How do we teach math?

Constructivist Theory
- Concrete-manipulatives
- Iconic- pictorial representations
- Symbolic- algorithm
- Multiple representations

What is rigor in mathematics?
- Conceptual Understanding
- Application
- Procedure and Fluency

Inquiry and Discovery Based Learning
- Guiding questions and indirect instruction
- Small group work and discussion
- Teacher as facilitator
- Algorithm is based on a pattern/rule and is not given but discovered through conceptual understanding
Program highlights

- Constructivist learning
- Inquiry and discovery based approach
- Small group and whole group components
- Interactive technology
- Stations to differentiate
- Differentiated homework by ability

Common Assessments and Curriculum Components

- Common pacing guides with daily pacing and common lesson plans
- TS Gold in Kindergarten
- Topic tests with multiple choice, multiple-select, and performance tasks
- District benchmarks
- All district benchmark data on LinkIt
6-8 Mathematics

Text Series: Connected Math Project 3

❖ Program highlights
  ❑ Constructivist learning
  ❑ Inquiry and discovery based approach
  ❑ Small group and whole group components
  ❑ Interactive technology
  ❑ Stations for differentiation

❖ Common Assessments and Curriculum Components
  ❑ Common daily pacing guides and lesson plans
  ❑ Unit tests with multiple choice, multiple-select, and performance tasks
  ❑ District Quarterlies
  ❑ All assessments on LinkIt available for bubble sheet and online
Purposeful Transitions for Students

- All K-4 students do Step Up lessons to introduce content of the upcoming grade level
- Elementary Transition in grade 5 to grade 6
  - Connected Math Unit Prime Time in May
- Grade 6 students begin Accentuate the Negative in May
- Grade 8 students begin Algebra 1 Chapter 1 in May
- Grade 9 Algebra 1 students have a Connected Math Unit after Chapter 3 and 7
Differentiation in K-5 Mathematics

- Daily Pacing Guides- developed by teacher committees
  - ESL (2-5)
    - Special education with extended flexibility
- Push-In BSI for additional support with a small group/station focus
- Choice boards in all grades
- Small group differentiation-Stations in all grades
  - LinkIt and teacher analysis of State and local assessments
- K-5 homework
- K-5 district assessments developed by teacher committees
  - Reduced answer choices and IEP guidance
- Lesson plan modifications by content area and individualized
- Study Island assignments- passing scores, text to speech, reduction of answer choices
- Defined STEM project based learning
Differentiation in 6-8 Mathematics

- Pacing Guides for special education and accelerated developed by teacher committees
- Choice boards and UDL in all grades
- Push In BSI and inclusion with co-teaching models
- Small group differentiation-Stations in all grades for review and remediation
- **Math Excel Classes**
  - Small group that replaces study hall to target gaps in mathematics concepts
- **Intensity Skills** for special education or ESL students
- District and Unit assessments developed by teacher committees
  - All 6-8 Unit tests for ESL, special ed, and accelerated
- Lesson plan modifications by content area and individualized
- Study Island assignments, passing scores, text to speech, reduction of answer choices
- Defined STEM project based learning
Technology

- **K-5**
  - ABC Mouse-Kinder - first grade (to Jan 1)
  - Prodigy- Grades 1-2, 3-5 to differentiate
  - Study Island- grades 3-5
  - enVisions Practice Buddy- grades 3-5

- **6-8**
  - Study Island
  - Prodigy to differentiate
  - CMP3 Math XL
  - Piloting adaptive mathematics programs in 19-20
Professional Development

- The KEY to student achievement in mathematics is professional development
- K-5--enVision series
  - Prior to each Topic
  - Prior to each Solve and Share
- Conquer Mathematics
  - Elementary teachers
  - All new middle school math teachers
  - All Algebra I teachers
- K-8 Math Supervisor
- Common Planning meetings to analyze data
- Pearson Realize- My Pearson Training
- Edmentum- Study Island Webinars
Defined STEM

- New Math/Science initiative in grades 3-12
- Project based learning that includes student choice
- Multimedia and highly engaging
- Cross curricular
- Able to be modified to meet student needs
- Piloted in grades 3-12
- Aligned to Math and Science topics in grades 3-12
- Assists with the Personal Financial Literacy mandate K-12