

## 2<sup>nd</sup> Annual TEACH Conference

# Making Thinking Visible with a Growth Mindset

November 6, 2018



# Special Thanks To:

## WELCOMING REMARKS

Jeffrey C. Riley

Commissioner of Elementary  
and Secondary Education for  
Massachusetts

## KEYNOTE ADDRESS

Dr. Richard Elmore

Professor of Educational  
Leadership at Harvard Graduate  
School of Education

## WORKSHOP PRESENTERS

Ashley Baldwin

Cynthia Bennett

Sarah Bouchard

Amy Bryson

Whitney Cleary

Mary Eringis

Haydee Esquivel

Nicole Finneran

Jodie George

Brandi Hardcastle

Judy Higgins

Michelle LaRocque

Scott Morrison

Steven O'Sullivan

Kristen Paolino

Cara Pekarcik

Nina Piro

Celeste Remus

Haley Rosen

Martha Smillie Coakley

Debbie Vogt

Rebecca Veilleux

***Workshop presentations are available at  
<https://teach.knowatom.com>***

# Agenda

## MORNING

- 7:00 – 7:50 Check-In and Continental Breakfast  
[Lobby and Grand Ballroom]
- 7:50 – 8:00 Opening Remarks [Grand Ballroom]
- 8:00 – 8:15 Commissioner’s Greeting  
[Grand Ballroom]
- 8:30 – 10:00 Workshop A
- 10:00 – 10:15 Coffee Break
- 10:15 – 11:45 Workshop B
- 

## LUNCH

- 11:45 – 12:45 Lunch [Grand Ballroom]
- 

## AFTERNOON

- 1:00 – 2:00 Keynote Speaker [Grand Ballroom]

*Participation certificates will be available outside  
the Grand Ballroom.*

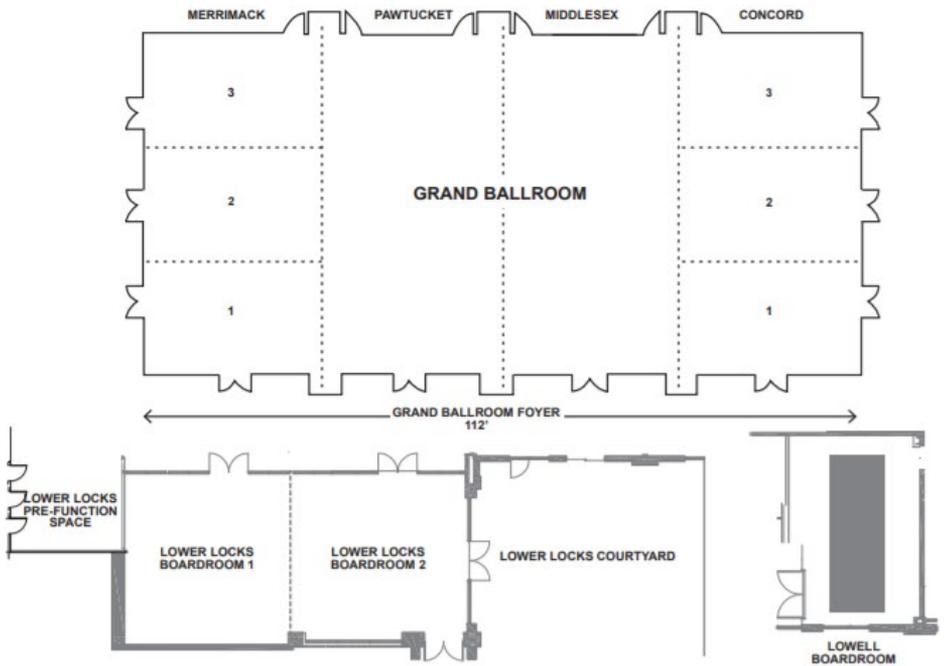
Conference WiFi network: **UML-ICC-wifi**

- Accept terms of use and provide the **passcode: UMass!17 (case sensitive)**

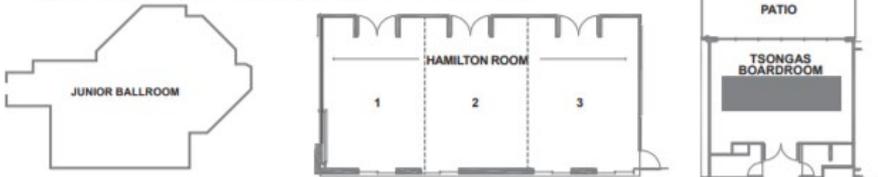
# Map of the Conference Center

Please be advised that video and audio recording is taking place throughout this event.

## UMASS LOWELL INN & CONFERENCE CENTER—FIRST FLOOR



## UMASS LOWELL INN & CONFERENCE CENTER—SECOND FLOOR



# OPENING REMARKS

## 7:50–8:00 – Grand Ballroom

Francis Vigeant is the founder and CEO of KnowAtom. Francis was born and raised in Lowell, and attended Lowell Public Schools. He later became a public district math and science teacher in Massachusetts and New Hampshire.



Francis has taught science, engineering, and mathematics to kindergarten through twelfth-grade students in a variety of learning environments, ranging from college prep and honors classrooms to self-contained, team-taught, and inclusion settings. His focus on scientific and engineering practices and their relationship to student thinking has helped schools become leaders in science education, based on statewide assessments. Francis is a strong believer in empowering professional teachers and has created Professional Learning Community models for large urban districts both nationally and internationally.

Francis founded KnowAtom more than 12 years ago because of his belief that teachers are important, nurturing student creativity and shaping the next generation of problem solvers. KnowAtom reflects his belief that creative, evaluative, and analytical skills prepare **all** students for any college or career choice. And STEM disciplines are the perfect venue for developing those skills hands-on. With KnowAtom, students are scientists and engineers. They investigate real-world phenomena and learn how to solve problems and answer questions for themselves.

# COMMISSIONER'S GREETING 8:00-8:15 - Grand Ballroom

Jeffrey C. Riley was appointed Massachusetts' 24<sup>th</sup> commissioner of elementary and secondary education in early 2018 and began serving as commissioner on April 5, 2018.



A Massachusetts native, Mr. Riley's experience spans urban and suburban districts and includes teaching in Baltimore, Md., being principal of Tyngsboro Middle School, and being principal of Boston's Edwards Middle School.

In January 2012, Commissioner Riley was appointed superintendent/receiver of the Lawrence Public Schools. During his more than six years there, he led a team that brought major improvements by shifting more resources and autonomy to the school level, expanding the school day, increasing enrichment opportunities, and ensuring all schools had great leaders and teachers.

Commissioner Riley lives in Boston and holds a bachelor's degree in philosophy from Pomona College in California, a master's degree in counseling from Johns Hopkins University in Maryland and a master's degree in school administration, planning and social policy from Harvard University.

# WORKSHOP A – 8:30–10:00

## **Achieving Science Fluency in the Classroom: Routines and Procedures for Differentiating Instruction and Developing Key Concepts**

**Junior Ballroom**

*Nina Piro – Grade 5 teacher at John K. Tarbox School, MA*

This workshop will focus on how I help my students build their background knowledge and keep concepts in their long term memory. I will share the various strategies I use that optimize the learning conditions in my class so they can complete more cognitive demanding tasks like doing a daily response question. I will provide various examples of the open responses I use and the exemplar responses to those questions. My routines and procedures will be presented which include how I highlight key vocabulary and use realia, pictures and visuals to differentiate my instruction. My activity will show how I use my Mimio Vote System to enhance comprehension.

**TARGET AUDIENCE: GRADES 3-5 EDUCATORS**

---

## **Digital Learning in Science for General Ed and EL Learners**

**Hamilton Room**

*Kristen Paolino – Grade 3 Teacher at Francis M. Leahy  
Elementary School, MA*

Are you looking for a way to integrate technology into your science curriculum? In this session we will use technology in a way that enhances your practice and adds to student learning time. In a friendly and nonthreatening environment, learn ways to add technology and be ready to try something new today and implement tomorrow. This session is designed for elementary educators.

**TARGET AUDIENCE: GRADES 3-5 EDUCATORS**

# WORKSHOP A – 8:30–10:00

## Become the Superintendent of Your Classroom!

Scott Morrison, Ed.D, Superintendent of Tri-Town School Union, MA

Merrimack  
1 and 2

In this session, learn what you can do to help change the narrative of school. In a recent Ed Leadership article,\* the authors state:

“If the narrative of school is about bus timetables, tweaks in programs, and test schedules, this percolates through the schools as the purpose of schooling - being compliant to procedures. In such schools, students think learning is coming to school on time, sitting up straight, keeping quiet, and watching the teacher work.

What if instead, the narrative is about high expectations, growth in relation to inputs, what it means to be a "good learner" in various subjects, and what impact means? Then, teachers and students will think about learning in a different way. They will believe that learning is about challenge, about understanding and realizing high expectations, and that setbacks are an opportunity to learn. Students will also believe that coming to school means investing energy in deliberate practice.”

This session, led, by Superintendent Scott Morrison, will provide participants with an overview of how one school district is taking steps to change the narrative of school. Included in this presentation will be practical steps that educators can take in their classrooms and schools to help shift the narrative.

\*Donohoo, J., Hattie, J., & Eells, R., (2018). The Power of Collective Efficacy, Educational Leadership

**TARGET AUDIENCE: GRADES K-8 EDUCATORS; ADMINISTRATORS**

# WORKSHOP A – 8:30–10:00

## **Fostering Independence in the Classroom**

*Jodie George - Grade 5 Teacher at Emily G. Wetherbee, MA*

**Middlesex**

This workshop will help teachers with release of responsibility of students in the classroom. Through the lab process and Socratic Seminar students gain confidence to become self sufficient, independent thinkers and learners

**TARGET AUDIENCE: GRADES 3-5 EDUCATORS**

---

## **Making Kindergarten Science “My Own” with KnowAtom**

*Ashley Baldwin and Mary Eringis, Kindergarten teachers at the Rollins School, MA*

**Concord 1**

Join us as we share about our journey from having initial reservations about changing curriculum to leading highly engaged classrooms where students discover phenomena by "being" scientists and engineers in the classroom. We'll discuss how our cross-district PLC experience, called "CHAMPS", has helped to deepen our pedagogical approach to STEM and our understanding of vertical alignment. We'll then share some of our own resources, including anchor charts/hands-on projects, and games that complement KnowAtom's resources and help to shift our classrooms from "learning about" to figuring out. Participants will engage in lesson planning with a focus on release of responsibility with a topic taught in Unit 1: weather, matter, and scientists.

**TARGET AUDIENCE: GRADES K-2 EDUCATORS**



*This workshop will also occur during the Workshop B timeslot.*

# WORKSHOP A – 8:30–10:00

## **NWEA MAP for Science**

*Martha Smillie Coakley, NWEA Account Executive – New England States*

**Concord 2**

A single science assessment covers the three key domains: life sciences, earth and space sciences, and physical sciences. Use the precise, real-time results to personalize instruction throughout the year for every student—including special needs students and those performing at, above, and below grade. MAP for Science computer adaptive interim assessments provide educators with immediate information about each student's science knowledge in three core areas.

Using MAP for Science data, educators inside and outside the classroom can adjust instruction, curriculum, and resources to help every student grow academically.

**TARGET AUDIENCE: GRADES 3-8 EDUCATORS, ADMINISTRATORS**



*This workshop will also occur during the Workshop B timeslot.*

---

## **Release of Responsibility in Lab Planning**

*Judy Higgins – Grade 5 Teacher at the Francis M Leahy School, MA*

**Lower Locks  
Boardroom 2**

Leadership is dynamic and complex and is too often bound by existing conditions. In order to lead beyond the limits, classroom, school, and district leaders must elevate their leadership skills by using research to inform practice. Join this session to learn strategies on how to strengthen your team through a distributed leadership model.

**TARGET AUDIENCE: GRADES 4-8 EDUCATORS**

# WORKSHOP A – 8:30–10:00

## **Some In's and Out's of Vertical Teaming/Planning (MA DESE STE Ambassador Teach Approach)**

**Concord 3**

*Nicole Finneran, STEM Ambassador and Grade 8 Science Teacher,  
Sarah Bouchard, Grade 8 Science Teacher, and Michelle  
LaRocque, Grade 6 Science Teacher, MA*

The goal of the workshop is to increase participants' awareness of the MA Science Technology and Engineering Ambassador team\* and their work as well as upcoming resources that will be available to MA teachers grades 6-12. Participants should expect to leave with an approach that can be used to help vertical teams in his/her building identify successful practices (skills) students are already equipped with as well as those that need to be further developed. This information can then be used to develop tasks/lessons to address the needs identified.

\*A collaboration between the Massachusetts Department of Elementary and Secondary Education and Worcester Polytechnic Institute.

**TARGET AUDIENCE: GRADES 6-8 EDUCATORS**

---

## **Tribal Leadership: Using Data and Structuring Your Team for Success**

**Tsongas  
Boardroom**

*Francis Vigeant - KnowAtom CEO*

In this KnowAtom-led session, we'll discuss the basics of "tribal leadership" and practical ways to set your teaching team up for success. We'll explore high-leverage elements of a successful school including what to look for in the ideal applicant for a science teaching position, how to schedule science time on learning, how to use state test data to uncover classroom and school-level issues, and how to incorporate formative learning walks.

**TARGET AUDIENCE: ADMINISTRATORS, TEACHER LEADERS**

# WORKSHOP A – 8:30–10:00

## Using Google to Assess and Promote Growth

Merrimack 3

*Haley Rosen, Grade 3 Teacher at Guilmette Elementary School, MA*

As our everyday teaching becomes more integrated with technology and computer based testing is on the rise, it is only natural that our formative and summative assessments within the classroom follow suit. With the goal of bringing this type of technology into the everyday classroom, I use Google Classroom and Google Forms to assess my students on Know Atom science concepts. During this workshop I plan to share how to create and assess students using Google Forms and provide immediate feedback to them to promote growth, as well as analyze and track data simply and efficiently. As our students grow as scientists, we encourage them to try new things and use all the facets of STEM, so as educators, shouldn't we be doing the same?

**TARGET AUDIENCE: GRADES 3-5 EDUCATORS**

---

## Why Are Three-Dimensional Lessons Vital for Student Sense-Making?

Lower Locks  
Boardroom 1

*Sara Goodman - KnowAtom Staff*

How do students truly engage in the three dimensions of the new science standards? In this KnowAtom-led workshop, we'll work through a KnowAtom lesson to explore how students can only make sense of phenomena when they use the three dimensions in an integrated way. Specifically, we'll focus on how students deepen their understanding of the disciplinary core ideas and crosscutting concepts by engaging with and developing the science and engineering practices, using grade span-appropriate examples to help support these ideas.

**TARGET AUDIENCE: GRADES K-8 EDUCATORS**

# WORKSHOP A – 8:30–10:00

## **Why Aren't They Talking? How to Engage K-4 Students in Their Science Content**

**Pawtucket**

*Brandi Hardcastle, NBCT - Instructional Facilitator at White County Central School District, AR*

Are your students struggling to engage in science content with their peers? In this session, participants will learn about strategies they can take back to their classrooms to spark conversations and interest in their nonfiction reading and classroom discussions. The session is designed for educators in the elementary classroom.

**TARGET AUDIENCE: GRADES K-4 EDUCATORS**

# WORKSHOP B – 10:15–11:45

## **The Benefits of Using Real Phenomena in the Science Classroom**

**Junior Ballroom**

*Cara Pekarcik – Biology Teacher, North Quincy High School;  
2018 Massachusetts Teacher of the Year, MA*

The use of real-world phenomena can help students create connections between science content and their everyday world. This workshop examines the role of phenomena in the science classroom and explores effective strategies to incorporate these phenomena into lessons and curriculum. Attendees will conduct hands-on activities and participate in discussions that focus on the the benefits of using phenomenon to engage students in science and engineering practices and to promote scientific literacy.

**TARGET AUDIENCE: GRADES 3-8 EDUCATORS**

---

## **Achieving a Growth Mindset in Your KnowAtom Classroom!**

**Hamilton Room**

*Francis Vigeant – KnowAtom Staff*

Want to deepen your students' learning and create a classroom culture of thinking that embraces the power of "yet"? Join this KnowAtom-led session to learn about research-based pedagogical techniques that will help you improve your teaching and student learning outcomes K-8. We'll explore how to encourage a "productive struggle" across key segments of KnowAtom's phenomena-driven lessons in order to promote student independence, engagement, and understanding.

**TARGET AUDIENCE: GRADES K-8 EDUCATORS, ADMINISTRATORS,  
TEACHER LEADERS**

# WORKSHOP B – 10:15–11:45

## **Coaching New Teachers Through NGSS Shifts**

*Steven O'Sullivan and Celeste Remus – Guadalupe Centers Middle School, MO*

**Tsongas  
Boardroom**

Participants will leave this session with specific examples of helpful and harmful coaching practices, as they relate to supporting teachers' implementation of the NGSS shifts. The staff from Guadalupe Centers Middle School (a public charter school from Kansas City with high percentages of ELL students) will share concrete strategies for how coaches and administrators can support teachers as they embrace the NGSS Science and Engineering Practices in their instruction. Participants will examine scenarios and identify coaching practices that will support NGSS shifts. The session will conclude by giving participants time to identify and work through challenges they face coaching their own teachers in the adoption of NGSS Practices. We believe that coaching, when focused on the NGSS Practices, can result in teaching that promotes students' ownership of their science understanding. This session will support that endeavor.

**TARGET AUDIENCE: ADMINISTRATORS AND TEACHER LEADERS**

---

## **ELL Strategies for Grades K-2 Using KnowAtom**

*Amy Bryson – Grade 2 Teacher at G.A. Guilmette Elementary School, MA*

**Pawtucket**

Are you looking for a few new ELL strategies to use with your KnowAtom curriculum? During this workshop we will view a powerpoint of strategies that can be used with KnowAtom. We will watch videos of teachers performing these strategies. Participants will leave with an exit card identifying two or three strategies that they can easily apply to their science lessons.

**TARGET AUDIENCE: GRADES K-2 EDUCATORS**

# WORKSHOP B – 10:15–11:45

## **Encouraging a Growth Mindset and Increasing Academic Grit and Stamina to Improve Student Learning**

**Middlesex**

*Debbie Vogt – Grade 6-8 Science Teacher and Grade 7 ELA Teacher at Belt Public Schools, MT*

In this workshop participants will explore how students' grit, perseverance, and stamina can be increased through promoting a growth mindset in the science classroom. Teaching students about brain research and brain plasticity helps them understand how their brains work and what they can do to learn more efficiently. Organizational tips, routines and scaffolding methods will also be discussed in this workshop.

**TARGET AUDIENCE: GRADES 4-8 EDUCATORS**

---

## **Enhancing Science with Makerspace**

**Lower Locks  
Boardroom 2**

*Whitney Cleary – Grade 5 Science Teacher at J. T. Hood Elementary School, MA*

Teachers will be introduced to Maker activities in the classroom that can be added to enhance their science curriculum in grades 1 - 5. Teachers will leave with new engineering and Maker ideas that directly connect to the KnowAtom curriculum. They will participate in two Makerspace activities to see how it is organized and led. Teachers will also be given resources to take home and links that can be used to find more activities in the future.

**TARGET AUDIENCE: GRADES 1-5 EDUCATORS**

# WORKSHOP B – 10:15–11:45

## **Formative Assessment: To FORM and InFORM Instruction and Learning**

**Concord 3**

*Cynthia Bennett – M. Ed., C.A.G.S.*

What do we look for when we observe students and teachers to assure students are learning with the depth of understanding appropriate for the content and grade level? What evidence can we look for to ensure instruction is meeting the needs of learners and the rigor of the concepts? Formative assessment can encourage students to be active learners focused on their learning goals and provide ongoing information to guide intentional instructional moves. Through video clips of a variety of examples of formative assessment in classrooms we will discuss effective uses of formative assessment in elementary classrooms.

**TARGET AUDIENCE: GRADES 3-5 EDUCATORS**

---

## **Making Kindergarten Science “My Own” with KnowAtom**

**Concord 1**

*Ashley Baldwin and Mary Eringis – Kindergarten teachers at the Rollins School, MA*

Join us as we share about our journey from having initial reservations about changing curriculum to leading highly engaged classrooms where students discover phenomena by "being" scientists and engineers in the classroom. We'll discuss how our cross-district PLC experience, called "CHAMPS", has helped to deepen our pedagogical approach to STEM and our understanding of vertical alignment. We'll then share some of our own resources, including anchor charts/hands-on projects, and games that complement KnowAtom's resources and help to shift our classrooms from "learning about" to figuring out. Participants will engage in lesson planning with a focus on release of responsibility with a topic taught in Unit 1: weather, matter, and scientists.

**TARGET AUDIENCE: GRADES K-2 EDUCATORS**



*This workshop will also occur during the Workshop A timeslot.*

# WORKSHOP B – 10:15–11:45

## How to Deepen Your Socratic Dialogue with SocraCircle®

*Nicole Lanoue – KnowAtom Staff*

**Lower Locks  
Boardroom 1**

Want to deepen your Socratic dialogue by integrating technology but not sure where to start? SocraCircle® is an innovative tool developed by KnowAtom and available to all KnowAtom users that allows students to engage in an online dialogue with their class.

During this KnowAtom-led session, participants will explore how SocraCircle:

- encourages student participation in Socratic dialogue
- assists in release of responsibility
- creates a record of student thinking that can be used as a formative assessment to make student thinking more visible

Participants will engage in an online dialogue and discuss tips and tools for integrating the platform into classroom Socratic dialogues. As part of this workshop, you'll also get a sneak peek at KnowAtom's new Peer-to-Peer Network.

**TARGET AUDIENCE: GRADES 3-8 EDUCATORS**

# WORKSHOP B – 10:15–11:45

## **NWEA MAP for Science**

Martha Smillie Coakley, NWEA Account Executive – New England States

**Concord 2**

A single science assessment covers the three key domains: life sciences, earth and space sciences, and physical sciences. Use the precise, real-time results to personalize instruction throughout the year for every student—including special needs students and those performing at, above, and below grade. MAP for Science computer adaptive interim assessments provide educators with immediate information about each student's science knowledge in three core areas. Using MAP for Science data, educators inside and outside the classroom can adjust instruction, curriculum, and resources to help every student grow academically.

**TARGET AUDIENCE: GRADES 3-8 EDUCATORS, ADMINISTRATORS**



*This workshop will also occur during the Workshop A timeslot.*

---

## **Reflecting On Your Practice to Encourage Growth Mindset (Meeting the Needs of All Students- Including ELs**

**Merrimack 1 & 2**

Rebecca Veilleux – *Biology/FUSE Teacher at Upper School Academy, Lawrence High School*; Haydee Esquivel

The purpose of this workshop is for teachers to reflect on their lab instructional practices. Teachers will put on their student caps as they model a brief inquiry lab. Groups will reflect on the activity and collaborate in teams to determine changes they would like to make in their own practice. Educators will determine areas of need for lesson planning and instruction with more intentional thought for including supports that will help improve student engagement and learning.

**TARGET AUDIENCE: GRADES 4-8 EDUCATORS**

# LUNCH - 11:45-12:45

## Grand Ballroom

### Lunch Menu

- **Italian Sandwich**  
salami, pastrami, and pepperoni served on a baguette with peperoncini, black olives, provolone, and balsamic vinaigrette
- **Vegetarian Wrap**  
field greens, feta cheese, roasted red peppers, cucumber, red onion, and oven dried tomatoes
- **Chicken Caesar Wrap**  
grilled chicken breast sliced and served with fresh chopped romaine, shredded parmesan, tomato, and creamy Caesar dressing in a flatbread wrap
- **Turkey Club**  
turkey breast, crisp bacon, provolone, avocado spread, and tomatoes on fresh focaccia

## KEYNOTE – 1:00–2:00

### Grand Ballroom

#### “The Future of Learning and the Design of Schooling”

Richard Elmore joined the faculty of the Harvard Graduate School of Education in 1990, having previously taught at the College of Education, Michigan State University, and the Graduate School of Public Affairs, University of Washington.



He is a member of the National Academy of Education, and a past president of the Association for Public Policy and Management, the national organization representing graduate programs in public policy and management. He has held positions in the federal government as a legislative liaison with the U.S. Congress on education policy issues.

He is currently director of the Doctor in Educational Leadership (Ed.L.D.) program at HGSE. His current research and clinical work focuses on building capacity for instructional improvement in low-performing schools.

He spends at least one day per week in schools, working with teachers and administrators on instructional improvement.

He is coauthor of *Instructional Rounds in Education: A Network Approach to Improving Teaching and Learning* (Harvard Education Press, 2009), and author of *School Reform From the Inside Out: Policy, Practice, and Performance* (Harvard Education Press, 2004).

# Notes

# Notes



# KnowAtom™

*Focus on what matters.*

## Contact us:

If you have any questions or would like information about next year's TEACH Conference, please contact KnowAtom at:

[www.knowatom.com](http://www.knowatom.com) or 617-475-3475.

## Connect with us online:

- Follow us on Twitter [@KnowAtom](#). Tag #KnowAtom or @KnowAtom in your posts to be retweeted or highlighted by KnowAtom online.
- Connect on Facebook at [facebook.com/knowatom](https://facebook.com/knowatom).
- Subscribe to our blog at [knowatom.com/blog](http://knowatom.com/blog).

Check your spam and add knowatom.com to your safe sender list. We'll be sending a survey for your feedback tomorrow to the email you registered with.