# ST Math

ST Math Usage vs. Scores Growth in
## An Anonymous California District

ST Math is a PreK-8 visual instructional program that leverages the brain's innate spatial-temporal reasoning ability to solve mathematical problems. Its unique, patented approach provides students with equitable access to learning through challenging puzzles, non-routine problem solving, and informative feedback. With ST Math, students build deep conceptual understanding, and schools see proven, repeatable results.

As students work through the visual, spatial-temporal games and receive informative feedback, they master grade-level math concepts at their own pace. And the more grade-level standards they master, the greater their advantage on state assessments. Research studies across the country prove that ST Math drives more learning.

**Wondering how spending more time with ST Math might impact your students on high stakes tests? We did the math.**

## How much did ST Math increase my students' scores?

We joined ST Math usage data with Smarter Balance scaled scores for 5565 students at an anonymous California school district in grades 4, 5, & 6 (2022) at 24 schools. We mathematically modeled how student SBAC score growth from spring 2022 to spring 2023 changed based on observed differences in ST Math usage (i.e., was more content completed, or less, all else being equal).

The benefit of each
## 100% Progress of ST Math
at an anonymous district in California
averaged an expected gain of

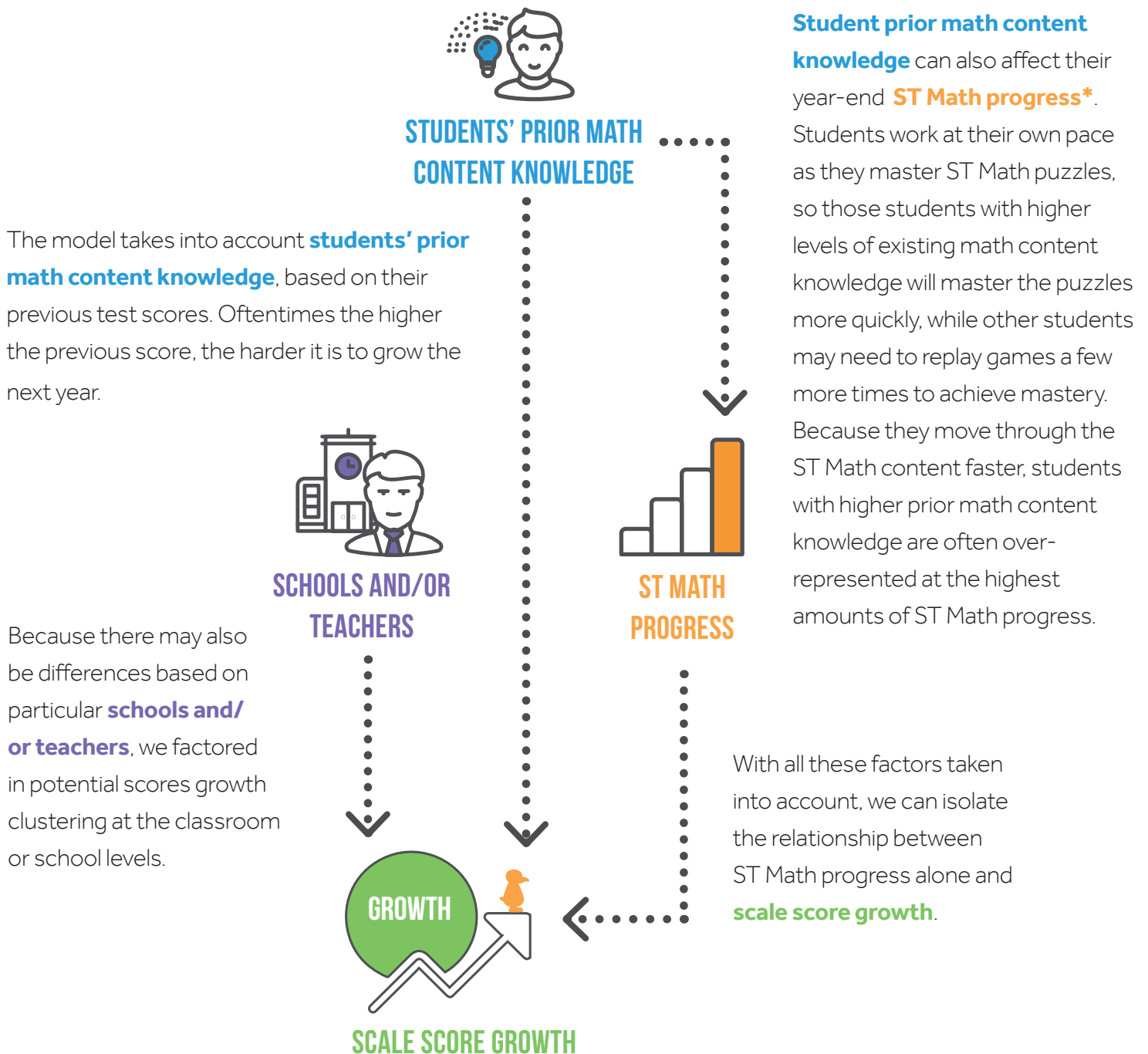**+39.6 SBAC**

**SCALED SCORE POINTS.**

# How it's calculated

To determine this gain for your students, MIND Research Institute, the creators of ST Math, generate a linear model fitting the relationships among four key variables, using your actual student data for ST Math usage and scale scores. (See the cause and effect diagram below)

**STUDENTS' PRIOR MATH CONTENT KNOWLEDGE**

**SCHOOLS AND/OR TEACHERS**

**ST MATH PROGRESS**

**GROWTH**

**SCALE SCORE GROWTH**

The model takes into account **students' prior math content knowledge**, based on their previous test scores. Oftentimes the higher the previous score, the harder it is to grow the next year.

Because there may also be differences based on particular **schools and/or teachers**, we factored in potential scores growth clustering at the classroom or school levels.

**Student prior math content knowledge** can also affect their year-end **ST Math progress***. Students work at their own pace as they master ST Math puzzles, so those students with higher levels of existing math content knowledge will master the puzzles more quickly, while other students may need to replay games a few more times to achieve mastery. Because they move through the ST Math content faster, students with higher prior math content knowledge are often over-represented at the highest amounts of ST Math progress.

With all these factors taken into account, we can isolate the relationship between ST Math progress alone and **scale score growth**.

*ST Math progress is the amount of ST Math content (and, therefore, math standards) students mastered before their next state exam.

OVER **100** EFFICACY STUDIES

MEETS **ESSA** TIER 2

MEETS **WWC** QUASI-EXPERIMENT REQUIREMENTS

ST Math is created by **MIND Education**
mindeducation.org