



“SAS Curriculum Pathways has really made an impact on the learning environment in my classroom. Thanks for helping to equip teachers with a comprehensive resource as we help all children achieve success.”

**George Ward**

Math Teacher and Lead Teacher  
Administrator, Wake County Public School System, NC

## SAS® Curriculum Pathways®

Improve and expand educational opportunity

### Overview

With budgetary constraints and weakening competitiveness, US education is in dire need of accessible technology that will engage students and address the core disciplines and higher-order thinking skills essential in today’s global, knowledge-based economy. SAS is fully committed, both in funding and development, to delivering online curriculum resources with a proven impact on increasing student learning and teacher effectiveness – at no cost to US middle and high schools, virtual schools, home schools, and other teaching and learning environments.

SAS Curriculum Pathways provides Web-based learning environments by integrating proven instructional strategies and techniques. The product encourages active, collaborative and cooperative learning that challenges students to become critical thinkers. SAS provides an innovative approach where doing and seeing provide information and encourage insights in ways that textbooks cannot for grades six through 12.

Built in accordance with the way students learn, SAS Curriculum Pathways is your online partner for teaching the core curriculum and is the result of more than a decade of unprecedented collaboration between teachers and technology experts. Consistent with our long-standing commitment to education, SAS will continue to develop and support US education through this and other programs.



### Challenges

- **Lack of engagement.** Developing high-quality online courseware is expensive and takes far longer than traditional materials. With school districts’ limited technical resources, educators lack access to or resist online curriculum resources.
- **Poor college preparation.** Educators are not provided compelling or remedial and support materials, and students alike have inadequate access to comprehensive course materials for individualized learning.
- **Declining achievement.** As educators and administrators find themselves unprepared or resistant to use technology in the classroom, students lack the opportunities to develop their higher-order thinking and problem-solving skills necessary for life.
- **Budgetary constraints.** Funding for education across most schools and districts is inadequate, placing nonconventional teaching methods, such as education technology, as low funding priorities. A lack of public support also prevents innovative action.



# Increase student engagement

## ■ The SAS® Solution

SAS® Curriculum Pathways® can enhance student achievement and teacher effectiveness by providing Web-based curriculum resources in all the core disciplines: English language arts, mathematics, science, social studies and Spanish. Fully funded by SAS and offered at no cost to educators and students in the US, it is developed for grades six through 12 and used by educators and students in middle and high schools, virtual schools, home schools, and other teaching and learning environments. Support and advocacy for the product may come from curriculum specialists, IT professionals, the public, legislators and other government leaders, educators and administrators.

SAS Curriculum Pathways can enhance student achievement and teacher effectiveness at significantly lower costs than traditional methods. To prepare students for an increasingly competitive, knowledge-based global economy, educators need online curriculum resources that instill fundamental skills in the core disciplines. Competence in those skills is the foundation for success in academics, scientific research, business innovation and other endeavors.

## Benefits

### Targets higher-order thinking skills

SAS Curriculum Pathways offers tools, simulations, models and examples for student manipulation and interaction. Students can manipulate information, variables and graphs as they explore, experiment and learn. The environment encourages active and collaborative learning that challenges students to become critical thinkers and to make connections among ideas.

### Integrates content and technology into the classroom at no cost to educators

SAS Curriculum Pathways provides Web-based learning environments by using proven instructional strategies and techniques, such as integrating primary-source materials and providing a broad (holistic) context for specific learning concepts and skills. Students learn by using various resources, such as visual models, images, virtual labs, diagrams, graphic organizers, audio recordings of literary excerpts, poetry, dialogues, historical documents and narrated and captioned videos.

### Employs a learner-centered approach

Using the structured and guided processes of SAS Curriculum Pathways, students of varying abilities can better understand concepts and develop skills. Students become motivated as they use hyperlinked explanations, animations, glossaries and rollover definitions to better understand ideas and apply and evaluate what they learn.

### Integrates various instructional strategies

SAS Curriculum Pathways provides simulations and learning activities that incorporate real data so that students can experience and understand real-world applications. The product lets students test a hypothesis and validate conclusions, construct their understanding using interactive websites, apply learning in other contexts and bring external learning into the classroom.

### Incorporates formative as well as summative assessments

All lessons have measurable outcomes – requiring students to apply, evaluate or synthesize information. Interactive Tools provide several means of final assessment; formative assessment is built into the learning process, or the teacher can tailor outcomes to meet student needs. Online activities and resources can be accessed repeatedly in preparation for summative assessments, such as end-of-course tests.

### Provides eco-friendly delivery and content

Minimize the impact on the environment by accessing the product and support electronically, without any CDs, DVDs, paper or packaging. Science students can learn about environmental impacts and the diversity of life with Interactive Tools on stream ecology and modern taxonomy. Virtual labs enable students to perform and repeat experiments that would otherwise be too dangerous, toxic, expensive or time-consuming.

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## Capabilities

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### Students Interact with Information to Build Skills

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Interactive Tools provide online instruction and encourage insights by showing topic depth and relationships in ways a textbook cannot. They enable students to clarify concepts and build skills through active learning.

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### Inquiries

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An Inquiry is a guided, self-paced investigation, organized around a focus question. Students answer the question in a three-step process: read, research and respond.

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### Comprehensive Learning Opportunities

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Web Lessons are complete learning activities on a broad range of concepts and skills, designed for classroom use or independent study. Lessons may include student handouts, discussion and writing opportunities, and links to Internet sites or SAS Interactive Tools.

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### Audio and Visual Tutoring

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An Audio Tutorial is a short lesson addressing core content. Audio and visuals help to solidify student understanding, which is assessed using an online quiz.

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### Core Discipline Engagement

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SAS focuses on material difficult to convey through conventional methods – topics where doing, seeing and listening provide information and encourage insights in ways that textbooks cannot:

- **English Language Arts** – Our audio and video materials enhance reading comprehension and writing proficiency – in everything from essay organization to sentence structure and punctuation. Our award-winning Writing Reviser helps students ask the kind of questions experienced writers ask automatically. In the process, students develop the judgment that is essential to effective writing.
- **Mathematics** – Interactive features, animations and immediate feedback can mean the difference between comprehension and despair. Students visualize key concepts while practicing fundamental skills. Our transition modules provide lessons designed to prepare students for Algebra I (as defined by the Common Core State Standards.)
- **Science** – Virtual labs clarify abstract concepts in novel ways that provide a practical means of instruction. Dangerous, difficult, expensive or time-consuming experiments are no longer off-limits.
- **Social Studies** – A unique case study approach encourages critical thinking about complex issues. Audio and video stimulate interest and encourage rigorous scholarship, and an interactive tool helps students analyze documents.
- **Spanish** – Students enhance reading, listening and writing skills by immersing themselves in practical situations. Assessment materials let students monitor their progress.

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“Three out of every 10 students in America’s public schools fail to finish high school with a diploma.”

[Diplomas Count 2010](#), *Education Week*

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## ■ The SAS® Difference

- **Rooted in education with an ongoing commitment.** Beginning more than 35 years ago as a research project at North Carolina State University, SAS continues to be committed to serving education by delivering software and academic programs that spark innovation and expand educational opportunities. To date, SAS has invested 12 years and \$75 million in R&D to the development and implementation of SAS Curriculum Pathways. To further its commitment, SAS will continue to fully fund product development and offer the software at no cost to US educators.
- **Our focus on content.** With SAS, teachers, developers, artists and specialists clarify the content. For content difficult to convey with conventional methods, SAS provides an innovative approach where doing and seeing provides information and encourages insights in ways that textbooks cannot.
- **Our approach to technology.** SAS products make learning more profound and efficient, not simply more entertaining. Audio, visual and interactive components all reinforce the teachers’ educational objectives.
- **Awards and support.** Year after year, SAS Curriculum Pathways earns awards for educational technologies and, more importantly, SAS earns the support of students, teachers and parents.

## Why SAS®?

SAS customers represent many innovative and successful educational organizations. Read below to learn how SAS is helping both students and institutions enhance teaching and learning using SAS Curriculum Pathways.

"I didn't understand mitosis when it was introduced in class. But when we went in the lab and worked with Cell Division [in SAS Curriculum Pathways] I did. I also used [the product] to review for the test. I didn't have to ask the teacher to go over it again. I could go back on my own."

### Science student

"Writing Reviser has been such a valuable tool for our students. They love the fact that they can analyze their own writing at their own pace and were able to get a great revision before turning in their paper for a formal grade. As a teacher I trust the program to give sound instruction and suggestions to my students. Thank you for creating such an amazing instruction tool!"

### Bonnie McMurray

English teacher, Marshville, NC

"[This approach] helps you learn because you can control how the information is given to you. Some teachers rush to give you all the information. But when you're on the Internet learning it yourself, you can spend as much time as you need ... reading through it and figuring it out."

### History student

"SAS Curriculum Pathways is a perfect complement to the online instructional resources that a virtual school uses. It provides our teachers with engaging lessons, [Interactive Tools], online tools and simulations in all core disciplines and Spanish. It promotes critical thinking skills while making our online courses relevant and fun, and allows students to learn when and where it is most convenient for them."

### Julie E. Young

President and CEO, Florida Virtual School

"SAS ... is developing the kind of resources I'd develop if I had more time, more funding and unlimited access to current technologies."

### Karen Burden

High School Literacy Coach, Wake County Public School System, NC

"My child is part of the Internet generation. SAS Curriculum Pathways not only assumes her technological expertise – it embraces it. The [Interactive Tools] blend a variety of multimedia techniques to engage her unique learning style. I can have my child diagram sentences, balance chemical reactions or analyze the impact of the New Deal – all from the same website."

### Beth Langston

Home-school parent of a high school junior

"Seventy-seven percent of students are not adequately prepared academically for first-year college courses in English Composition, College Algebra, social sciences, and Biology."

**The Condition of College Readiness 2009, ACT**



"For every academic standard, we find and license the best content available. Free access to SAS materials lets us provide students with first-class digital content, engaging lessons, and interactive high-quality instruction."

### Caterina Trimm

Director of E-Learning/Head of Online School, Catholic Schools K12 Virtual

## About SAS

SAS is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market. Through innovative solutions delivered within an integrated framework, SAS helps customers at more than 50,000 sites improve performance and deliver value by making better decisions faster. Since 1976 SAS has been giving customers around the world THE POWER TO KNOW®

[www.sas.com](http://www.sas.com)



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