



IDEA PUBLIC SCHOOLS

More Than One Way to Learn: Accommodating Each Student's Individual Learning Needs in Science and Math

Amy Rethman

Grade 9 Biology
Prev. taught Science
for Grades 6–8



Challenge

Science teachers used various classroom applications and materials that fell short in tracking student mastery and delivering the high-quality data needed for targeted instruction, which *Sirius Online* provides.

Solution

Sirius provides instruction in scientific principles and concepts, and assesses proficiency in biology as well as in reading and writing.

Favorite Sirius Features

Geared toward the online STAAR test with short responses and drag-and-drop functionality, vocabulary bank, scaffolding, hints, try-again, sample answers, and reporting.

Benefits

Rethman's pedagogy requires students to pull vocabulary words from Sirius for later instruction. Sirius's rich catalog of images and stimuli helps her students learn certain scientific principles beyond just words. improved accountability and engaged parents in the learning process.

Advice

"When STAAR reviews arrive, we're stressed to the max. But Sirius can help you free up your own time to actually work with students one-on-one who you know are at risk of not passing at all. That way, you're not pulling your hair out trying to find something for those other students who don't need extra help to do."

Tamara Anderson

Prev. Taught Pre-Algebra & ELA,
Managed Science, Now oversees
Math & Special Education



Challenge

Critical gaps in Science and Math were addressed to support student success on STAAR assessments and ensure students were ready for the next grade level.

Solution

As an assistant principal, Tamara uses *Sirius Online* as a strategy to provide intervention & acceleration.

Favorite Sirius Features

- Aligned with the latest STAAR test rigor and item types
- Updated TEKS
- Hints and immediate feedback with the ability for students to try again.
- *Sirius Online* accommodates learning disabilities with read-along, scaffolding, and a dictionary

Benefits

The steps Sirius provides to students showing how to solve certain math problems can also help teachers simplify their own instruction. Sirius exposes teachers to the rationale behind why students arrive at certain answers to inform instruction.

Success by the Numbers

80% of students passed Algebra I STAAR
94% of students passed 8th-grade Science STAAR

Advice

"I often tell my teachers that if they're having difficulty grasping math or even biology, they should use Sirius. It's very helpful."

At IDEA Public Schools, math interventions provide different methods to solve one equation, and biology STAAR test prep supports both science and RLA comprehension

Students receiving math interventions and taking science STAAR test prep at IDEA Public Schools benefit from the multiple ways in which *Sirius Online* provides instruction and assessments.

For biology, **students benefit from how Sirius assesses their proficiency** in all aspects of Reading Language Arts (i.e., reading and writing) in addition to providing the expected instruction and remediation in scientific principles and concepts.

Supporting District Policies and Goals That Promote Science Literacy

Before Sirius, science teachers couldn't assess students' reading comprehension or writing proficiency when preparing them for STAAR tests. Students were just required to read their textbooks and then complete the practice test at the end of each chapter.

"I didn't want to just test my students by giving them a bunch of STAAR questions. I wanted them to be able to read," says Amy Rethman, who currently teaches grade 9 biology but has taught the subject for grades 6 through 8.



"Understanding science content is like an art. It's not like reading a novel. You have to be able to pull out the specific information you need from the content."

Sirius's biology materials measure students' reading and writing capabilities, supporting IDEA's focus on promoting science literacy districtwide. As part of this policy, Rethman's pedagogy requires students to pull vocabulary words from Sirius for later instruction.

Rethman also appreciates how Sirius's **rich catalog of images and stimuli** helps her students learn certain scientific principles beyond just words. "I'm a visual learner, and if I see a picture, I understand it more than if I just read a paragraph. Sirius deals with different types of learners in that aspect, which is helpful for my students."

Multiple Ways to Solve Math Equations

Sirius's support of numerous instruction styles also helps IDEA close math comprehension gaps as part of the district's intervention strategy. Tamara Anderson, a former math teacher, and current assistant principal at one of IDEA's schools, has used Sirius in this way for pre-algebra, algebra I, and algebra II after teaching pre-algebra for three years and ELA for three years prior.

"Math can have one standard, but there can be multiple ways to solve one problem," says Anderson. "Sirius allows that, along with embedding different problem types for students."

Helping New Teachers or Those Not Proficient in Math or Science

Teachers can also struggle with math, and when they aren't proficient in the subject themselves, it can be difficult for them to help students grasp certain mathematical concepts. Sirius addresses these types of gaps as well.

When Anderson first began teaching math before becoming an assistant principal, **Sirius helped her teach more effectively.** "I originally had my kids take too many steps to solve certain equations, but then I would go to Sirius and see there were fewer steps and would teach them that way," she says. Sirius also exposed her to the rationale behind why certain students kept coming to the wrong answer for particular equations. "I would think, 'Okay, I kind of understand how they got it that way. I can teach it in this new way instead to stop the misconception from persisting.'"

Anderson experienced more trouble grasping biology concepts when she began providing interventions for eighth-graders as assistant principal. "I didn't know biology, but when I went back to Sirius and studied the subject for my interventions, it was very helpful," she says. "I often tell my teachers that if they're having difficulty grasping math or even biology, they should use Sirius."



Maintaining 87% Passing Scores Despite Inconsistencies Beyond Their Control

Similarly, **Sirius has bolstered the effectiveness of their substitute teachers**, maintaining academic excellence even when a class is taught by a number of different instructors. "One year, one of our teachers got sick and had to go on extended leave," recounts Anderson. "For months, these students had different teachers coming in and out, but eventually, they had one substitute teacher for a month." Still, this substitute had a lot to catch up on in a short amount of time. However, thanks to Sirius, 87% of students passed their EOC assessment.

"Sirius has had a major impact on our classrooms by closing gaps for students who have all types of needs," says Anderson. "It provides remediation."

For STAAR test prep in math, Rethman adds, "Sirius is another tool in the classroom that I can use so I don't have to constantly stand over the shoulders of students who don't need me. It's given me more freedom to help students who need my attention. It's relieved me from the pressures of STAAR test prep."



Going DEEPER
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