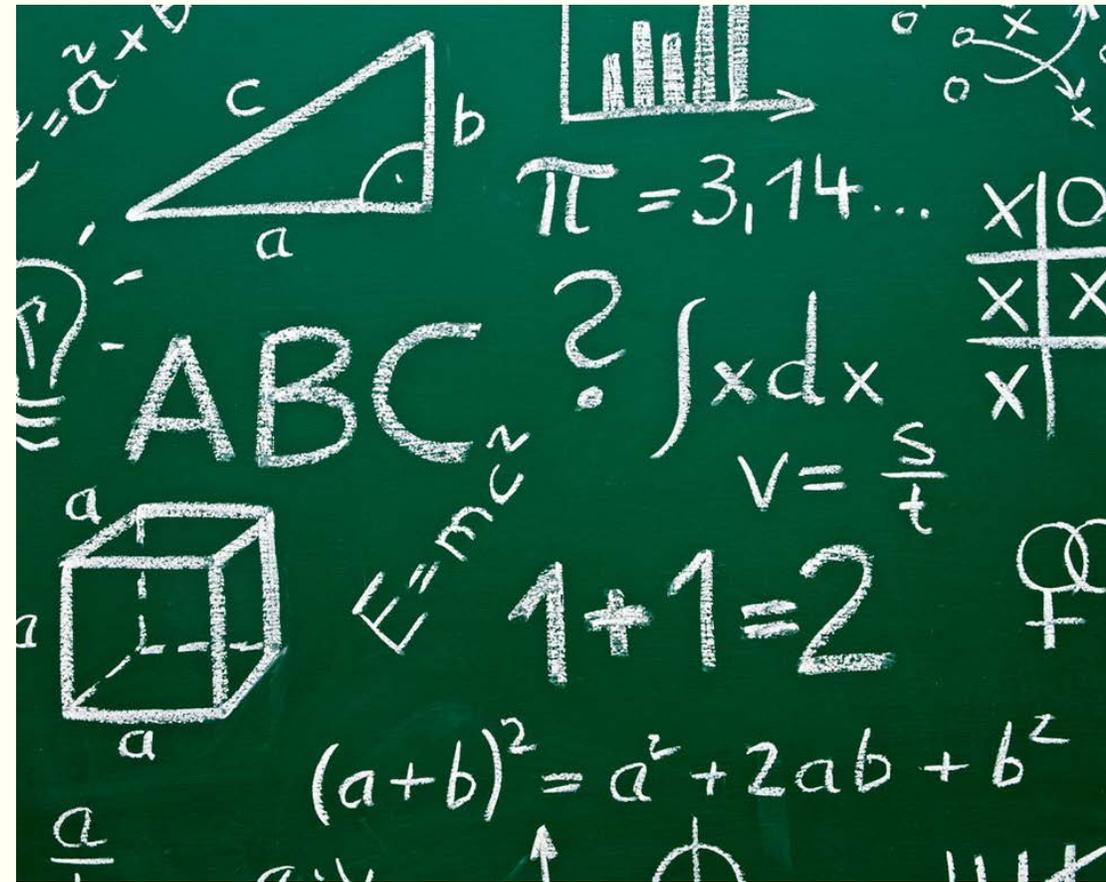




MATHEMATICS DEPARTMENT UPDATE

Trina Moschella
Supervisor of Mathematics and Science
May 8, 2019



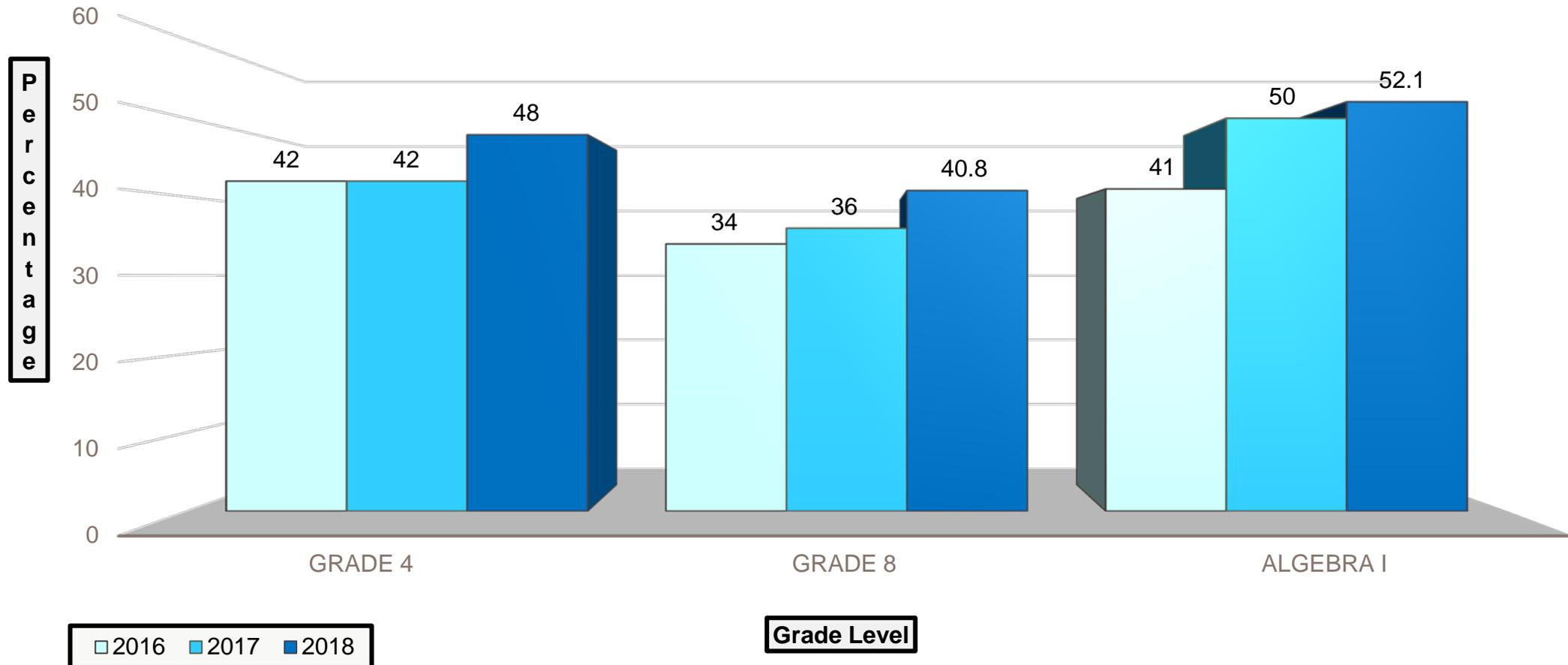
Presentation Overview

- ❑ Three (3) Year PARCC Trend Analysis
- ❑ Mathematics Department Accomplishments
- ❑ On-going Departmental Challenges
- ❑ Five-Year Vision for Improving Instruction and Student Outcomes
- ❑ Necessary Support Structure and Funding of the Math Department Vision
- ❑ Q & A



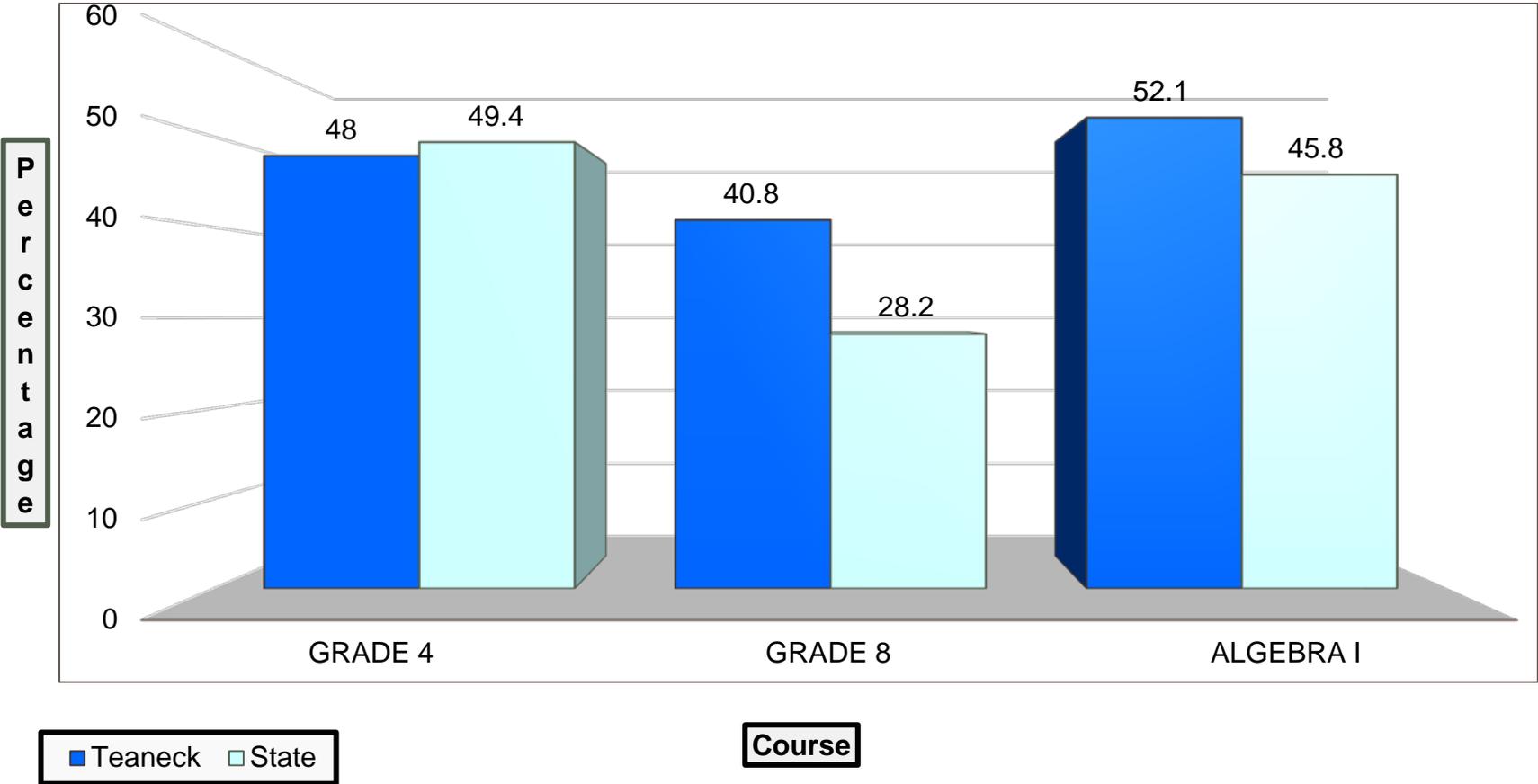
Mathematics PARCC Trend Analysis

Students who Met or Exceeded Expectations PARCC Levels 4 or 5



Mathematics PARCC Trend Analysis

Teaneck vs. State 2018 PARCC Levels 4 & 5



What Has Been Accomplished K-12?



- ✓ Instructional focus on differentiation strategies and student-centered learning
- ✓ On-going analysis of student data and curriculum/pacing adjustments
- ✓ Focus on student performance expectations and common language
- ✓ Strategic integration of technology
- ✓ Transition from CCSS 2010 to NJSLS 2016
- ✓ Fusion of 21st Century Skills and Standards for Mathematical Practice

What Has Been Accomplished K-12?

High School

- Algebra I ***everyday***
- On-going development of tiered lessons
- Intentional technology integration
- Hiring of talented, creative and technologically savvy new math teachers

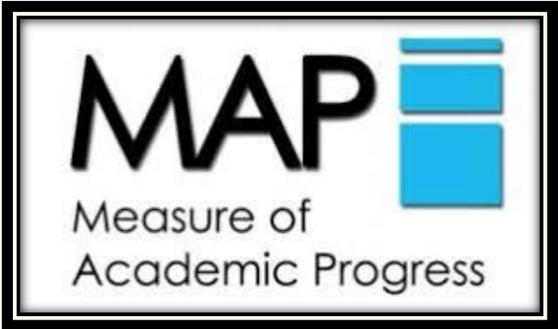
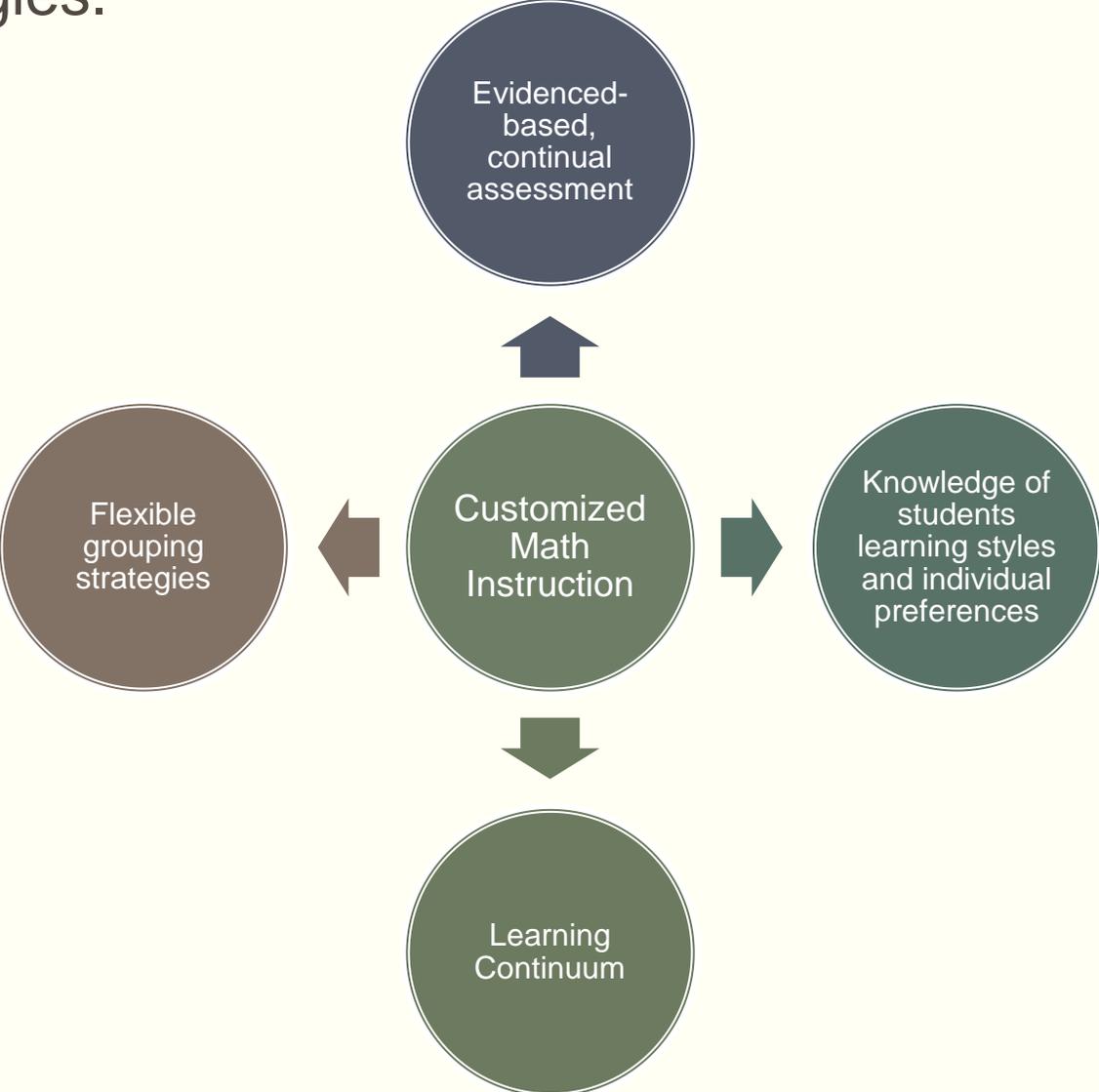
Middle School

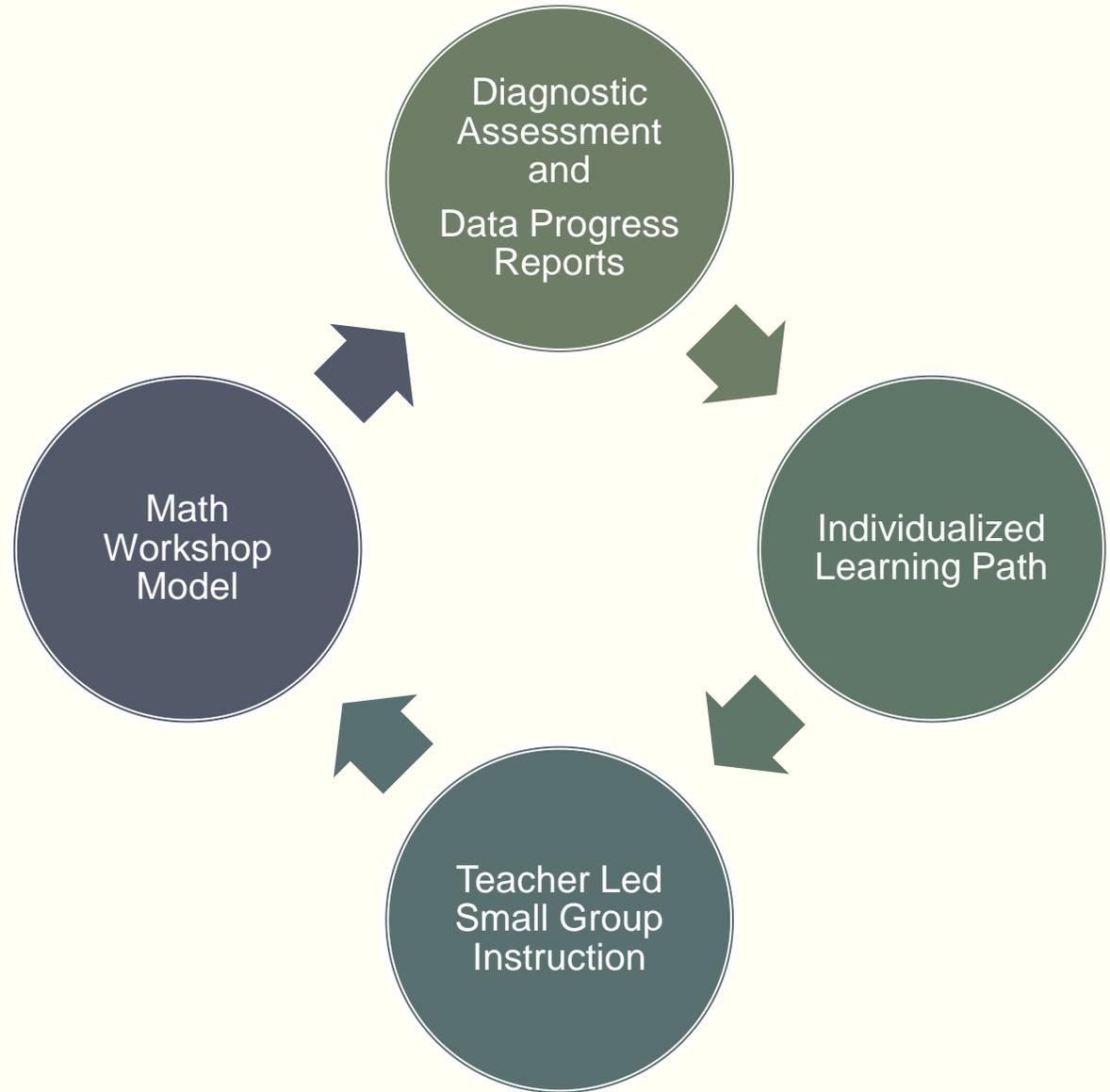
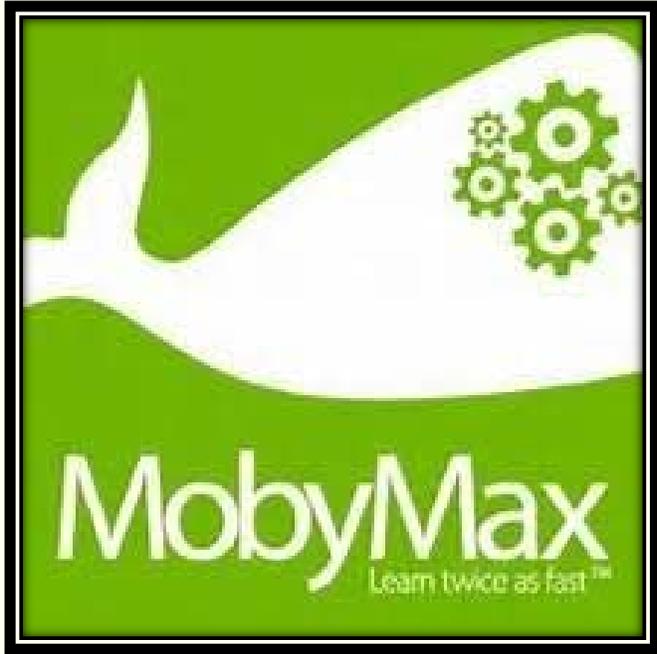
- Flexible grouping strategies and student-centered learning
- NWEA “Mappers” linked to Khan Academy
- MobyMax personalized learning paths

Elementary School

- Implementation of Go Math NJSLS Edition K-5
- Go Math Personal Trainer - adaptive software with personalized learning paths

NWEA MAP data is used to inform instruction and implement differentiated instructional strategies.





21st Century Skills Integration

Teachers:

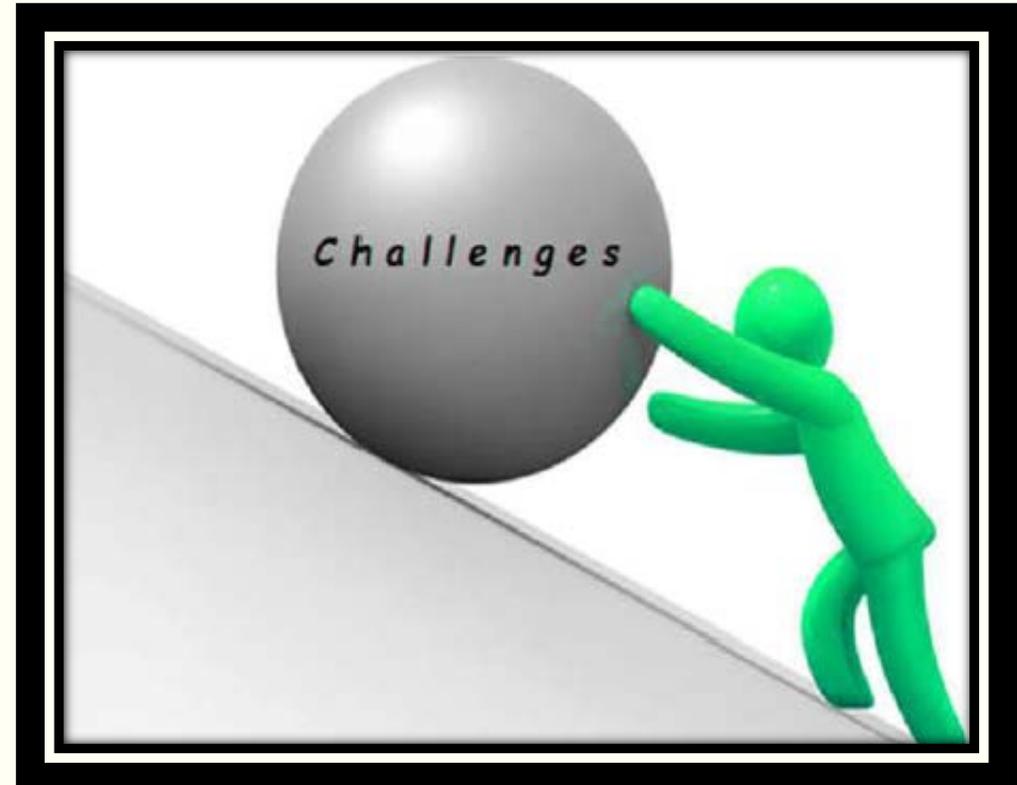
- Design questions to promote student thinking and understanding in order to foster student awareness of mathematical thinking
- Provide opportunities for students to listen to or read the conclusions/arguments of others
- Emphasize the importance of mathematical vocabulary and model precise communication
- Provide opportunities for student to use mathematical vocabulary and model and communicate their mathematical thinking with precision
- Provide time for application and discussion of properties

Students:

- MP3: Construct viable arguments and critique the reasoning of others
 - Analyze and evaluate evidence, arguments, claims and beliefs; Build logical progression of statements
 - Clearly and precisely construct viable arguments to support their own reasoning and critique the reasoning of others
 - Recognize and use counter examples
 - Translate given information to create mathematical representation and represent mathematical thinking symbolically
 - Create a coherent representation of the problem at hand
 - Justify conclusions, communicate clearly to others and respond to the arguments of others

On-Going Challenges in Mathematics

- Inequity in student support services
 - METs vs. LETs
 - Different coaching models at each school
- Scheduling
 - Elementary number of instructional minutes
 - High School “block” schedule not conducive to math instruction
- Turnover in MS staff
- Time for professional learning
- Supervisor of Mathematics *and* Science



Five-Year Vision

Job Embedded Professional Learning

Coaching Model

Peer Observation

District Assessments

K-12 Formative Assessment

K-5 Summative Assessments

New Instructional Resources

Grades 6-8

Algebra II

Update Algebra I and Geometry

Expand HS Course Offerings

Collegiate Math

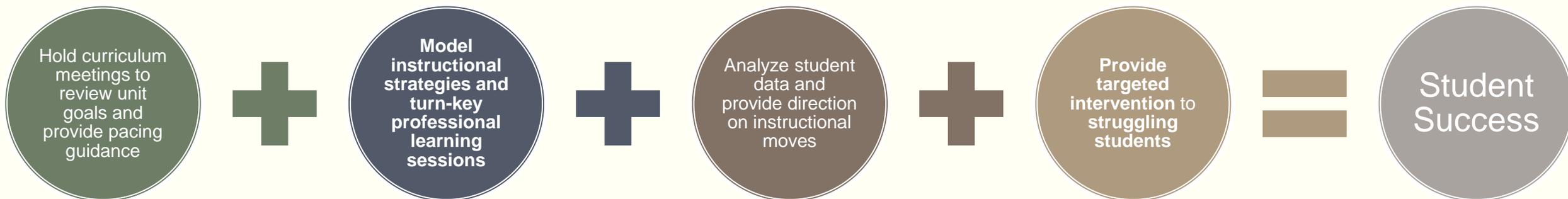
Financial Algebra

Intro to Statistics and Calculus Honors

The Equation for Improving Student Achievement

Balanced Coaching Model

Math coaches will:



Necessary Support & Funding to Actualize the Vision

- 3 additional Math Coaches are needed (total of 6 district-wide with 2 in each elementary school)
- Funds for PD on content-specific pedagogy, as well as time to train coaches who will turn-key model these instructional practices with teachers
- Collaboration with and the support of principals
 - Implementation of the Balanced Coaching Model
 - Scheduling and the minutes of instruction per subject area
 - “Creative” coverage for lesson modeling, unit preview/debrief meetings and peer-observation
- Instructional resource funding for Grades 6-8 and Algebra II; updates for Algebra I and Geometry
- Funds for resource acquisition and curriculum development of new senior level courses

