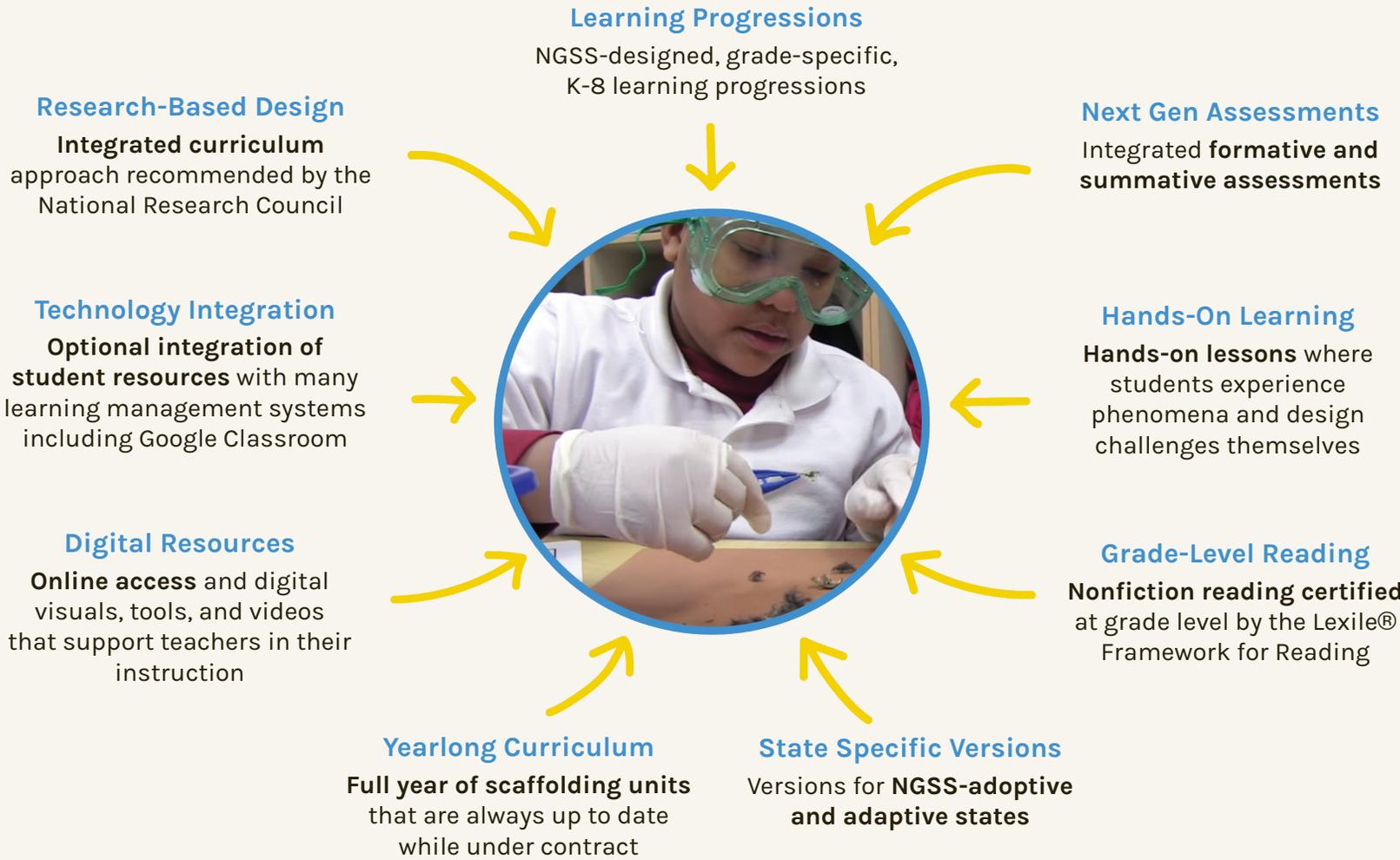
### Support that Meets You Where You're At

Today's next generation teacher is a **skillful guide**, **challenging** student thinking as an interested skeptic, **adjusting** student supports, and **meeting** students where they're at.

Setting aside a focus on facts and direct instruction takes support. **KnowAtom is designed by teachers for teachers**. We provide online and in-person **professional development targeted** to your communities' needs. We also host an annual conference to **connect** users for sharing next generation tips and techniques.

# Teach with Complete Next Generation Curriculum

KnowAtom’s curriculum launches students on a yearlong process of **hands-on discovery** in three dimensions. The lessons build a big-picture narrative of what science and engineering are and use storylines to bring the content to life in scenarios where **students investigate phenomena and design solutions to problems.**



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## Experience High Quality Student Engagement

With KnowAtom, student questions and investigations form the core of the next generation inquiry process. This approach ensures that students are engaged every day as scientists and engineers in the classroom.

Students **learn to plan** how they're going to answer a question as a scientist or solve a problem as an engineer and then **carry out their plan hands-on**. This experience gives students the opportunity to engage with real-world phenomena in three dimensions. When students carry out investigations **they've designed**, their data and observations are **more meaningful** because the results are personal.



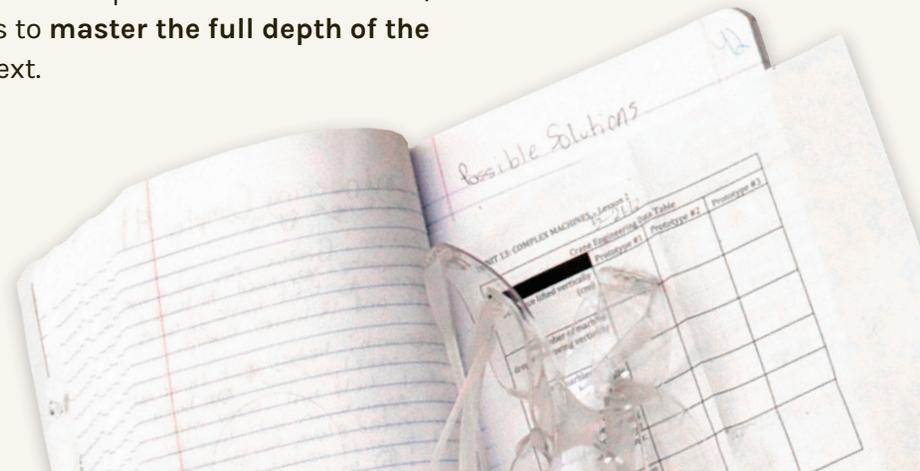
*Science is the one subject where there is always 100% engagement. Students are talking to each other, asking questions, and making meaningful connections with what we're doing.*

*— Jen A, 4th and 5th Grade Teacher*



This **authentic experience** means that student teams may come to different conclusions, which provides the basis for further scientific reasoning and argumentation. Learning to share results in a claim-evidence-reasoning model requires students to use specific data and their own ideas to form **evidence-based conclusions**.

Each lesson and unit adds depth to the skills and knowledge gained in prior lessons and units, allowing students to **master the full depth of the standard** in context.



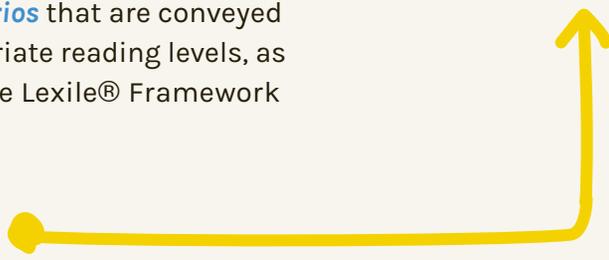
# Unique Features for High Quality Instruction



## 1 Lexile®-Certified Nonfiction Reading for College and Career-Readiness

Each unit in grades 1-8 has **targeted grade-level nonfiction reading** to introduce real-world context for the unit and give every student a **common background and scientific vocabulary**.

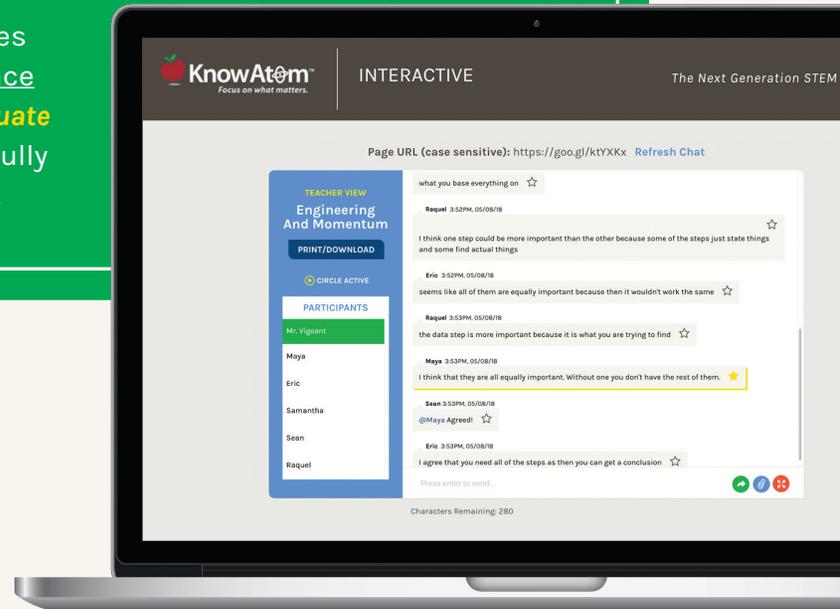
The nonfiction reading uses **scientifically accurate information and real-world scenarios** that are conveyed in grade-appropriate reading levels, as measured by The Lexile® Framework for Reading.



## 2 Socratic Dialogue for Classroom Conversations That Work

Students make connections between the nonfiction reading and their own experiences in Socratic dialogue. Socratic dialogue teaches students to **explore scientific and engineering ideas in conversation**. It also teaches students how to **use evidence to build on others' ideas, evaluate their own ideas, and respectfully agree or disagree** with others.

KnowAtom's innovative online tool **SocraCircle®** is an option for classrooms with web-enabled devices. It allows **all students** to engage in inner-circle/outer-circle dialogue with their class.



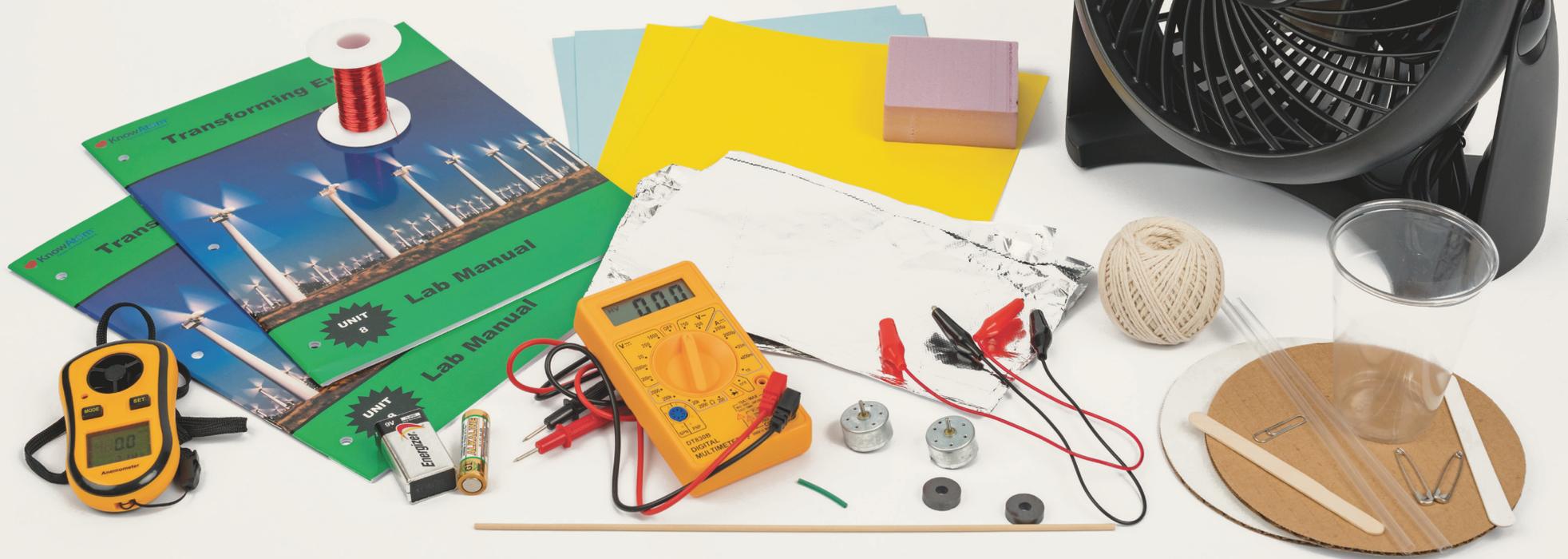
### 3 Real Materials For Real Science and Engineering

Student questions come to life when they experiment and prototype. This is real science and engineering, and it requires real tools and materials to *discover hands-on*.

KnowAtom provides all of the consumable and *durable materials, tools, and live materials* for students to engage with investigative phenomena as scientists and engineers.

KnowAtom's next generation science and engineering kits are designed for *small-group learning*. Schools adopting KnowAtom can receive deliveries direct to their classrooms:

- Kitted by unit, labeled and delivered directly to your teachers by name throughout the year
- No materials preparation or additional purchases required
- Yearly consumable re-supply service
- No-charge wear-and-tear and damage replacement while under contract



## Supporting the Work of Next Generation Teachers

Our professional development is *specific* to the KnowAtom resources teachers use in the classroom. We go beyond explaining the resources. **We engage teachers in what it means to bring a next generation inquiry environment to life** and allow phenomena to drive teaching and learning.

- Online and in-person support that *develops teachers' instructional practices*
- *Reflective collaboration* that engages teachers as they shift to a next generation model of instruction
- *Learning walks and coaching* that help educators analyze how the vision of NGSS is reflected in classroom instruction
- *Ongoing support* that builds and sustains comprehensive change



We really appreciate all the work that KnowAtom has done to support science education. We've seen a lot of growth with our students and our teachers are able to support each other.

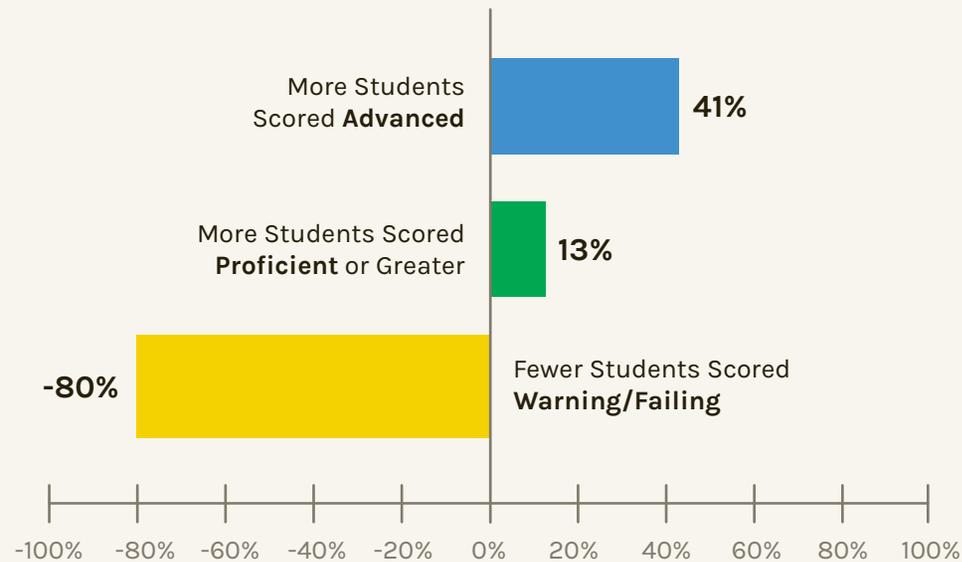
— Colleen L, K-8 Principal



# Science for ALL Students

## 2017 Grade 5 MCAS Results: Emily G. Wetherbee School in Lawrence, Massachusetts

All Wetherbee Students Compared to the Massachusetts State Average:



“The KnowAtom partnership has included unwavering support, attention, and commitment to each and every educator. I am convinced that providing our educators and our students with the tools and support KnowAtom offers will ensure that the achievement gains already evidenced will continue to grow with each year.

— Mary Toomey, Assistant Superintendent, Lawrence Public Schools

**Wetherbee Subgroups Compared to the Massachusetts State Average:**

**STUDENTS WITH DISABILITIES:**

- 100% More Scored **Advanced**
- 139% More Scored **Proficient**
- 5% Fewer Scored **Needs Improvement**
- 63% Fewer Scored **Warning**

**GIRLS:**

- 24% More Scored **Advanced**
- Met State Average for % Scoring **Proficient**
- 23% Fewer Scored **Needs Improvement**
- 13% Fewer Scored **Warning**

**EVER ENGLISH LEARNERS:**

- 214% More Scored **Advanced**
- 37% More Scored **Proficient**
- 93% Fewer Scored **Warning**

Source: Massachusetts Department of Elementary and Secondary Education

Arkansas • California • Connecticut • Delaware • District of Columbia • Hawaii • Illinois • Iowa • Kansas  
Kentucky • Louisiana • Maryland • Massachusetts • Michigan • Missouri • Nevada • New Hampshire  
New Mexico • New Jersey • New York • Oregon • Rhode Island • Vermont • Washington • Wisconsin



Students transform from students to scientists. They love it because they are more involved in what they're learning.

### What Teachers Are Saying...



When it's science time, I get cheers.



I hadn't done science like that before, where you really are getting kids right in the middle of it and thinking about themselves as scientists.



KnowAtom has reenergized our science instruction in elementary schools.

### What Administrators Are Saying...



Kids want to be engineers or scientists now.



My original goal was to get a science program in here that would really motivate students and spark their interest in science. What happened was we met that goal—students became far more interested—and as an added benefit, scores increased.



I really like working with my friends to complete experiments and prototypes.

### What Students Are Saying...



I have so much fun during science! We build and learn a lot!



KnowAtom teaches me about things I never knew about and it teaches me in an interesting way.

See a **sample** for your grade level and state at:  
[www.knowatom.com/stem-curriculum](http://www.knowatom.com/stem-curriculum)

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