



REDBIRD  
MATHEMATICS

A young girl with dark hair is lying down, holding a tablet computer above her head with both hands. She is looking up at the tablet. The background is a soft, out-of-focus grey.

# LET LEARNING TAKE FLIGHT

Personalized Learning for K–6 students

Digital education developed by **Stanford University**





Accelerate learning  
through personalized  
digital math instruction

The most impactful education technologies rely upon the unchanging fundamentals of learning. Engaging content that illustrates real-world applications. Tools that instill confidence in students, inspiring a thrill of discovery and understanding.

A personalized learning solution for K–6 students, Redbird Mathematics meets all learners where they are with an engaging program that enables them to understand, apply, and create at their specific point on the learning continuum.

- Students learn how to be in charge of their own learning
- Educators practice the art of teaching with support from data-driven insights into student understanding
- Administrators gain access to a tool to help drive institutions toward achievement goals



# A GROUNDBREAKING LEGACY FOR LEARNERS

For more than 20 years, Stanford University has pioneered research on how computers can enhance and accelerate student learning and achievement. Stanford professor Patrick Suppes spearheaded this in-depth, groundbreaking research, leading the way for the world's first computer-based adaptive learning tools. Redbird Mathematics builds on Dr. Suppes' research legacy.

# Why Redbird Mathematics works:

## Adaptive

“I learn a lot about math in Redbird. And I think that it is a great thing for everyone. Please let us do more and get smarter.”

### Student Testimonial

Redbird Math is a true adaptive learning solution, moving beyond simple assessment and practice to offer actual instruction. Its adaptive motion engine guides students toward understanding and proficiency.

- An initial Course Placement Activity helps start students at the level where they are ready to learn
- Item sets which measure proficiency can expand to provide additional reinforcement, or truncate when proficiency has been demonstrated
- Multi-modal lessons provide a second instructional approach to students who struggle with core concepts
- Changes in the learning pathway can offer remediation for students needing additional support or advancement for students ready to move forward



“Redbird Math is computer adaptive. The modeling and representations help students connect to deep understanding with effective strategies. The program contains excellent learning progressions.”

### Teacher Testimonial



# Effective

“Redbird shows me strategies on how to do something. I can use them later on my own.”

## Student Testimonial

More impactful than the “drill and kill” approach of similar products, Redbird Math delivers what each student needs to achieve proficiency, with more than 15,000 problems for an unmatched depth and breadth of content. Because the product is responsive to student needs, Redbird Math teaches more than just how to solve problems—it builds student skills in mathematical thinking.

- Remediates when students are falling behind
- Advances students who already have strong foundations and show proficiency
- Reinforces the curriculum for on-level students



# Engaging

“It’s making me want to do math.”

## Student Testimonial



Redbird Math teaches concepts within the context of STEM themes and careers. Students gain a strong appreciation of the relevance of math in daily life, learning to see themselves in the real world and inspiring interest in STEM careers. The interactive formats of instruction, problems, and games provide instant feedback that motivates.

# An adaptive learning model for digital natives



## Understand

Uses multiple instructional modalities to achieve deep understanding of math content.



## Apply

Facilitates the application of math through rigorous practice and advanced games.



## Create

Synthesizes math learnings to solve real-world projects using STEM tools.

Design | Code | Simulate



# Understand

At its core, Redbird Math helps build understanding of math concepts. As they gain understanding, learners build confidence in their abilities, engaging in productive struggle that helps them learn how to learn.

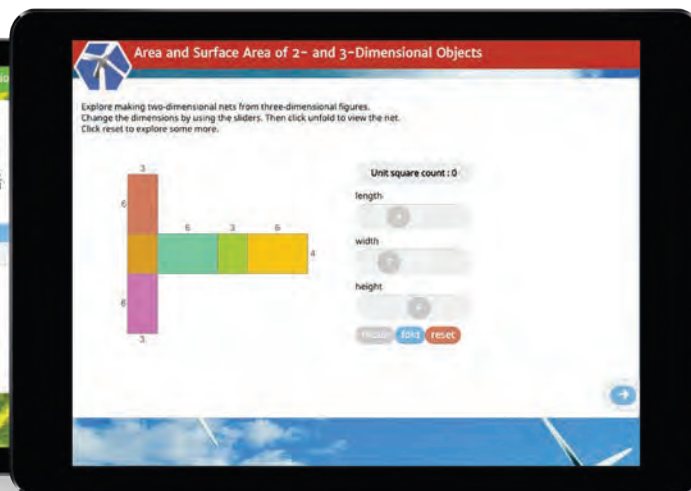
- Focuses on concepts within a student's zone of proximal development—that “just right” place where the material is not so difficult as to be frustrating and not so easy as to be boring
- Supports success for all students with learning scaffolds, including hints, feedback, and a variety of interactive modes
- Deepens mathematical understanding by approaching material in a variety of ways, using multiple representations

**Redbird Mathematics** promotes deep understanding of core concepts and skills through multiple modes of learning.

Explicit instruction



Digital manipulatives



Guided explorations

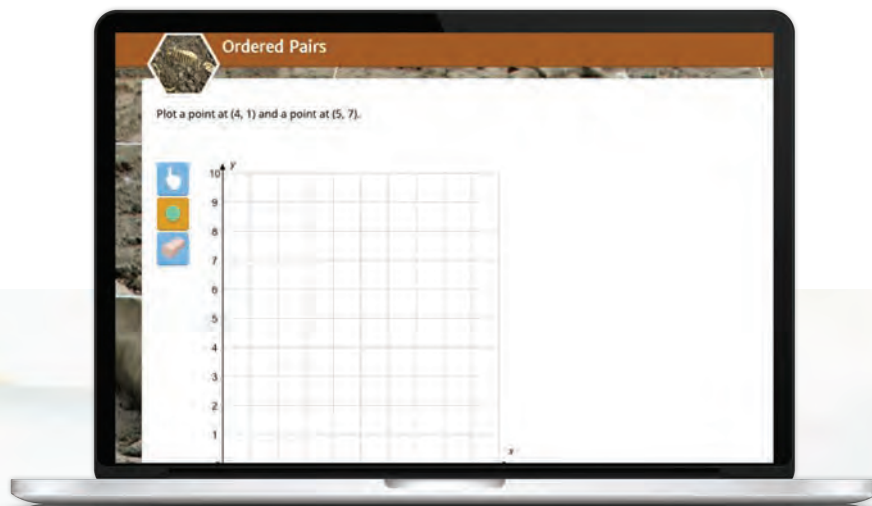




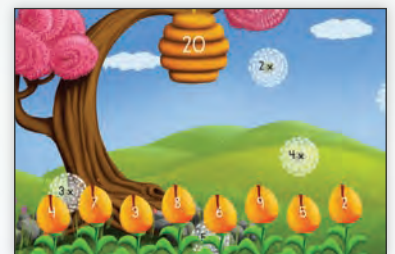


# Apply

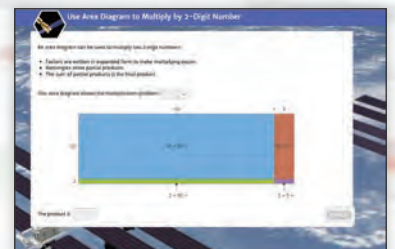
Redbird Math provides instruction and exercises built from modern state standards, adhering to the foundational ideas of rigor, focus, and coherence that underpin the Common Core. Learning games and more than 15,000 math items facilitate extensive practice and application of mathematics concepts, to teach advanced problem solving and provide experience with item formats found in high-stakes assessments.



Interactive items mirror tech-enhanced assessments



Advanced learning games reinforce understanding and provide engaging practice



Built from the start with today's standards and learning progressions in mind





## Create

Redbird Math enables students to demonstrate proficiency through STEM-based projects that address real-world challenges, encouraging students to display understanding as they gain practical experience.



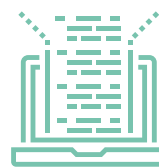
### Each project challenge consists of four parts:

- |   |  |
|---|--|
| <b>1</b> Introduction to STEM project challenge and STEM career                                     | <b>2</b> Synthesis of mathematics learning to determine mathematic constraints for the challenge                       |
| <b>3</b> Creation of a solution to address that challenge using design, simulation, or coding tools | <b>4</b> Extensions, including an even more difficult challenge that uses the same tool and links to other experiences |

Students use the same tools as professionals to:



Design



Code



Simulate



**Name:**  
Samantha Eiders  
**Occupation:**  
Aerospace Engineer  
**Education:**  
Imperial College London

Videos of real-life professionals explain the role of mathematics in their occupations—introducing students to STEM careers.

# Augmenting teacher expertise

## Supporting educators in the art of teaching

For educators, Redbird Math provides actionable information on student progress toward math understanding. Teachers benefit from the ability to use technology to reach students where they are, in a way never before possible.

- Provides teachers with actionable, data-based information to personalize instruction for individuals, small groups, and the whole class
- Real-time recording of student activity at the keystroke level allows teachers to review students' work, identifying points of confusion and further personalizing instruction
- Supports a wide range of instructional constructs including rotation models, flipped classrooms, flex models, and more



# Redbird Mathematics dashboard provides usable data in real time



## For students

- Track their own progress to gain ownership of learning
- Take pride in watching their levels grow in real time



## For teachers

- Track progress of the entire class in one, easy-to-understand dashboard
- Use data to inform their instructional planning
- Share results with parents to improve transparency

## School and district progress

- Delivers a positive, measurable impact on student outcomes
- Expands a school's range of digital curriculum offerings with a set of evidence-based educational content and tools—grounded in foundational and ongoing research at Stanford University
- Accelerates the learning process for a broad range of students, helping them excel in the classroom and beyond
- Provides a key component of a school's blended learning solution







# REDBIRD

## MATHEMATICS

### About McGraw-Hill Education

McGraw-Hill Education is a learning science company that delivers personalized learning experiences that help students, parents, educators and professionals drive results. McGraw-Hill Education has offices across North America, India, China, Europe, the Middle East and South America, and makes its learning solutions available in nearly 60 languages.

**[RedbirdLearning.com](http://RedbirdLearning.com)**