ST MATH[®] PARENT GUIDE | Let us answer your questions

Can a game change how you feel about math?

At MIND Research Institute, we believe every student has the potential to deeply understand, and truly love math. This belief drives all of us—researchers, educators, mathematicians, game designers—to make ST Math the best program it can be.

What is the ST Math® program?

ST Math is a PreK-8 visual instructional program that leverages the brain's innate **spatialtemporal** reasoning ability to solve mathematical problems. With ST Math, students build deep conceptual understanding, and schools and parents see proven, repeatable results.

Why aren't there any instructions?

The ST in ST Math stands for **spatial temporal**, and it refers to learning math concepts by manipulating objects in space and time.

ST Math's patented approach starts by teaching the **foundational concepts** visually, then connects the ideas to the symbols, language, and robust discourse. This approach works well because with visual learning, students are better equipped to tackle unfamiliar math problems, recognize patterns, and build conceptual understanding. Without language barriers, the problems are accessible to all students, regardless of skill level or language background.

Why are there so many puzzles?

ST Math is mastery based, which means students must pass each level with all puzzles correctly solved. Each student has their own personalized journey and takes as long as they need to **achieve mastery**. By using similar visual models and game situations across grade levels, ST Math helps students build and strengthen their conceptual understanding, and connect their existing knowledge to new situations. This means that ST Math works from the start with early learners, and it can also reinforce and repair weak conceptual foundations for students who are already **struggling**.

Why was my answer wrong?

In ST Math, action is critical and mistakes are the perfect opportunity for learning. Animated informative feedback offers an **intrinsically motivating** learning experience that shows students the mathematical consequences of each answer. Students don't just guess at multiple choices, or worse, get a question wrong and wonder why. With ST Math, students see the math animating on screen, and are able to better understand exactly why they got the answer right or wrong.

Why does it look so simple?

ST Math's visual approach limits distractions so your child's full attention can be focused on solving the math problem at hand. The design is intentionally simple. It's called an "impoverished environment" because simple designs offer no distractions and keep the focus on the learning.

My child is frustrated, how can I help?

In ST Math, the game puzzles start off simple and then get more challenging as the student progresses. It's normal for your child to feel some frustration when the puzzles get harder—we call that productive struggle, or learning from mistakes. When they reach a challenging problem, they may ask for your help. It's hard, but try not to give them the answer. Instead, **ask questions** to help your child think through the math in the game. Encourage your child to take risks and ask them to explain what they learn from the wrong answer.

Who is MIND Research Institute?

ST Math is created by MIND Research Institute, a nonprofit social impact organization specializing in neuroscience and education research. For over 20 years, MIND has worked towards redefining math education. Through ongoing research, we continue to investigate key questions about learning, mathematics, and how the brain works. We work to create unique and effective learning environments for students and teachers, both inside and outside of the classroom.



Who is JiJi?

JiJi is a 3-foot-tall penguin on a journey through the world of ST Math. Students help JiJi overcome obstacles by solving math puzzles – and they associate JiJi with the thrill of challenge and success. JiJi crosses the screen every time a student successfully completes a puzzle, leading them to the next challenge. JiJi is curious, persistent, patient, and friendly. JiJi's name means "little chicken" in Mandarin.

For more information on MIND Research Institute and ST Math, visit stmath.com.







