HOW TI-NSPIRE™ TECHNOLOGY BECAME ONE DISTRICT’S STANDARD

SCIENCE EDUCATORS implement TI-Nspire™ technology

STIMULATING TECHNOLOGY smooths transitions

ACTIVITIES INSIDE: Algebra and Physics

Get Nspired.
With the school year nearing an end, this issue of the TI-Nspiring Times newsletter offers a compelling look at the benefits of student ownership of TI-Nspire CX handhelds and TI-Nspire Student Software—a consideration that can help any mathematics or science educator make the right decision on the technology to recommend on their syllabus or supply list in the fall.

You’ll read how several teachers explored math and science classroom technology choices and discovered the attraction of TI-Nspire classroom activities, as well as the value of TI-Nspire technology over the course of a student’s academic career.

If you are interested in learning how the TI-Nspire CX handheld and TI-Nspire Student Software can help students learn science subjects in new ways, make sure to read the intriguing article on TI’s science solution.

As always, we have included classroom activities for both math and science that you can use “as is” or customize for your instruction. Submitted by fellow educators, these engaging activities have already helped students achieve success in the classroom.

This issue also provides numerous resources to help you guide students to greater engagement and understanding in your classroom. You’ll find the latest information on digital content, professional development, publisher connections and more.

Please remember that your feedback greatly influences how TI supports your vision for guiding students to reach their higher achievement. We encourage you to keep sending in your articles and activities, which bring real value to each issue. Take a moment to email Texas Instruments at nspiringtimes@list.ti.com.

Best regards,

Melendy Lovett

Melendy Lovett is President of Texas Instruments Education Technology and Senior Vice President of Texas Instruments Incorporated, with responsibility for TI’s worldwide operations in math and science educational technology and professional development. She is a member of TI’s Strategic Leadership Team.
Research studies support student ownership of graphing calculators
Research shows that the use of graphing calculators can help students improve their test scores.

Math Nspired Lesson: Algebra, Grade 9
By Heidi Rudolph, Mathematics Educator
Students will explore the concept of a function and will use function notation.

T³™ instructor in zero gravity
Montana high school teachers team up for NASA’s 2012 Teaching from Space Microgravity eXperience.

Science Nspired Lesson: Physics
Energy Skate Park – PhET™ simulation adapted for TI-Nspire technology. Students will simulate the motion of a skateboarder on a ramp to explore potential and kinetic energy.

Resources to make teaching more rewarding
Discover an abundance of resources from TI to advance your knowledge, support your teaching and enhance your ability to use TI-Nspire technology creatively and confidently.

Nspired Learning gets core support
Texas Instruments has teamed up with some of the best in the business to get the most out of TI-Nspire technology.

* PhET™ is a trademark owned by the Regents of the University of Colorado, which was not involved in the production of, nor do they endorse TI products.
In the midst of course and curriculum changes within the mathematics programs of our middle schools, we investigated various calculator options that would meet the needs of middle school students. We were impressed by the activities available for the TI-Nspire learning handhelds and decided to investigate further.

We attended a weeklong STEM conference where several presenters shared their high school classroom experiences with the TI-Nspire technology and taught us how they incorporated it into their higher-level courses.

We returned to our district recommending the TI-Nspire CAS handheld to our middle school principals and decided to investigate further. Our high school math department chair, school principals and district superintendent all agreed that the TI-Nspire CAS handheld would provide our students with hands-on exploration opportunities beyond the functions of the TI-84 Plus graphing calculator, at a similar price point.

Successful pilots prompt adoption
The first year (2010-2011), we decided to pilot the TI-Nspire CAS learning handheld in one advanced eighth-grade class at each middle school. With the additional capabilities of this handheld over the traditional graphing calculator, parents saw value in the investment, especially as a tool that would serve students throughout high school. Students were comfortable and eager from the start to “figure out” how to use the features, and were soon teaching each other—and us—as they uncovered new ones. As the year progressed, we investigated the growing number of TI-Nspire activities on the Math Nspired website that applied to all of our different courses. Simultaneously, TI announced the new TI-Nspire CX CAS model, and its backlit color screen confirmed our desire to make these tools available to all of our seventh- and eighth-grade students.

A TI-Nspire CX CAS demonstration to our administrators solidified their decision to change and recommend the TI-Nspire CX CAS handheld for all students in our middle and high schools. In June, our district offered a three-day Ti™ workshop—with a TI-Nspire handheld for each participant—for all middle and high school teachers. Over the summer we organized a bulk purchase order for our upcoming eighth-grade parents, which resulted in approximately 75 percent participation. With the addition of two classroom sets, all of our eighth-graders have classroom access to TI-Nspire technology during the school day. Further, each middle school offers an advanced course in Algebra 1 for seventh-grade students, who also purchased TI-Nspire CX CAS handhelds.

As we pass the midpoint of our current school year, we have been pleased beyond our expectations by the results of our students’ use of the TI-Nspire technology. In the fall, when Algebra students were learning how to solve multistep equations, the TI-Nspire CAS system allowed students to easily manipulate...
“Mobile devices like the TI-Nspire™ handhelds give students the ability to apply their mathematical knowledge, solve complex problems, and become the generators of new knowledge.”

Research studies support student ownership of graphing calculators

Research shows that the use of a graphing calculator can help students improve their test scores. Students reap the most academic benefits when they have their own TI graphing calculator for class work and homework.

A one-year, two-state study, “The Impact of Graphing Calculator Use in Algebra 1 Classes,” addressed multiple factors. Researchers Vicki Dimock and Todd Sherron examined the relationships among the use of graphing calculators on standardized assessments and student achievement, levels of access, and classroom use of graphing calculators.

In the study, students demonstrated a 12 percent higher level of math achievement when they used graphing calculators. The three top factors were student use of a graphing calculator, student ownership of a graphing calculator, and student access to and use of a classroom set of graphing calculators.

To learn more about such studies, visit education.ti.com/research.

Easy-to-use TI-Nspire resources

Training by TI introduced us to the Math Nspired resources. Because each activity includes teacher notes, student handouts and the handheld TI-Nspire file, we found it easy to search for and incorporate activities into our units of study. These documents are easily edited and adapted for a specific lesson.

For example, to introduce the concept of slope, we had students take pictures of different staircases. The next day, we used a great Math Nspired activity called “Understanding Slope.” We were able to edit the TI-Nspire and Microsoft Word® files, adding a picture to connect the lesson to our introductory lesson. Students then used the TI-Nspire tools to draw a line along the top of the stairs and measure the slope. To extend the lesson, we incorporated the students’ staircase pictures into the TI-Nspire document, and distributed it within two minutes to each student’s handheld. Students were excited to measure the slopes of their stairs and those of their classmates.

Finally, as we transition to the new Common Core Standards, we believe our adoption of the TI-Nspire CX CAS will especially help us address The Standards for Mathematical Practice1.

1 corestandards.org/the-standards/mathematics/introduction standards-for-mathematical-practice/
The 2010-2011 school year was the right time for me to make the transition from elementary physical education to middle school mathematics. I was warned that the challenges would be difficult to overcome and the pressure too much to handle. Fortunately, 2010 was the year my school district decided to implement the TI Navigator™ system into all math classrooms, which ultimately paved the way to success both for me and for my students.

We decided to purchase the TI-Navigator classroom learning system for TI-84 Plus graphing calculators to use with eighth-grade students. I instantly fell in love with the potential of this technology. Students could now walk into a classroom that was more interactive and stimulating than more traditional learning environments.

However, initial reactions to a learning system that relied heavily on calculators stirred up mixed emotions among teachers, parents and students alike. Teachers were amazed at how technology had been woven into the curriculum. Parents were concerned that calculators would do all the work, and that their children would not learn. And, students thought their prayers had been answered.

Much to the surprise of parents and students, most lessons and activity resources used in the classroom serve as a valuable alternative approach to teaching the content with relevance and rigor.

An integral part of daily teaching
I use the TI-Navigator system on a daily basis in an effort to close the technology gap that has gone unnoticed in many math classrooms.

» In warm-up activities, I design mini-lessons that activate prior knowledge, introduce new content and keep students engaged as soon as they reach their desks.

» During class, I use collaborative activities to allow students the opportunity to instantly review graphical changes in equations, coordinates of points, and real-time statistical data.

» For assessment, the TI Navigator system allows me the flexibility to create a digital answer document. My students have become so accustomed to knowing their test scores before they leave class that they have a tough time waiting for test results from other classes.

Quick polls have been my answer to instant student assessment during and at the end of class. Little excites students more than the opportunity to compete with one another to see who answers problems the quickest and most accurately.

Change accelerates learning
At a meeting with our STEM coordinator in late 2011, the topic of changing calculator systems arose once again. This time, the TI-Nspire™ CX learning handheld was the handheld of choice and I was excited to tackle the tasks of re-teaching students and learning to use a newer, more powerful...
learning system. Although the learning curve associated with the TI-Nspire technology was fairly steep, we were able to overcome those differences quickly. Within the first semester of 2012 I have fully implemented the new system into my classroom, and we have increased student learning through the use of animations, student-led handheld demonstrations, and user-friendly teacher software.

“Much to the surprise of parents and students, most lessons and activity resources used in the classroom serve as a valuable alternative approach to teaching the content with relevance and rigor.”

TI-Nspire graphing handhelds are welcomed on high-stakes exams

Not only are graphing calculators accepted for college entrance and advanced placement exams, many national assessments actually recommend or even require that students use them during testing.

Make sure your students know to bring their TI-Nspire handhelds on standardized tests where they are allowed, including eligible state exams. With college entry and scholarships at stake, they should have maximum support to achieve their best.

» TI-Nspire graphing handhelds are approved for use on the SAT, PSAT/NMSQT, ACT®, AP®, IB® and Praxis™ exams.

» TI-Nspire CAS handhelds may be used on the SAT, PSAT/NMSQT, AP and Praxis exams.

For more details on exam acceptance and FREE test prep resources, visit education.ti.com/go/testprep.

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Math Nspired Lesson: Algebra, Grade 9

Functions

Through the wireless TI-Nspire™ Navigator™ System, I distribute the “Function or Not a Function?” document. Students already know how to log in and find the file in their class folder. The concept of the “vertical line test” has not been introduced until today.

Activity Extension by:
Heidi Rudolph
Orange High School
Pepper Pike, OH

In Figure 1, the student first finds the Point P to drag left and right. At first, the vertical line intersects both graphs at only one point, as shown. Since the graphs are labeled “Function” and “Non-Function,” there is no guessing that needs to be done by the students, thus protecting them from being wrong about the idea. This is highly engaging when a student presenter is the one manipulating the calculator controls. What students begin to observe are the similarities and differences in how the vertical line intersects with the two graphs.

As seen now in Figure 2, the vertical line intersects with the top graph once, and with the other graph more than once. All ordered pairs are shown, making it easy to count the number of intersections. A new student presenter gets the opportunity to drag the point P this time. The students simply conclude that it must have something to do with the number of points. Throughout this document, I changed the color of the functions to light blue and the relations (Non-Functions) to red.

Figure 2

In Figure 3, two tables are introduced so that input and output can be discussed. In other words, if an input value is repeated, then those points would lie on a vertical line and the vertical line test would fail. We now begin to use the name “Vertical Line Test” for this process. I did not feel it necessary to change the data tables to different colors.

Figure 3

Figure 4 shows multiple representations: a graph, its equation, and the table of ordered pairs assigned by that rule. The students can drag the vertical line and see exactly two points of intersection for most of the graph, with the exception of the vertex, or missing the graph completely. I make sure to discuss how it is possible for the line to intersect once, but the fact that it intersects more than once anywhere makes it fail the Vertical Line Test.

Figure 4

Figure 5 gives us the opportunity to discuss the word “tangent,” not familiar to several students. Since it is clear that the vertical line will intersect this circle more than once in many places, the students now seem confident that when they see a circular shape, it is NOT a function.

Figure 5

**TI-Nspire Navigator Teacher Note:** Screen Capture and/or Live Presenter
Screen Capture can be used here and throughout the lesson to ensure students are able to follow directions on finding the intersection point. You may choose to pick a student (or group of students) as a live presenter to demonstrate the activity to the class.

To download the activity, search for keywords “Function or not a function” at education.ti.com/activities.
Extensions:
I created two other TI-Nspire™ documents that I used to follow up with this activity. One includes examples of a variety of different functions and their names. It also shows several interesting Non-Functions, followed by some assessment pages in a True-False format as shown. The assessment pages can be set to be Self-Check or Exam mode by the teacher. I used them in Exam mode, then collected the documents through the TI-Nspire Navigator system and we reviewed the results immediately.

For the next activity, I printed out large pictures of graphs from a variety of online sources as well as screen shots from the TI-Nspire handheld. Each student was given two or three graphs and pieces of uncooked spaghetti to use as the vertical line. I affectionately called this the “spaghetti test,” but we also emphasized the importance of knowing the term “vertical” in order to communicate properly using math terminology at a grade-appropriate level. Students were all waving their spaghetti over the graphs and discussing whether their graph passed or failed.

I made a point of asking students to look at each other’s graphs for unique situations that we had not previously encountered. For example, a step function was shown with open and closed points at the end of the steps. My students had not seen this kind of graph before, and weren’t sure if the points should be included or not. Other graphs were quite interesting to the students because of the shapes, and students also enjoyed finding tangent points and using that new bit of language.

Then the students taped their pieces of spaghetti onto the graphs and we grouped together all of the functions and non-functions for display on the classroom wall. Very quickly, students in my other classes commented about the graphs and wanted to know the purpose of the spaghetti.

I distributed an additional TI-Nspire file with the same images from the spaghetti tests, along with assessment questions as before. The level of understanding had improved from the day before, and our review of the answers served to address lingering questions and confusion.

The class subsequently spent class time looking through magazines for images that quite vividly revealed parts of function graphs or non-functions. We used a thick marker pen to point out the pieces and label them with the words “Function” and “Non-Function.” Another display will grace our classroom later this week.

I use the TI-Nspire Navigator system to distribute documents that contain digital photos of things and places around us where we can “Match the Graph” with some basic functions like lines and absolute values. We continue our study of the basic parent functions, function notation, and writing or recognizing how functions fit with data and various situations. This series of activities supports the students in learning from multiple representations, while experiencing technology and having hands-on fun.

Math Objectives
Students will understand the concept of a function and use function notation. This lesson enables students to understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range.

If \( f \) is a function and \( x \) is an element of its domain, then \( f(x) \) denotes the output of \( f \) corresponding to the input \( x \). The graph of \( f \) is the graph of the equation \( y = f(x) \).
(from the Common Core State Standards)
Conversations with math and science educators

A new implementation of TI-Nspire™ technology fosters deeper understanding and new connections between subjects.

Interview with Todd Graba
Math and Science Division Chair
Bartlett High School, Bartlett, Illinois

Q: How are you implementing TI-Nspire technology in your school?

A: We’ve adopted the new TI-Nspire™ CX handhelds, as well as TI-Nspire™ Teacher Software. Last summer we had an opportunity for some of our teachers to train on the TI-Nspire handheld, and they came back very excited about it. I wanted to increase the amount of technology used in our labs and science classes. I felt what we were doing was okay, but a lot of the time spent was in collecting data, rather than analyzing the data. That’s where the learning happens – trying to understand at a deeper level what the data means. I’d had some prior experience with equipment from Vernier Software & Technology. I was looking for a way to implement it into our classes, and the new TI-Nspire CX handheld had some amazing capabilities.

Q: Tell us about your school and your responsibilities there.

A: I am the Science and Math Division chair at Bartlett High School. We are part of the second-largest school district in Illinois. I oversee 32 science and math teachers for 2,800 students in grades 9-12. I’ve been an educator for 11 years, including seven years as a Physics and Physical Science teacher and four years as an administrator.

Q: Is your school using TI-Nspire technology in both math and science?

A: In math we went through a districtwide curriculum rewrite and resource adoption. Our district director had some experience with the TI-Nspire CX handheld, and she paved the way for bringing in the handhelds for student usage. For science, we acquired the handhelds and TI-Nspire Lab Cradles, in addition to Vernier sensors. After the training I attended with TI, we added TI-Nspire™ CX Navigator™ Systems.

Q: Have you looked at downloadable activities for inquiry-based science instruction at TI’s Science Nspired resource center for educators?

A: Yes, that is our primary source for classroom activities. For Physics, we have a book of TI labs, and during our monthly math and science meetings, I show my teachers TI’s online resources and the sort of activities found there. I’m taking our learning targets, which are quarterly “big ideas,” and finding the activities that correlate with them. Our teachers, in turn, are using the new authoring tools and adapting the TI activities to their individual lesson needs.

Q: What kinds of student feedback are you getting about the TI-Nspire CX handheld?

A: They love it. For them, it makes learning enjoyable because it’s not your typical calculator. It has so much more to it, and they see it more as a tablet, which they’re so accustomed to using. I think the TI-Nspire CX handheld’s color display goes a long way. A lot of students are really excited to use them, and I’ve heard a lot of them say “They’re cool,” “They’re awesome” and “This is fun.” Now the students actually push the teachers to incorporate them more into the lessons because they enjoy using them and learning with them in the classroom.
“Students can start making connections between information they already have and information they’re trying to learn, which accelerates the learning process.”

Q: What is your favorite feature on the TI-Nspire™ CX handheld?

A: I’m training them together. Some of our teachers teach both. I want to continue to push the relationships between math and science and make sure that all teachers are teaching the meaning of the content and not just covering the content. That way, students start to see that there’s a purpose for learning both math and science.

Also, students need to understand that what they learn in math will support them in science. For example, I use a population curve activity. In math, they do a lot of work with rate of growth and decay activities in terms of interest rates. In science, this activity is used to explore the half-life of radioactivity. It’s also used for population growth in Environmental Science or Biology. So there are a lot of connections going on there. When they learn about the slope of a line in Algebra 1, they can apply that in Chemistry class, in comparing Fahrenheit and Celsius temperature scales, for instance.

Q: Are you training the math and science teachers together or separately?

A: I’m training them together. Some of our teachers teach both. I want to continue to push the relationships between math and science and make sure that all teachers are teaching the meaning of the content and not just covering the content. That way, students start to see that there’s a purpose for learning both math and science.

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Q: Beyond science and math, does TI-Nspire technology fit into other courses at your school?

A: We’ve had TI-Nspire technology going strong in our Career and Technical Education area and in our Family and Consumer Sciences. It’s being used in Auto classes, in Production Technology classes, in Engineering. We’re trying to get it used in cooking classes, where you talk about why foods are preheated. Potentially even into Physical Education with the heart rate monitor, where students can explore a real-time graph of their heart rate to determine if exercise is a worthwhile activity for physical fitness. The teachers are really excited about TI-Nspire technology.

Q: What kinds of student results are you expecting with TI-Nspire technology?

A: I hope to see more students choosing to take a fourth year of math, and a third and fourth year of science. I also hope to see more students earning higher grades in class, higher scores on standardized testing, and higher college admission rates.

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T³™ Instructor in zero gravity

Montana teachers from Glacier High School teamed up for NASA’s 2012 Teaching from Space MicroGravity eXperience to go on a Micro GX Flight. The teams worked with a centrifuge device to separate the gases during electrolysis for an activity called “Breath of Fresh Air,” which was written by Glacier team lead and Texas Instruments T³ Instructor Todd Morstein. Search for that and other TI-Nspire CX NASA activities in TI’s online Activities Exchange education.ti.com/activities.
This lesson involves students simulating the motion of a skateboarder on a ramp under a number of different conditions that affect the potential and kinetic energies of the skateboarder-celestial body system.

**Science Objectives**

**Students will:**
- describe the variables that affect potential energy and kinetic energy
- explore the conversion of potential energy to kinetic energy
- describe the total energy as the sum of potential energy and kinetic energy
- explore the effect of friction on kinetic energy and potential energy

**Part 1:**
**Exploring Potential Energy**

In this part of the lesson, students explore the skateboarder’s potential energy as he moves up and down the ramp. They investigate how potential energy is converted to kinetic energy.

**Q:** How does shortening the height of the ramp change the potential energy of the system? How does the decreased height affect its kinetic energy? What happens when h = 0?

**A:** Decreasing the value of h decreases the potential energy of the system. With less potential energy, there is less kinetic energy available to the skateboarder. When h = 0, there is no potential energy.

**Q:** What happened to the skateboarder’s motion when you switched from Earth to the moon? What does this tell you about the potential energy that the skater has in the skater-moon system? Compare the acceleration due to gravity ge on Earth and gm on the moon.

**A:** The skateboarder slowed down. This means the amount of potential energy available on the Moon is less because gm < ge.

**Teaching Tip:**
For an in-class visual, place a book at various places in relation to the ground and ask students to describe the potential and kinetic energy at each location (on the floor, on a desk, on top of a bookshelf, etc.).

**Q:** At the top of the ramp, where the skateboarder has zero KE, what is the potential energy of the system?

**A:** The skateboarder has maximum PE.

**Part 2:**
**Exploring Kinetic Energy**

In this part of the lesson students explore the skateboarder’s kinetic energy as he moves up and down the ramp. They investigate how kinetic energy is converted to potential energy.

**Q:** At the bottom of the ramp, where the skateboarder has maximum KE, what is the potential energy of the system?

**A:** The skateboarder has zero PE.
KE = \frac{1}{2} mv^2

Part 3: Exploring the Total Energy

In this part of the lesson, students explore the total energy of the system and that this encompasses the sum of the KE and PE. In fact, because of the law of conservation of energy, the sum of KE and PE is constant throughout the skateboarder’s trek along the ramp.

\[
E = \text{Position}
\]

Q: Identify several different Position points and find the values of the corresponding Energy coordinates for both PE and KE. Use a ruler to measure the height of each Energy value. Add the two values for PE and KE to find TE. What do you notice about the TE for any positions along the curve?

A: The sum of PE and KE are about the same for different positions along the ramp.

Q: Suppose that energy conservation didn’t occur. Describe how this could affect the motion of the skateboarder.

A: If the skateboarder’s total energy was not constant, then the motion of the skateboarder would be unpredictable, and not the steady back and forth shown in the simulation.

Part 4: Exploring the Impact of Friction

In this part of the lesson students see the effect of friction on the skateboarder’s motion. While the total energy of the system is constant, the energy from friction cannot be converted back to KE or PE.

Q: What happens to the motion of the skateboarder as the friction increases?

A: Eventually, the skateboarder comes to a stop.

Q: Once the skateboarder comes to a stop due to friction, describe the energy needed to have the skateboarder resume moving up and down on the ramp.

A: Once the skateboarder stops, he is at the bottom of the ramp. To get him moving again, a new source of KE is needed to move the skateboarder back to the top of the ramp, where he will once again have maximum PE.

Lesson Wrap-Up

In groups, have students construct another example of where PE is converted to KE and back. Some examples could include a ball rolling off a table and bouncing, bungee jumping, or a yo-yo.

Teaching Tip:

Ask students to give examples of friction in their lives (brakes applied on a bike or car, basketball shoes helping someone stop or turn on the court, etc.).
Resources to make teaching more rewarding

You’ll discover an abundance of resources from TI to advance your knowledge, support your teaching, and enhance your ability to use TI-Nspire™ technology creatively and confidently. We stand behind your efforts every day to help your students more quickly grasp concepts and deepen their understanding. Look to TI for supplemental curricular content, test prep resources, technology loan programs and outstanding professional development opportunities. We make it easy and enjoyable for you to integrate TI-Nspire technology resources for more interactive, Nspired Learning.

Math Nspired and Science Nspired activities
Locate and download free, ready-to-use lessons for your classroom in a snap. Math Nspired lessons address the concepts students struggle with most in Middle Grades Math, Algebra 1 and 2, Geometry, Precalculus, Calculus and Statistics. Science Nspired activities support inquiry-based instruction and spur active learning of essential topics in Biology, Chemistry and Physics. Lessons are easy to modify, align with what you teach, allow you to extend concepts, and include needed details and activity files. Visit mathnspired.com and sciencenspired.com.

Activities Exchange
Find an online treasure trove of more than 3,000 free math and science activities. Search by technology, subject, textbook or state; select activities that support national or Canadian provincial standards. Download and implement classroom-ready activities for middle grades through college. You can also personalize content and sign up for emails. Check out education.ti.com/activities.

TI Technology Rewards Program
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TI-Nspire Math and Science Trial Kits

T³™ - Teachers Teaching with Technology™ professional development opportunities
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Visit education.ti.com/t³ to learn more.
Nspired Learning gets core support

Texas Instruments has teamed up with some of the best in the business to get the most out of TI-Nspire™ technology

**Barron’s**

Barron’s AP Statistics with CD-ROM ©2012

This newest edition includes interactive TI-Nspire activities covering important and often-tested AP® statistics concepts.

**Houghton Mifflin Harcourt**

Holt McDougal Algebra 1, Geometry, Algebra 2 Common Core Edition ©2012

These textbooks feature TI-Nspire™ activities (accompanied by new PublishView™ documents) that cover key concepts found throughout both high school series.

**Pearson**

Precalculus: Graphical, Numerical, Algebraic, 8th Edition ©2011

Incorporated TI-Nspire activities include Document Player interactive pieces that address the twelve basic functions emphasized throughout this textbook.

**NASA**

TI and NASA have teamed up to create classroom-ready science activities, webinars, and professional development featuring space exploration.

Keyword search “NASA” at education.ti.com/activities.

**Ten80 Education**

TI’s alliance with Ten80 Education, and the Ten80 Student Racing Challenge, highlight how our world is affected by STEM subjects and careers.

Keyword search “Ten80” at education.ti.com/activities.

**Math Forum**

The Math Forum @ Drexel is a leading online learning community and provider of professional development. It is well known for Ask Dr. Math®, Math Tools software library, and TI Problems of the Week that make good use of TI-Nspire™ handhelds and align with the Common Core Standards.

Learn more about leading educational publishers that incorporate TI-Nspire activities to make learning more interactive and deepen student understanding. Visit our Publisher Connection at education.ti.com/us/publishers.
Summer is the perfect time for a TI-Nspire workshop

Transpiration:
Temp = 80°F
Humidity = 65%
Wind = 5 mph

Register for T³™ professional development this summer and get exciting new ideas.

Led by highly experienced T³ instructors, TI-Nspire 3-day Summer Workshops are a superb value – a TI-Nspire™ CX or TI-Nspire™ CX CAS handheld and TI-Nspire™ Teacher Software are included in the $350 registration fee.

If you're an administrator, bring your team. When you register five attendees, the sixth is free – a $350 savings. (Offer expires May 31, 2012.)

Register Today!
Find a list of workshop dates and locations, detailed course descriptions and registration at:
education.ti.com/go/t3summer2012