

Math - Grade 6 - Unit 1: Building a Community of Mathematicians

UNIT OVERVIEW

GENERAL INFORMATION

Terms:		Duration:	24.0 Day(s)	Start Date:		Finish Date:	
Subjects:	Mathematics	Interdisciplinary Approaches:		Course s:	221-MA-Mathematics - Grade 6		
Year Level(s):	6	Unit No.	MPSDC-024709				
Author:	Heather Elsinger		Teaching Team:	Santosha Oliver, Kristin Smith, Jennifer Webster			

UNIT FOCUS

This launch unit serves to develop autonomous learners who question, consider alternatives, and make informed choices as they seek to make sense of math by setting up a solid foundation in Math Workshop within the first month of school. The unit allows for reteaching to mastery and time to establish routines necessary for building a classroom community. Students will learn to follow agreed upon rules for speaking and listening and as they begin to build the stamina needed to endure the practice time of math workshop.

This unit is not designed to go in-depth with content standards. The purpose is to familiarize students with the routines and procedures that will be necessary in order for students to successfully meet the Connecticut Core Standards and actively participate in math workshop. Within this unit, you will need to assess students using the District Diagnostic Assessment as well as FASTT Math and Fraction Nation.

PRIOR LEARNINGS / CONNECTIONS

The creation of a numeracy environment is the foundation of math workshop. It is important to invest time and attention in creating supportive classroom communities. Students should connect prior experiences with math workshop, including but not limited to:

Classroom Community: Teachers and students work collaboratively in an atmosphere of mutual respect; students are motivated to do their best work and feel safe to take risks. The class functions as a learning community where each student's learning is important, i.e., students take responsibility for learning and support others.

Physical Environment: Purposeful arrangement of the environment facilitates development of a numeracy environment. Students have independent access to resources and the arrangement of the room facilitates collaboration.

Predictable Structure: Math workshop takes place in a 45 minute session. Maintenance of a predictable structure is essential if students are to become self-managing.

ADDITIONAL INFORMATION

RESOURCES

No.	Description	Files / Links
RES1	Guided Math in Action, Nicki Newton - Revised Ch. 9 - First 20 Days of Math Workshop	https://drive.google.com/a/mpspride.org/file/d/0B1u-SudncFHQRDBIZW1xemRXVHM/view?usp=sharing (link)
RES2	Kid-friendly 8 Mathematical Practices - Handbook found in envision 2.0 teacher handbook	
RES3	Number Talk: Helping Children Build Mental Math and Computation Strategies, Sherry Parrish -	
RES4	Envision 2.0 8 Math Practices videos -	
RES5	K-5 Math Resources - Setting Up a Math Journal" -	http://www.k-5mathteachingresources.com/math-journals.html (link)
RES6	Multiplication Number Talks- Breaking Factors into Smaller Factors Division Number Talks -	http://schoolwires.henry.k12.ga.us (link)

RES7	Grade 5 enVisions Unit 3 (Fluently Multiply) Unit 5: Lessons 5.3,5.4, 5.7, 5.8 - Page 109 Math and Science Project- also see Extension ("Water Usage"), page 237 Math and Sciende Project - also see Extension ("Average Temperature") My Word cards Pages 110-112, Page 238- teaching tool 27 "Word Map" Review what I know Pages 110-112, 238 enVision Game Center - Fluency games Listen & Look for Lesson Videos
RES8	Guided Math in Action, Nicki Newton- First 20 days of Math Workshop - See overview page for direct link.
RES8	Multiplication Numer Talks- Breaking Factors into Smaller Factors, Division Number Talks- - http://schoolwires.henry.k12.ga.us (link)
RES9	Setting Up a Math Journal- K-5 Math Resources - http://www.k-5mathteachingresources.com/math-journals.html (link)
RES9	8 Mathematical Practices Handbook- kid friendly - Found in enVision 2.0 teacher handbook. Also see enVision 2.0 8 Math Practices Videos-
RES10	Number Talk: Helping Children Build Mental Math and Computation Strategies, Sherry Parrish - This book shares everything you need to know about number talks. It also contains a CD with videos. See Kristin
COMMENTS / NOTES	

STAGE 1: DESIRED RESULTS - KEY UNDERSTANDINGS

ESTABLISHED GOALS	TRANSFER		
<p>Curriculum Common Core Standards <i>Mathematics : 5</i> 920392 Number & Operations in Base Ten 920400 Perform operations with multi-digit whole numbers and with decimals to hundredths.</p> <ul style="list-style-type: none"> • CCSS.MATH.CONTENT.5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. • CCSS.MATH.CONTENT.5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm. • CCSS.MATH.CONTENT.5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. <p><i>Mathematics : 6</i> 2000322 Mathematical Practices</p> <ul style="list-style-type: none"> • CCSS.MATH.MP.1 Make sense of problems and persevere in solving them. • CCSS.MATH.MP.2 Reason abstractly and quantitatively. • CCSS.MATH.MP.4 Model with mathematics. • CCSS.MATH.MP.5 Use appropriate tools strategically. • CCSS.MATH.MP.7 Look for and make use of structure. • CCSS.MATH.MP.3 Construct viable arguments and critique the reasoning of others. • CCSS.MATH.MP.6 Attend to precision. 	<p><i>Students will be able to independently use their learning to ...</i></p> <p>T1 T1 Students will be able to independently use their learning to interpret and persevere in solving mathematical problems using strategic thinking and expressing answers with a degree of precision appropriate for the problem context.</p> <p>T2 T2 Students will be able to independently use their learning to express appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others, and attending to precision when making mathematical statements.</p>		
	MEANING		
	UNDERSTANDINGS		ESSENTIAL QUESTIONS
	<p><i>Students will understand that ...</i></p> <p>U1 You get better at math by practicing math every day U2 Good mathematicians talk and listen to each other U3 Good mathematicians use good math vocabulary to talk/write about their thinking U4 Good mathematicians look for patterns and relationships U5 Math Workshop has routines U6 Math tools help us learn math U7 Good mathematicians use the 8 Mathematical Practices</p>		<p><i>Students will keep considering ...</i></p> <p>Q1 What is a math community and how does it support my learning? Q2 What do we do during Math Workshop? Q3 How do good mathematicians communicate their ideas? Q4 How do routines help students be productive learners? Q5 How do mathematicians work together during Math Workshop?</p>
	ACQUISITION OF KNOWLEDGE AND SKILL		
KNOWLEDGE		SKILLS	
<p><i>Students will know ...</i></p> <p>K1</p>		<p><i>Students will be skilled at ...</i></p> <p>S1</p>	

- CCSS.MATH.MP.8 Look for and express regularity in repeated reasoning.

Other Goals
Habits of Mind

- Applying past knowledge to new situations - Use what you Learn! Accessing prior knowledge; transferring knowledge beyond the situation in which it was learned.
- Thinking and communicating with clarity and precision - Be clear! Striving for accurate communication in both written and oral form; avoiding over generalizations, distortions, deletions and exaggerations.
- Remaining open to continuous learning - I have so much more to learn! Having humility and pride when admitting we don't know; resisting complacency.
- Persisting - Stick to it! Persevering in task through to completion; remaining focused. Looking for ways to reach your goal when stuck. Not giving up.
- Listening with understanding and empathy - Understand Others! Devoting mental energy to another person's thoughts and ideas. Make an effort to perceive another's point of view and emotions.
- Thinking flexibly - Look at it Another Way! Being able to change perspectives, generate alternatives, consider options.
- Striving for accuracy - Check it again! Always doing your best. Setting high standards. Checking and finding ways to improve constantly.
- Questioning and problem posing - How do you know? Having a questioning attitude; knowing what data are needed and developing questioning strategies to produce those data. Finding problems to solve.
- Thinking interdependently - Work together! Being able to work in and learn from others in reciprocal situations. Team work.

Learning Personalized

- Element 3: Mindsets

What a math community is
K2
Rules/Consequences/Rewards for Math workshop
K3
The structure for math time called Math Workshop
K4
Routines for Number Talks/ talk frame
K5
Routines/ expectations for Partner work
K6
Routines/ expectations for group work
K7
Routines/ expectations for independent work
K8
Routines/expectations for math notebook/ journaling
K9
Tools are important for math learning
K10
What good mathematicians do

Follow rules and routines during Math Workshop
S2
Use a variety of math tools
S3
Communicate their mathematical thinking using appropriate/ accurate vocabulary
S4
Actively listen to teacher and classmates
S5
Actively participate in math workshop as an individual, partner and/or group member
S6
Demonstrate behaviors/habits of mind consistent with the 8 Mathematical Practices

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STAGE 2: ASSESSMENT EVIDENCE

PERFORMANCE TASK(S)

Coding	Code	Evaluative Criteria	Description
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OTHER EVIDENCE

Coding	Code	Evaluative Criteria	Description
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	OE1		<p>Name: District Diagnostic Assessment</p> <p>Due Date: 10-05-2015</p> <p>Assessment Evidence:</p> <ul style="list-style-type: none"> iReady diagnostic assessment to be given electronically. Assessment window is Sept 8- Oct 6.
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STAGE 3: LEARNING PLAN

PRE-ASSESSMENTS

District Diagnostic Assessment (September 8 - October 6)

Coding	Code	Description of Learning Activity	Extension / Modification
	LE1	<p>Activity: As you are establishing your Math Community through Math Workshop Model, Incorporate the Mathematical Practices Handbook, Incorporate the review of grade 5 fluencies (see units 3 and 5 from enVision 2.0 grade 5 program), Assess students using district BOY benchmarks and digital programs. Give students feedback- let them know what needs work as you establish routines- Now is the time to adjust! (Agree/Amend to) Next steps will be to utilize on-going data to form small groups for guided math instruction as you become familiar with the enVision 2.0 resource.</p> <p>Sample: Day 1 Essential Question: What is a math Community? Setting Routines: Begin having a discussion about mathematical disposition- create a poster about math experiences in elementary school (Beginning the work for the Mathematical Autobiography) Tour math class- manipulatives, toolkits and supplies readily accessible. Practice. Introduce Mathematical Practice 1 enVisions vol.1 pg F23. Introduce Number Talk and focus on Math Practice 1 (Use problems from enVisions)</p> <p>Day 2 What is Math Workshop?</p> <ul style="list-style-type: none"> • Students share ideal math class • Discuss math workshop- looks, sounds, feels like • Share & create anchor charts- • What do good mathematicians do? Brainstorm, Share and create anchor chart • Introduce "Think Time"- Create an anchor chart. <p>Resources</p> <ul style="list-style-type: none"> • RES8 - Guided Math in Action, Nicki Newton- First 20 days of Math Workshop - See overview page for direct link. • RES9 - 8 Mathematical Practices Handbook- kid friendly - Found in enVision 2.0 teacher handbook. Also see enVision 2.0 8 Math Practices Videos- 	
	LE2	<p>Duration: 1.0 Week(s)</p> <p>Activity:</p>	

		<p>During Weeks 2</p> <ul style="list-style-type: none"> • Continue working to establish your math community by working through the first 20 days (see Nicki Newton) • As you work through the first 20 days incorporate a review of grade 5 fluencies. Refer to Unit 3 in the grade 5 enVision. • Introduce the Number Talks, Listen & Look for Lesson Videos, enVision Game Center, math notebook, My Word Cards, Review what I know pages, etc... • Continue to gather data for guided math groupings. (Fastt Math, Fraction Nation) • Continue to give feedback on routines and procedures. <p>Resources</p> <ul style="list-style-type: none"> • RES8 - Multiplication Numer Talks- Breaking Factors into Smaller Factors, Division Number Talks- - http://schoolwires.henry.k12.ga.us (link) • RES9 - Setting Up a Math Journal- K-5 Math Resources - - http://www.k-5mathteachingresources.com/math-journals.html (link) • RES10 - Number Talk: Helping Children Build Mental Math and Computation Strategies, Sherry Parrish - This book shares everything you need to know about number talks. It also contains a CD with videos. See Kristin 	
	LE3	<p>Duration: 1.0 Week(s)</p> <p>Activity: Week 3 enVision grade 5 unit 5. Lessons 5.3,5.4,5.7,5.8 See unit overview for more details.</p>	