



## Overview of JUMP Math

JUMP Math is an award-winning, non-profit organization founded in 2001 to help all students and educators achieve their full potential. We are driven by the conviction that math class can and should be an opportunity to grow in confidence and experience the joy of learning. Our innovative math curriculum and professional development are designed to help all students and educators find success and enjoyment in math. For more information, visit [www.jumpmath.org/jump/us](http://www.jumpmath.org/jump/us).

## Mathematical Foundations That Informed the Development of JUMP Math

New research in cognitive science suggests that in traditional math lessons students often suffer from cognitive overload because the curriculum overwhelms them with extraneous information and demands that they learn too many new things at the same time. JUMP Math lessons are based on a method of teaching called "guided discovery," where students explore ideas and generate explanations on their own, but teachers guide this process of discovery through a series of Socratic questions and well-scaffolded exercises. Students are allowed adequate time to consolidate concepts and practice skills, and challenges become incrementally harder as students become more confident.

The curriculum is designed to quickly close the gap between stronger students and those who have fallen behind, even as it raises the bar for all students. After watching a JUMP lesson, Carol Dweck, the author of *Mindset*, said:

JUMP Math already implicitly incorporates a lot of growth mindset principles...the kids are moving at an exciting pace, it feels like it should be hard but it's not too hard for them...they all have the feeling of progress and they all get the feeling that I can be good at this.

Melanie Green, a teacher whose school got the greatest gains on test scores in New York City after adopting JUMP Math, recently blogged about her experience using the curriculum on the Student Achievement Partners website:

The test scores were only part of the story. Somethings special was happening in my class. Every day, my students could not wait to begin math. Even my lowest-achieving students were jumping out their seats to answer questions.

The comprehensive JUMP Math lesson plans show teachers how to engage all of their students with incrementally harder challenges. The lessons are well scaffolded and provide many opportunities for formative assessment. The lesson plans include games, activities, extension questions allowing students to work more independently and tackle more challenging questions, and advanced problem-solving lessons that help students develop strategies for problem solving.

JUMP Math's founder, Dr. John Mighton, has given the keynote address at many conferences on education and cognitive science, including the Aspen Brain Forum, because the curriculum has produced

strong results in various studies (see below) and because the principles of teaching embodied in the curriculum are well supported by research in cognitive science.

### **Evidence of Efficacy of JUMP Math**

JUMP Math is listed on the Evidence for ESSA website based on the results of a randomized controlled trial conducted by cognitive scientists Tracy Solomon and Rosemary Tannoc from the University of Toronto and the Hospital for Sick Children. In the trial, the mathematical knowledge of students in JUMP Math classes grew at twice the rate of the knowledge of students in the control group on a composite measure of fluency, computation and quantitative concepts.

A study by the Autonomous University of Barcelona found "a significant correlation between implementation of JUMP Math and improved results" on a standardized test of mathematical aptitude. Students scored an average of 3.1 out of 10 on the test before, and 5.2 out of 10 after six months of JUMP Math lessons. 94% of teachers who used JUMP Math said it had "a positive impact on student performance."

### **Supplemental Services Provided by JUMP Math**

At JUMP Math we believe that the right combination of professional support and curricular materials can spur significant improvements in teaching and learning. The goal of our professional learning offerings is to prepare teachers to use the following carefully constructed JUMP Math strategies: introducing concepts in small steps, continuously assessing students during each lesson to assure understanding, and providing varied opportunities for practice, feedback, and incremental challenges.

JUMP Math customizes professional learning opportunities for teachers, coaches, resource teachers, and administrators. Our professional development sessions focus on getting started, learning how to get the most impact from a lesson, monitoring students' progress and intervening appropriately, and how to pace instruction to align JUMP Math with local standards and testing requirements. All JUMP Math Outreach and Teacher Support Managers are highly experienced teachers who understand real-world classroom challenges. They provide responsive support both on-site and online in the form of training sessions, demonstration lessons, classroom observations with specific feedback, and lesson-planning sessions. Administrators, school leaders, and participants then debrief with JUMP Math outreach staff on how to best support instruction and plan next steps.

JUMP Math believes that every child can be successful at math and that learning from experience is valuable. By providing collaborative venues for feedback, discussion, and immediate assistance, our Outreach and Teacher Support Managers work together with educators to create a culture of open communication and an understanding that we are all valued members of the same team.