



PreK-12 Math Curriculum Review Year Two

West St. Paul - Mendota Heights - Eagan Area Schools
School District 197

Prepared by

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Background

All students in School District 197 receive instruction in mathematics. Math is one of the four core content areas along with English/Language Arts, Science and Social Studies.

The state of Minnesota adopted math standards in 2007 with full implementation by the 2010-11 school year. The standards were set to be reviewed in 2015-16. During the first special legislative session of 2015, this review was postponed until the 2020-21 school year. In the 2016 session all standard revisions were pushed back an additional year, bringing the math standards review to the 2021-22 school year. Full implementation of the new math standards will follow the adoption of the new set of standards. The state of Minnesota has not adopted the Common Core State Standards for Mathematics. Consideration will be given during the 2021-22 standards review.

We determined that, even though the standards were not going to be reviewed at the state level, we would continue as planned with a local math review. Much work has occurred over the past four years with the middle school and high school. We have added math intervention. We then determined a need for a PreK - 12 math review for a variety of reasons.

Our core resources are over eight years old. Some of our resources are out of print and the online access for our resources has expired and now requires an annual subscription fee. With the addition of 1:1 devices for students in grades three through twelve, we need to assure that our resources are compatible and accessible on these devices. There is also a need to review math acceleration pathways and curriculum.

In preschool through fourth grade, students and teachers use the Everyday Math curriculum resource, published by McGraw Hill. Everyday Math was developed by the University of Chicago Mathematics Project. Everyday Math uses a hands on approach to teaching foundational math skills and reinforcing conceptual understanding of mathematical concepts.

Students and teachers in fifth through eighth grade use Holt Math, published by Houghton Mifflin Harcourt. The Holt Math series is considered to be more of a traditional math instructional tool. Concepts are taught in units and more traditional methods and algorithms are used.

In grades nine through twelve, students have various course options within the math department, from Intermediate Algebra through Advanced Placement Calculus. Each course has a curriculum resource aligned to the goals and objectives of the course. Students are required to have three years of math in order to graduate from Henry Sibley High School. Many students choose to take four years of math in high school as most colleges require four years of math for admission.

As a part of the review process in year one, our team developed Core Beliefs, Outcomes that Matter to All, and a SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis (Appendix B).

Curriculum Review: Year Two

Unpacking the Standards

In year two our team took a deep dive into the Minnesota Math Standards. We began in October by reviewing our district wide data on each grade level benchmark as compared to state data on the same benchmark. We looked at how our students performed on certain concepts/benchmarks as compared to students at the state level. Each benchmark in

grades three through eleven is coded as average difficulty, more difficult than average or less difficult than average. Discussions about how our students performed on certain benchmarks

Fig. 1

Fractions & Decimals: Representations and Relationships Grades 3-8						
3	4	5	6	7	8	
3.1.3	4.2.1	5.2.1	6.1.1	7.1.1	8.1.1	
▲3.1.3.1	▲4.1.2.1	◆5.1.2.1	✚6.1.1.1	▲7.1.1.1	▲8.1.1.1	
▲3.1.3.2	▲4.1.2.2	✚5.1.2.2	◆6.1.1.2	▲7.1.1.2	✚8.1.1.2	
▲3.1.3.3	◆4.1.2.3	▲5.1.2.3	✚6.1.1.3	✚7.1.1.3	▲8.1.1.3	
	◆4.1.2.4	◆5.1.2.4	✚6.1.1.4	◆7.1.1.4	◆8.1.1.4	
	◆4.1.2.5	✚5.1.2.5	◆6.1.1.5	▲7.1.1.5	✚8.1.1.5	
	▲4.1.2.6		▲6.1.1.6			
	▲4.1.2.7		✚6.1.1.7			

Coding Key for State-Level Benchmark-item Difficulty Data	
Coding	Description
▲	Benchmark-item Difficulty greater than Average
◆	Benchmark-item Difficulty close to Average
✚	Benchmark-item Difficulty less than Average
*	Classroom Assessed or Assessed with Another Benchmark

led to discussions about the resources we have to teach each benchmark. As we moved into identifying resources for teaching mathematics we knew which benchmarks needed additional resources to cover. During this dig into the standards we were also able to look at how a standard progresses through the grade levels. As shown in Figure 1, the Fractions and Decimals Progression begins in third grade and ends in eighth grade with varying degrees of difficulty throughout.

Evaluating Curriculum Resources

The team then set to work to develop a curriculum review rubric (Appendix C). We used the standard rubric we use for all curriculum review cycles and made adjustments based on needs identified in our standards work as well as our SWOT Analysis. For example, we knew we needed resources that were accessible on iPads for elementary and middle school and web-based resources for high school, so this was added to the rubric. After providing input on the rubric in October, a final draft was created and used to evaluate the curriculum options at our December meeting.

Previewing Curriculum Resources

On December 15th, we had presenters come in from various math curriculum companies. Each vendor gave a 45-60 minute presentation on the research behind their product, the materials included, and the digital components. Members of the team used the rubric developed to take notes and rate each resource. The table in Figure 2 includes all resources that were reviewed by the team. After all presentations were complete we had some reflection time and asked all team members to identify three resources, based on what best met our needs as identified in the rubric, they would like to see again.

Fig. 2

Elementary/Middle School Resources	Middle/High School Resources
Bridges Math (K-5)* The Math Learning Center	Holt Math (6-8) Houghton-Mifflin Harcourt
Everyday Math 4 (PK-6) Mc Graw Hill	Open Education Resources (7-12) MN Partnership for Collaborative Curriculum
Go Math! (K-8)* Houghton Mifflin Harcourt	Algebra/Geometry/Algebra II (9-12) McGraw Hill

Math in Focus (K-8)* Houghton Mifflin Harcourt	EnVision (9-12) Pearson
Envision (K-8) Pearson	Algebra/Geometry/Algebra II (9-12)* Houghton Mifflin Harcourt
Math Expressions (K-6) Houghton Mifflin Harcourt	Glencoe Math (6-8) McGraw Hill
MyMath (PK-5) McGraw Hill	Big Ideas (6-12)* Big Ideas Learning (HMH)

* Resources chosen for round two of resource review.

Throughout November and December grade level meetings were held after school for all teachers to dig into grade level benchmarks and create framework documents (Figure 3). These documents include standards, benchmarks, MCA test specifications, vocabulary and learning targets. These documents provide teachers with a clear picture of what is expected from each benchmark in the Minnesota Standards. This information was essential to taking a critical look at what we use to teach these benchmarks.

Fig. 3

Grade 3 Math Standards and Benchmark Number and Operations																																																								
Standard: 3.1.3		Fractions & Decimals: Representations and Relationships Grades 3-8 <table border="1"> <thead> <tr> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>3.1.3</td> <td>4.2.1</td> <td>5.2.1</td> <td>6.1.1</td> <td>7.1.1</td> <td>8.1.1</td> </tr> <tr> <td>▲3.1.3.1</td> <td>▲4.1.2.1</td> <td>◆5.1.2.1</td> <td>◆6.1.1.1</td> <td>▲7.1.1.1</td> <td>▲8.1.1.1</td> </tr> <tr> <td>▲3.1.3.2</td> <td>▲4.1.2.2</td> <td>◆5.1.2.2</td> <td>◆6.1.1.2</td> <td>▲7.1.1.2</td> <td>◆8.1.1.2</td> </tr> <tr> <td>▲3.1.3.3</td> <td>◆4.1.2.3</td> <td>▲5.1.2.3</td> <td>◆6.1.1.3</td> <td>◆7.1.1.3</td> <td>▲8.1.1.3</td> </tr> <tr> <td></td> <td>◆4.1.2.4</td> <td>◆5.1.2.4</td> <td>◆6.1.1.4</td> <td>◆7.1.1.4</td> <td>◆8.1.1.4</td> </tr> <tr> <td></td> <td>◆4.1.2.5</td> <td>◆5.1.2.5</td> <td>◆6.1.1.5</td> <td>▲7.1.1.5</td> <td>◆8.1.1.5</td> </tr> <tr> <td></td> <td>▲4.1.2.6</td> <td></td> <td>▲6.1.1.6</td> <td></td> <td></td> </tr> <tr> <td></td> <td>▲4.1.2.7</td> <td></td> <td>◆6.1.1.7</td> <td></td> <td></td> </tr> </tbody> </table>	3	4	5	6	7	8	3.1.3	4.2.1	5.2.1	6.1.1	7.1.1	8.1.1	▲3.1.3.1	▲4.1.2.1	◆5.1.2.1	◆6.1.1.1	▲7.1.1.1	▲8.1.1.1	▲3.1.3.2	▲4.1.2.2	◆5.1.2.2	◆6.1.1.2	▲7.1.1.2	◆8.1.1.2	▲3.1.3.3	◆4.1.2.3	▲5.1.2.3	◆6.1.1.3	◆7.1.1.3	▲8.1.1.3		◆4.1.2.4	◆5.1.2.4	◆6.1.1.4	◆7.1.1.4	◆8.1.1.4		◆4.1.2.5	◆5.1.2.5	◆6.1.1.5	▲7.1.1.5	◆8.1.1.5		▲4.1.2.6		▲6.1.1.6				▲4.1.2.7		◆6.1.1.7		
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	▲4.1.2.7			◆6.1.1.7																																																				
Understand meanings and uses of fractions in real-world and mathematical situations.																																																								
Benchmark: 3.1.3.2																																																								
Understand that the size of a fractional part is relative to the size of the whole.																																																								
Test Specifications:																																																								
Denominators are limited to 2, 3, 4, 6 and 8 Sets may contain no more than 12 objects Vocabulary allowed in items: fraction																																																								
Knowledge/Content (Students will know...)	Vocabulary	Learning Targets I can...																																																						
Students will be able to read and understand the parts of a fraction.	fraction	I can read fractions. I can explain the parts of a fraction.																																																						
Students will understand the size of a fractional part is relative to the size of the whole or set.	numerator	I can recognize that fractional parts depend on the size of the whole and the size of the set.																																																						
	denominator	I can recognize that fractional parts make up a whole.																																																						

In January, we brought back five math curriculum vendors, indicated by an asterisk in Figure 2, to give a more in depth presentation on their product. We had all team members together as a PreK-12 group for this round of presentations. We again used our rubric to take notes and comment on each resource. The team decided to take all five resources out to the rest of the teaching staff for input. Following the January meeting, we scheduled grade level meetings for

elementary grades, one meeting for all middle school teachers and a department meeting with the high school. During these meetings teachers were given about 30 minutes to explore each resource and provide feedback via a Google Form.

The five options were also shared with our Curriculum Advisory Committee meeting in January. The CAC was able to explore the resources and ask questions. They provided us with input on which resources seemed most parent friendly and supportive in terms of home connection resources.

Reviewing Feedback and Developing a Recommendation

On February 23rd, our review team met with the goal of identifying a recommendation for the adoption of new math resources. In grade level groups, we went through all of the teacher survey input data. Groups looked at overall ratings as well as comments. Then we made groups including teachers at all K - 12 levels. We asked each group to construct a K-12 math sequence based on their own evaluation of the resources, as well as the survey data from their colleagues. Through our collaborative activity, we came to a recommendation as follows:

Grades K-1	Grades 2-8	Intermediate Algebra Geometry Algebra 2
<u>Bridges Math</u>	<u>Go Math!</u>	<u>Big Ideas Math</u>
The curriculum focuses on developing students' deep understandings of mathematical concepts, proficiency with key skills, and ability to solve complex and novel problems. Bridges blends direct instruction, structured investigation, and open exploration.	<i>GO Math!</i> combines 21st-century educational technology with modern content, dynamic interactivities, and a variety of instructional videos to engage today's digital natives. Students are supported through the universal access features of the program as they learn to think critically and apply their math knowledge.	Big Ideas math provides students with real life applications and explorations in each lesson to connect classroom lessons to realistic scenarios. Lessons provide students opportunities to develop procedural fluency and to use clear, precise mathematical language. Big Ideas offers flexible learning, class discussions and varied delivery of content.

We now had a recommendation for our core math resource adoption.

Defining pathways at Middle School to High School

The State of Minnesota requires three high school credits in math in order to graduate. These credits include at least Intermediate Algebra, Geometry and Algebra II. School District 197 also requires all high school students to earn three math credits, through Algebra II in order to graduate.

As a part of the curriculum review process from 2015 - 2017, the acceleration pathways in the area of math were reviewed. Our current pathways do not allow for acceleration until grade seven, at which time students skip grade seven math content and move into grade eight content. Over time we have found that because students are skipping content, some students struggle in upper math classes because they were not able to build a solid foundation in Algebra. Therefore,

pathways have been revised to assure that no grade level content is skipped, but rather that it is compacted, covering one and one half years of content in one year. The pathways also allow for acceleration to take place in multiple places (beginning in grade five or grade eight). Students can reach the AP Calculus AB course in high school through either accelerated

Fig. 4

	Support Options if Needed	Standard Path	Accelerated Options	
Grade 5	Math Intervention Tier 3	Math 5	Accelerated MS Math 1	
Grade 6	Math Intervention Tier 3	Math 6	Accelerated MS Math 2	
Grade 7	Math Intervention Tier 3	Math 7	**Intermediate Algebra	
Grade 8	Math Intervention Tier 3	Linear Algebra	****Intermediate Algebra	*Geometry
Grade 9	Math Intervention Tier 3 Algebra AB Tier 2	***Intermediate Algebra	*Geometry	*Algebra 2
Grade 10	Conceptual Geometry	*Geometry	*Algebra 2	Pre Calculus OR Analysis
Grade 11	Conceptual Algebra 2	*Algebra 2	Pre Calculus OR Analysis OR AP Statistics OR CIS: College Algebra	**AP Calculus AB or AP Statistics
Grade 12		Pre Calculus OR Analysis OR AP Statistics OR CIS College Algebra	**AP Calculus AB	***AP Calculus BC or AP Calculus AB or AP Statistics
Intro to Computer Science and AP Computer Science are also available				

*Enriched Algebra and Geometry are also offered.
 **Pre Calculus is required for AP Calculus AB
 *** AP Calculus AB is required for AP Calculus BC
 ****Intermediate Algebra offered in grades 7 and 8 will include the same content as the high school course as well as the content in Linear Algebra

The chart in Figure 4 shows the math pathways available for students from middle school through high school. The pathway begins with students in grade five. Students in grade five will be placed in either Math 5 or Accelerated MS Math 1. Accelerated MS Math 1, is an advanced course that will cover fifth and some sixth grade math standards. Students in this course will use the Advanced 1 text from Big Ideas. Accelerated MS Math 2 will use the Advanced 2 textbook from Big Ideas and will cover some sixth grade and seventh grade math standards. Students who do not enter the accelerated math path in grade five, will have the opportunity to do so again when they enter grade eight.

Developing a Scope and Sequence

Throughout the months of April and May we met with teachers from each grade level to develop a scope and sequence (Figure 5). The scope and sequence defines which lessons are taught from each chapter/unit in the resource, aligns each lesson to a Minnesota math benchmark and identifies the vocabulary linked to that benchmark and lesson. Teachers used the new resources to complete this work collaboratively. This will provide teachers with a roadmap for math instruction at each grade level. The scope and sequence also provides a recommended pacing for the year, which consists of an approximate number of days it should take to teach each chapter. The goal of this recommended pacing is to provide more consistency across the district for math instruction and to ensure standards are met prior to state assessments.

Fig. 5

Go Math! Grade 3 Scope and Sequence			
Big Idea: Whole Number Operations (Chapters 1-7)			
Chapter 1: Addition & Subtraction within 1,000			
Lesson	Learning Targets	MN Math Benchmarks/Alignment	Academic Vocabulary
1.1 Algebra: Number Patterns	I can find and describe number patterns.	3.2.1.1	Commutative Property of Addition*, Identity Property of Addition*, pattern*
1.2 Round to the Nearest Ten or Hundred	I can round 2- and 3- digit numbers to the nearest ten or hundred.	3.1.1.1 3.1.1.4	round*
1.3 Estimate Sums	I can use compatible numbers to estimate sums. I can use rounding to estimate sums.	3.1.1.1 3.1.1.4	Compatible numbers*, estimate*
1.4 Mental Math Strategies	I can use mental math strategies to find sums.	3.1.2.1	
1.5 Algebra: Use Properties to Add	I can use the Commutative Property of addition to add. I can use the Associative Property of addition to add.	3.1.2.1	Associative Property of Addition*
1.6 Use the Break Apart Strategy to Add	I can use the break apart strategy to add 3-digit numbers.	3.1.1.2 3.1.2.1	

Professional Development

Friday, May 5th was a district wide professional development day. The day was dedicated to our initial roll out of our new math resources. Elementary teachers met as a grade level to be trained on the resources they will have for the 2017-18 school year. Presenters from each resource vendor provided a full day of training. The training included time for exploring the new resources, reviewing the best practices in math instruction and time to plan for the first week of instruction.

On May 5th middle school teachers worked on developing their scope and sequence documents for the Go Math Minnesota version. Initial training for this resource will take place in June due to the publishing delay of a new Minnesota version of the resource.

Middle school advanced math and high school teachers who teach Algebra, Geometry and Algebra II received training on Big Ideas math from the vendor's professional development team. Similar to the elementary training, teachers were able to explore the new resource and do some initial planning for instruction.

Common Assessments

During the month of June we will meet with each grade level to develop common assessments. These common assessments will be given at the completion of a chapter or unit of instruction, depending on the grade level. Grade level teachers will begin by reviewing the assessments that come with the curriculum resource and ensure that the questions will accurately assessment Minnesota math benchmarks. Grades three through eleven will administer these assessments through our online assessment system, Performance Matters, on student devices. Grades K through two will collect common assessment data using Performance Matters, but may administer the assessments in a variety of ways, including one on one assessments, observations, small group assessments and some online test administration.

Appendix A

Math Curriculum Review Team

Team Member	Position, Site	Team Member	Position, Site
Hope Alger	7th grade, Friendly Hills	Dee Locke	Math Coach, Moreland
Karen Allen	Principal, Heritage	Andrea Munson	2nd grade, Mendota
Lindsey Anderson	Henry Sibley	Megan Mogelson	Gifted and Talented Coordinator
Michelle Bannie	3rd grade, Somerset	Jeff Nisbet	Henry Sibley
Jessica Deegan	8th grade, Heritage	Aimee Noeske	Henry Sibley
Cari Jo Drewitz	Director of Curriculum, Instruction and Assessment	Corey Prondzinski	Henry Sibley
Chai Lee	ESL & Equity Coordinator	Mark Quinn	Principal, Moreland
Jess Emery	ESL, Henry Sibley	Julie Rassmussen	Henry Sibley
Dawn Halverson	Special Education, Moreland	Stacy Schuessler	Kindergarten, Moreland
Chris Hiti	Principal, Friendly Hills	Kate Skappel	Curriculum Coordinator
Scott Karlen	Associate Principal, Henry Sibley	Kelsey Thornton	ESL, Garlough
Christine Kelly	Math Coach/8th grade, Friendly Hills	Jennifer Watterson	Community Preschool
Sara Lein	Assistant Director of Special Programs	Andrea Weigenant	Special Education, Friendly Hills
Angela Lewis	5th grade, Friendly Hills	Heather Wilsey	1st grade, Garlough

Appendix B

Core Beliefs, Outcomes that Matter to All and SWOT Analysis Summary

School District 197 Math Core Beliefs

We believe:

- All students will have equitable access to high-quality curriculum, instruction, and supports to be successful on a preK-12 math pathway.
- All students should have consistent experiences in math instruction, aligned to the district scope and sequence.
- Math builds abstract and higher levels of thinking so individuals can persevere and develop the ability to self-assess.
- Mathematical understanding helps build connections to life experiences through problem solving that enable students to explain their thinking.
- Cooperative learning experiences will foster the collaborative skills needed for future success.
- Every student should be held to high expectations and instructed by highly qualified teachers.
- All students can learn math through the fostering of a growth mindset.
- All students should develop deep mathematical understanding through an environment that encourages discussion and questioning.
- High quality instruction is differentiated and guided by math standards as well as a variety of formative and summative assessments.
- Students develop mathematical understanding through a variety of learning activities which include: interdisciplinary, hands-on, and real life experiences.

- It is essential that students are provided multiple opportunities and support to understand and learn from their mathematical conceptual mistakes.
- Home and family involvement will foster growth by reinforcing concepts, encouraging students, and providing other pathways for students to explain their learning.
- There are mathematical skills, concepts, and common academic vocabulary that build a solid foundation learned in early grades.
- Students learn reasoning and explaining skills from consistent and meaningful mathematical discourse.
- Students need to model mathematical concepts and use tools strategically.
- Technology connects to and enhances math instruction, assessment, and learning.
- Technology can be used to personalize learning.
- Technology should be used in balance with other instructional methods.
- Technology can assist students to enrich/expand mathematical understanding while showing connections to real-world application.

Outcomes that Matter to All

Mission (Our Core Purpose) School District 197 provides a challenging educational environment that instills in each student a lifelong passion for learning, empowers all students to achieve their personal goals and academic potential, and prepares them to be responsible citizens in an interconnected world.

When our work aligns with our Core Purpose, we will produce Outcomes That Matter To All:

- Students will be able to graduate college and career ready.
- Students will be able to think flexibly about and represent mathematical concepts and numbers in many ways.
- Students will be able to use technology to enhance problem solving skills.

- Students will be able to demonstrate their understanding verbally, graphically, visually and mathematically.
- Students will be able to persevere to effectively solve problems using various tools.
- Students will be able to make connections among and between mathematical concepts.
- Students will be able to ask questions to deepen mathematical understanding.
- Students will be able to have a growth mindset and build confidence.
- Students will be able to use logical reasoning and critical thinking to guide decision making.
- Students will be able to collaborate with others to apply mathematical concepts and solve real world problems.

SWOT Analysis

Strengths

We have passionate and committed math teachers. We have a district-wide focus on improving math learning opportunities for our students. The middle school grade levels (5-8) have a common scope and sequence and have begun the process of developing and using common assessments. Another strength is that we have multiple opportunities for students to excel in math all the way up to AP Calculus in high school. Access to technology was also identified as a strength in our school district. Although new in many of our schools, teachers have access to technology tools to enhance learning in mathematics.

Weaknesses

We have some disparities in the demographics of students in our advanced level courses. As we have developed intervention courses in mathematics, we find a large number of Special Education and ESL students in those courses as well as a large number of students of color.

The transition from elementary to middle school has been a weakness that seems to have been caused by the differences in curriculum resources and support. Students in the elementary level have been working with various methods to solve a problem. Some of these methods will not solve the problem as quickly. In the middle school, students are asked to solve problems using a more traditional algorithm. The transition between elementary and middle school needs to be evaluated as do the curriculum resources used at each level.

Parents who completed the survey overwhelmingly stated that there are not enough resources for parents to help their students with math. In addition, the review committee felt we need to do a better job as a district communicating with parents about math such as how to help with math, where to find resources, and what supports are available for students in school (intervention or advanced studies).

Opportunities

Some opportunities the review committee would like to explore include the development of some career related field experiences for students. The committee also felt that looking at how we can support students outside of class time would be an opportunity to increase achievement in math. This may include Spring/Winter Break, before/after school, and summer school time.

Threats

The threats identified included state mandated testing in math, funding limitations in terms of support provided for students in math, and the availability of math resources in other languages.

Appendix C

Math Curriculum Review Rubric

RESOURCE NAME:
CONTENT
<p>Standards Alignment Content is aligned with state content standards.</p> <ul style="list-style-type: none"> ● Scope and Sequence is clear and aligned ● Secondary - ACT/SAT aligned ● Vertically aligned across grade levels
<p>Best Practice Reflects current research in math best practice.</p> <ul style="list-style-type: none"> ● Learning Targets (objectives) are clear for each lesson. ● Hands on - manipulatives ● Problem-solving ● Engaging content ● Math/Number Talks
<p>Learning Styles Instructional materials consider students':</p> <ul style="list-style-type: none"> ● Varied learning abilities ● Special needs ● ELL needs ● Varied learning styles
STUDENT LEARNING
<p>Engaging Prior Knowledge Instructional materials include <i>strategies</i> that help students to:</p> <ul style="list-style-type: none"> ● Activate (think about) their current understanding of a concept ● Make explicit (e.g., write down) their understanding of a concept and connections between concepts
<p>Metacognition Instructional materials include <i>strategies</i> that help students to:</p> <ul style="list-style-type: none"> ● Recognize the goals of the chapter/unit as well as their own learning goals ● Assess their own learning ● Reflect, over time, on what and how they have learned
ASSESSMENT
<p>Quality High Quality Assessments:</p> <ul style="list-style-type: none"> ● Measure what students know and are able to do ● Align with standards, learning targets and the mode of instruction ● Stress application of what student know and are able to do in new or different situations

- Provide students the opportunity to assess their own learning

Varied Assessment

Examples of assessments include:

- Performance tasks
- Objective assessments
- Constructed response questions
- Project-based tasks
- Portfolios

Use of Assessments

Instructional materials include assessments that provide ways to modify instruction:

- Formative
- Summative
- Conferencing

Accessibility

Key characteristics of accessible assessments are met:

- Free from bias (gender, cultural)
- Provide accommodations for differences in learning styles and language proficiency

WORK TEACHERS DO

Effective Teaching Strategies

Instructional materials support teacher’s use of effective teaching *strategies* that prompt students to:

- Summarize in a variety of ways from texts, video, simulations and lecture
- Learn in cooperative groups
- Set learning goals from clearly identified goals present in the instructional materials
- Provide feedback to their peers and reflect on their own progress toward meeting learning goals
- Differentiated activities and lessons
- Access prior knowledge and make connection to ideas using cues, questions and graphic organizers

Support for the Work Teachers Do

Instructional materials that support the work teachers do provide:

- Pertinent content background information
- Examples of typical student misconceptions
- Explanations of specific instructional models and teaching strategies to improve student understanding
- Resources to assist and enhance instruction

Home Connection

- Information for parents on lessons
- Available in English and Spanish

Usability

- Resource is easily navigated

DIGITAL DESIGN

Virtual tools to support learning

- Virtual manipulatives
- Digital lessons
- Games
- Practice tools
- Other:

Platform

Digital content is platform appropriate. iPad use for K-8, web-based for 9-12.

Reporting

- Student reports
- Teacher reports
- Easily Accessible
- Standards-based